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NOTIONS AND ORACLES

I.

On Crimmins and Perry's account of propositional attitude ascription (1989), beliefs are concrete cognitive structures—particulars ("things in the head") that belong to an agent and that have a lifetime. They are related to the world and to other cognitive structures and abilities, allowing one to classify the latter by propositional content. Containing ideas and notions as constituents, beliefs are structured entities. The difference between notions and ideas is the difference between an agent's ways of thinking about individuals *vs*. properties.

In this paper, I will concentrate on notions because this is one of the places where the Crimmins-Perry (CP) account is somewhat sketchy, as the authors admit.[1] I will offer in section III a proposal, inspired by Devlin (1991b), according to which notions can be regarded as (partial and not necessarily faithful) mental counterparts of oracles in situation semantics. Interestingly, Devlin also uses the term "notion" (1991a) and there are striking similarities between his approach and the CP proposal.

II.

Crimmins[2] calls beliefs that involve representations of things, properties, and relations *ideational beliefs*. Two kinds of representation figure in ideational beliefs: *notions* (the representations of individuals) and *ideas* (the representations of properties and relations). Notions and ideas make up the conceptual stock to concoct any (reasonable or unreasonable) belief about the things and the relations represented by them. They also explain how some beliefs can be about the same thing. Consider the classical example (Crimmins 1992, 77), of a person who has two beliefs, expressed by the following sentences:

(1) Cicero was a Roman orator

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[1] Crimmins and Perry (1989, 278): "Of course, we have explained very little about what beliefs, notions, and ideas are. But we think our partial account of them raises obvious questions in theories of representation, action, perception, and the metaphysics of mind." Later, Crimmins takes up this task of explanation seriously and devotes considerable space (1992, 75-93) to a discussion of notions.

[2] The first substantial outline of the Crimmins-Perry approach is given in their seminal 1989 paper. However, the issues are sometimes treated more comprehensively in Crimmins (1992) and hence I'll make use of this source too.

(2) Tully denounced Catiline

Now, with (1) and (2) this person expresses beliefs about the same individual (a certain Roman) but it is not necessary that the notions involved in those beliefs are both notions of Cicero. In fact, it would not be surprising for us to learn that this person is not aware of the circumstantial fact that the notions involved in (1) and (2) are both notions of Cicero. On the other hand, the belief that this person would express with

(3) Cicero wrote *De Oratore*

involves the same notion as his belief in (1).

The highlight of the CP account is that notions, like beliefs, are concrete particulars: they belong only to single agents. While agents can have similar representations, they cannot share them. As in the Cicero-Tully example above, due to misrecognition and "failure to place," an agent may have two notions of an individual, which he does not associate. On the CP approach, such an agent would not be blamed of entertaining internally inconsistent beliefs. Thus, the agent may entertain (as in the renowned example of S. Kripke about the Frenchman Pierre) two beliefs with entirely opposite contents, but since these beliefs involve different notions, there is no salient causal relation between them. In short, "there is nothing particularly puzzling about [such] examples […] so long as we simply consider the beliefs, and not the reporting of them" (Crimmins and Perry 1989, 260).

To recap, Crimmins and Perry posit that a belief report (whose *t*-clause determines a Russellian structured proposition) stipulates not only the proposition that an agent believes, but also a cognitive particular (viz. the agent's belief in the proposition). The notions involved in the report are the so-called *unarticulated constituents* of the proposition expounded by the report.

<center>III.</center>

Oracles are highly intensional ('rich') constructs invented, within the context of situation semantics (Barwise and Perry, 1983), by Devlin (1991b, 48):

"Just as various kinds of number (e.g., complex numbers) 'exist' because we postulate their existence (in the mathematical realm), so too with oracles. As with different kinds of number system, oracles are intended to provide a theoretical construct that corresponds to a certain feature in the world being studied. In this case, the 'feature' concerned is the

situation comprising precisely those objects and facts of relevance to a given individual or situation."

To introduce oracles, a descriptive basis is needed for saying certain kinds of things about (portions of) the world. To this end, we follow Devlin (1991a) and let G be a collection of parametric infons. G will make a *set of issues*, or a *sei* in short. A sei provides one with a framework for conversing about some part of the world (or the whole world). The important thing here is that by anchoring the parameters in an infon belonging to the sei, an item of information is obtained.

Given an individual or a situation a, the *G-oracle* of a, denoted as $O(G,a)$, is the situation comprising that part of the world and the entire 'body of knowledge' that 'concerns' a. This is clearly relative to a sei, i.e., it is understood to be meaningful within the framework provided by G. Thus, different seis will enable one to discourse—and reap information—about different aspects of the world. For example, if $a = Perry$, then by choosing G suitably one can study any of the following: the philosophical papers of Perry, his competence as a tennis player, his collaboration with F. Recanati, etc. When G is omitted, it is understood that any of the above issues (or others, for that matter) may be discussed.

