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SITUATIONAL SEMANTICS

An information-based approach to natural language semantics. Formulated by Jon Barwise and John Perry in their influential book *Situations and Attitudes* (1983), it is built upon the notion of a 'situation' – a limited part of the real world that a cognitive agent can individuate and has access to. A situation represents a lump of information in terms of a collection of facts. It is through the actualist ontology of situations that the meaning of natural language utterances can be elucidated.

See also: Logic; Possible World Semantics
Key Thinkers: Austin, J. L.; Davidson, Donald; Frege, Gottlob; Grice, H. P.; Lewis, David; Montague, Richard; Strawson, P. F.; Tarski, Alfred; Wittgenstein, Ludwig

Situational semantics ('situation semantics' in the sequel) starts with the hypothesis that what is called 'the world' is an inconceivably large totality. Limited parts of the world are called 'situations' and can be individuated by cognitive agents. Thus, people perceive situations, cause them to be brought about, and have all sorts of attitudes toward them. One fact remains: we are at all times in situations (cf. Norbert Hornstein: 'Situations people the world. They are dated and located.').

While the Barwise-Perry volume (1983) is exceptional in its programmatic employment of situations (applied, among others, to naked-infinitive perception and belief reports), historically there was always some interest in situations. Two noteworthy – albeit cryptic – passages in *Zettel* (Wittgenstein 1981: 2, 13) show that Wittgenstein thought that situations a person is embedded in are of key value in making their behaviour intelligible. Authorities of pragmatics like J. L. Austin, H. P. Grice and Peter Strawson could be regarded as friendly to a situational approach, for they try to come to terms with the notion of 'context'. And for some, situations are generalised versions of 'events' as conceived by Donald Davidson and others.

A situation is a rich object consisting of individuals enjoying various properties and standing in a variety of relations. It is a 'small' world. Incidentally, there is a crucial difference between situation-theoretic and mathematical relations. The latter are set-theoretic constructs whereas the former are relations of the kind recognisable by cognitive agents. A situation may extend quite far in space and time. An agent can watch a film about a past assassination, scrutinise the latest videos from the Jupiter mission, or chat with someone who relates

their adventures in the Pampas of Argentina.

One of the features of situation semantics is its information-based disposition. Let us define something's being P (a property) or something's having R (a relation) to something else as a 'state of affairs' (Armstrong 1997). In situation semantics, 'infons' are posited as discrete items supplying such bits of information. An infon is shown as an $(n + 2)$-tuple $<R, a_1, \ldots, a_n, p>$, where R is an n-place relation (properties being 1-place relations); $a_1, \ldots, a_n$ are objects appropriate for the respective argument places of R; and p is polarity. If p=yes (respectively, no) then $a_1, \ldots, a_n$ stand (respectively, do not stand) in the relation R.

Abstract situations are proposed to be counterparts of real situations in order to make the latter amenable to formal manipulation. Given a situation s, the set $\{i \mid s \vDash i\}$, where i stands for an infon, is the corresponding abstract situation. Notice that this set collects all facts (infons that are made true by s). Alternatively, s is said to 'support' (make it the case that) i – denoted as $s \vDash i$ above – just in case i is true of s.

Devlin (1991: 31) has studied what situations might amount to and how we can 'individuate' them. A scheme of individuation – a way of carving the world into uniformities – is an essential facet of the situational approach. This way we can single out – say, via direct perception or thinking – and treat situations as entities that can later be referred to. When agents individuate a situation, they cannot be expected to give clear-cut descriptions of all that the situation comprises: situations are vague objects. Another

intricacy was cited by Gadamer (1975: 268–9) who saw that the very idea of a situation necessitates that an agent is not located outside of it and hence may be unable to have objective epistemic access to it.

Human beings and lower organisms display a fundamental ability to discern similarities between situations. This is accomplished via regularities, that is individuals, relations, or locations that endure from one situation to another. Thus, I believe that snow makes driving difficult, that doctors are available for medical assistance, that parents care about their offspring, that I will receive a present on Father's Day.

Barwise and Perry note that agents 'must constantly adapt to the course of events in which they find themselves' (1983: 10). This adaptation takes place as an upshot of attunement to similarities between situations ('uniformities'). Thus, a useful uniformity in my life has to do with the milkman. Every morning (a different situation), he brings the milk at about 8 o'clock and leaves it on our doorsteps. By just being attuned to this uniformity, I contribute to my well-being. Violation of a uniformity is possible; there is no milk service on holidays.

Representation of uniformities yields 'types'. Suppose Bob was eating cookies yesterday and is eating cookies now. Both of these situations share the same constituent sequence <eats, Bob, cookies>. These events, occurring at different times, have the same type. In the same vein, consider two 'parametric' infons <embraces, ĝ, Carol, yes> and <embraces, ĝ, ĥ, yes>, where ĝ and ĥ are placeholders for individuals. Their meaning can be

rendered as 'Someone embraces Carol' and 'Someone embraces someone', respectively. Anchoring parameters of an infon yields (parameter-free) infons. For example, given <embraces, ĝ, Carol, yes>, if $F(\hat{g})$ = David (F is an anchoring) then we obtain <embraces, David, Carol, yes>.

Networks of abstract links between situation types provide information flow (Dretske 1981). Thus, the statement 'smoke means fire' expresses the law-like relation that links situations where there is smoke to situations where there is a blaze. If a is the type of smoky situations and b is the type of fire situations, then having been attuned to the constraint $a » b$ (read 'a involves b') an agent can pick up the information that there is a fire in a particular site by observing that there is smoke.

According to situation semantics, meanings of expressions reside in systematic relations between different types of situations. They can be identified with relations on discourse situations d, connections c, the utterance situation u itself, and the described situation e. Some public facts about u – such as its speaker and time of utterance – are determined by d. The ties of the mental states of the speaker and the hearer with the world constitute c. A discourse situation d involves the expression uttered, its speaker, spatiotemporal location of the utterance, and the addressee. Each of these defines a linguistic role (role of the speaker, of the addressee, and so on). The utterance situation u constrains the world in a certain way, depending on how the roles for discourse situations, connections and described situation are to be filled.

For instance, an utterance of 'I am smiling' defines a meaning relation. Given d, c, and e, this relation holds just in case there is a location l and a speaker s such that s is speaking at l, and, in e, s is smiling at l. In interpreting the utterance of an expression f in context, there is a flow of information, partly from the linguistic form encoded in f and partly from contextual factors provided by the utterance situation u. These are combined to form a set of constraints on the described situation e.

Ideas from situation semantics have been applied to a number of issues in logic*, language, cognition and information. To take three comprehensive projects, Barwise and Etchemendy (1987) analyse self-reference and paradox, Gawron and Peters (1990) deal with pronominal anaphora, and Cooper (1996) focuses on generalised quantifiers. Unlike the classical approaches to meaning (including Fregean senses, Tarskian truth, Montague grammar), there is an ordinary feel to situation semantics; it does not impose human-made assumptions in our conceptual scheme (in contra-distinction to Lewisian possible worlds, for example). It is an archetype of what a naturalised theory of semantics should look like.

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