Using the "supports" relation of situation theory (denoted by the symbol $\models$ in the sequel) a technical definition of oracles is possible. Let the term *G-infon* denote any infon that results from anchoring the parameters in an infon in G. Then $O(G,a)$ is the 'minimal' situation s such that $s \models \pi$ for any factual, parameter-free G-infon π that 'genuinely' involves a.

If one sticks to the classical assumption that among the situations available to us is a unique, maximal situation W—in situation theory, W is commonly known as the *world*—then the following can be stated. For any G-infon π in which only objects that are the constituents of $O(G,a)$ occur, $O(G,a) \models \pi$ iff $W \models \pi$. One particularly natural way to understand this is as follows. If the only kind of information available to an agent is that supplied by G, then $O(G,a)$ cannot be distinguished from the world.

Here's an illustration. Given an appropriate sei G, if a is a pencil, then $O(G,a)$ involves a time interval from the birth (time of manufacturing) of the pencil to its death (the moment the pencil ceases to exist as such) and supports all the facts that pertain to the pencil: its color, shape, manufacturer, the various locations it has occupied, its owner, etc. While this is a long catalog with an enormous amount of information, by no means all properties and relations (in W) will be in it, nor all other objects (in W). For example, the property 'innocent' will not, in all likelihood, figure in any

infon supported by $O(G,a)$. Similarly, assuming that a is a pencil owned by Perry, a pencil I myself have not seen, I won't figure in $O(G,a)$ either. On the other hand, a would figure in $O(G,Akman)$ if G is understood as a sei along the lines "things which Akman thought about and discussed in his papers." Finally, having now read these lines, both a and myself (and many other things) would figure in your (the reader's) oracle.

To take another example, consider the J. A. Fodor situation, $s = O(G,Fodor)$, for an appropriate sei G. Stretching back in time to include among others, his Granny, and forward in time to include his grandchildren (if any), s will contain Fodor's birthplace, his favorite books (including *The House at Pooh Corner*, of course!), offices he has held, students he has taught, and so on.

One key observation has to do with the extent of s. Different people at different times may have access to radically different information about s. E. Lepore must surely know more about s than I do, for I never met Fodor but am familiar, in some degree, with his books. Fodor himself will know considerably more about s, though a biographer of this thought-provoking philosopher may unearth facts which could be news even to Fodor. Similarly, the Granny had access to information about s quite different from that known to Fodor's colleagues, parents, or even Fodor.

Various other observations regarding oracles can also be stated:

• Oracles are situations. This necessitates that an agent would have only partial information about a particular oracle. Devlin regards (1991a, 84) oracles as situation-theoretic parallels of irrational numbers.
• Oracles (*ipso facto*, situations) make no sense if one tries to specify them in terms of which infons they support. The right way to specify an oracle is in terms of a description which is less primitive than infonic. (This is, after all, why oracles are said to be highly intensional.)
• The information an agent has about a particular oracle $O(G,a)$ may not have a as its main 'focus.' (Puzzles such as Kripke's have to do with this observation.)
• In natural language, a single word or phrase can bring into focus an entire 'oracle situation' corresponding to an individual.
• The more information (about an oracle) that two agents share, the more efficient can be the communication between them. This is especially crucial in the case of celebrities, as Crimmins (1992, 92) observes: "Agents who are normal members of our society are almost certain to have notions of very famous individuals […]."

IV.

It was stated in section III that oracles are situations. This, in turn, implied that they are rich objects and cannot completely be described. For example, the oracle associated with Fodor is rich; one cannot, in general, hope to list all the facts that make up $O(G,Fodor)$, even for a seemingly trivial G.

In situation theory, a convenient procedure is employed to have available abstract analogs of real situations. According to this procedure, an *abstract situation*, consisting of a set of infons, captures some key features of a corresponding real situation. While real situations are the parts of the reality—picked out by some individuation scheme belonging to a single entity—abstract situations are mathematical. Taking an oracle s (some real situation) an abstract counterpart can be constructed as the set $\{\pi : s \models \pi\}$. In its most interesting instances, s would not be *static* (involving one or more contemporary spatial locations) but *dynamic* (spread over a time-sequence of locations), e.g., Fodor from his early childhood to the present.

The simple groundwork to give a characterization of the CP notions is now laid out. For a given person, let his *G-notion* of an individual a be what this person's mind contains from $O(G,a)$. When G is taken, following Devlin, to be the set of all parametric infons in the informational ontology of any of the people who have heard of a—and thus we simply write $O(a)$—it may be omitted. In this way, one can talk about a notion of a without any qualifiers.

Briefly, to possess a notion of an individual is to bear the appropriate ownership relation to a mental counterpart that is culled from the oracle of that individual. Obviously, notions are not entirely faithful reflections of oracles; they are tainted with misinformation, inconsistency, distortion, exaggeration, fabrication, …—plain wrong stuff in short. It is this aspect of notions that usually leads one to talk about *bona fide* notions vs. lousy notions. Perry, while explaining *files*, a theoretical device similar to oracles and that he finds of some use, says (1980, 87):

"Now each file card offers me, at each seminar, a profile, a set of predicates. Whom does this profile stand for? We clearly must make a distinction between the persons, if any, of whom the profile is true, and the source of the profile. The source is the student my perception of whom led to the establishment of the file (it need not have been perception, though, as far as I can see). The predicates on the file may or may not be true of her. I update the cards after each class. Old entries are changed, new entries are made, the writing fades, I may have made mistakes recording the data, and so forth."

It has been stated numerous times that oracles are idealized devices. Being actual situations they reflect the reality with the highest fidelity. Notions,

when possessed by a rational, regular agent, should also be reasonably accurate (albeit partial) reflections of oracles, if they are going to be of any use to the agent's (mental) well-being. Consider one's notion of Fodor. If this is a fairly good counterpart of $O(Fodor)$, then it would be useful in many circumstances. For example, most of the statements one would make using his (*bona fide*) notion of Fodor would likely be true, e.g., "Fodor wrote a book jointly with Lepore." On the other hand, there might be, in general, some misinformation in one's notion, viz. "Fodor has two titles published by MIT Press." (He has at least four.) Depending upon the amount of misinformation it embodies, a particular notion may simply disintegrate and lose its applicability.

Whereas oracles are public in a very genuine sense—viz. objects about which it is possible to acquire and/or pass information)—notions are strictly private. Agents may have notions with the same content, but they cannot have the same notion. In other words, for two agents there exist two notions n and m, respectively, of an individual a. Each of these notions carry some relationship to $O(a)$ but in general there is no way to state the relationship between n and m. In most useful instances, what makes them suitable notions of a is that (i) they have considerable similarity to each other, and more importantly, (ii) they have considerable overlaps with $O(a)$.[3]

The outlined proposal to regard the CP notions as mental reflections (counterparts) of oracles is, as far as I know, original with Devlin (1991a, 234-235):

"[A]ssociated to this guy Keith is a certain situation r_k [= $O(k)$], and as the occasion demands, different people can draw on various items of information about r_k (in terms of our ontology, we might say they can utilize various compound infons, π, such that $r_k \models \pi$). The situation r_k remains constant here, a fixed situation, part physical and part abstract, intimately associated with Keith. […] There is obviously a relationship between the oracle r_k and Jan's *notion* of Keith […]. Indeed, under ideal circumstances Jan's [Devlin's wife] notion of the person k will amount to a mental aggregate of infons supported by r_k, and so too will the listener's (perhaps much leaner) notion about the person Jan refers to. Indeed, any information (infons), π, about k that Jan uses will be part of her notion of k."

Devlin's notion, while strikingly similar to the CP one, is arrived at independently. For instance, Devlin does not cite the CP paper in his book (1991a). His definition goes along the following lines (1991a, 162). If a is an object individuated by an agent, then the a-representing cognitive

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[3] One is reminded of G. Harman's observation in *Thought*:: "The only sort of sameness of meaning we know is similarity in meaning, not exact sameness of meaning."

structure realized in the brain of the agent as a result of that individuation or identification, is called a notion of *a*. While this interpretation does not employ the terminology of the CP account (e.g., particulars), it is unmistakably in the spirit of that account.

To conclude, I perceive patent connections, connections worthy of further study, between oracles and Perry's files[4] (1980). Crimmins also devotes some space to a discussion of the file analogy (1992, 87):

"Notions are useful to believers for all the same reasons that the FBI finds it useful to keep all the information and plans it has concerning a person of interest to the Bureau in a single file folder."

This was first noticed by Devlin, although it is dubious whether he is actually talking about the CP files (1991, 234):

"We could, if we wished, refer to the collection of infons that the speaker and listener each know to be supported by r_k , as the speaker's 'Keith-file' and the listener's 'Keith-file,' respectively. In which case *these files* are dynamic entities that change with time. But the *situation r_k* remains fixed."

Another line of investigation would be to clarify the relationship between Perry's "self-notions" (1990) and oracles. The straightforward answer, unembellished, of regarding one's self-notion as the counterpart of one's own oracle seems to run into difficulties.

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4 Incidentally, files are extremely popular devices for novelists. W. S. Burroughs reveals in his 1965 *Paris Review* interview: "Something I've been meaning to do with my scrapbooks is to have files on every character, almost like police files: habits, idiosyncrasies, where born, pictures."

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