The dynamic turn I

Patrick D. Elliott & Danny Fox

September 13, 2020

1 Recap: Stalnakerian pragmatics

1.1 Trivalence

A sentential meaning is a function $p : W \mapsto \{\, 1, 0, \# \,\}$. Here's a simple example:

(1) $[\![\text{Sarah's corgi is sleepy}]\!] = \begin{cases} 1 & \text{Sarah has a corgi \& Sarah's corgi is sleepy} \\ 0 & \text{Sarah has a corgi \& Sarah's corgi isn't sleepy} \\ \# & \text{otherwise} \end{cases}$

In trivalent semantics, the *semantic presupposition of a sentence S* is the set of worlds w, such that $[\![S]\!]\ w$ is either true or false.

(2) The semantic presupposition of S (def.),
$S^{\pi} := \{\, w \mid [\![S]\!]\ w = 1 \vee [\![S]\!]\ w = 0 \,\}$

1.2 Update and Stalnaker's bridge

The *update* induced by a a sentence S, written as $c[S]$ is a partial function
$u : W \mapsto W$.

(3) Stalnakerian update (def.)
$c[S] := \begin{cases} \{\, w \mid w \in c \wedge [\![S]\!]\ w \,\} & c \subseteq S^{\pi} \\ \text{undefined} & \text{otherwise} \end{cases}$

A (bivalent) proposition p is *redundant* wrt a context set c if $c \subseteq \{\, w \mid p\ w \,\}$.

Stalnaker's bridge places a precondition on an update of c by S — S^{π} must be *redundant* wrt C.

1.3   Successive update

A (trivial?) observation: updating c with a sentence S can make the presupposition of a sentence S' redundant, thus ensuring that $c[S']$ is guaranteed to be defined.

(4)   Sarah has a corgi. Sarah's corgi is sleepy.

Stalnakerian pragmatics directly captures this, since successive assertion gives rise to a successive update.

We can write a successive update of c with S followed by S' as $c[S][S']$.

(5) $c[S][S'] \coloneqq (c[S])[S']$

$$c[\text{Sarah has a corgi}] = \overbrace{\{\, w \mid w \in c \land \text{Sarah has a corgi in } w \,\}}^{c'}$$

$$c'[\text{Sarah's corgi is sleepy}] = \begin{cases} \{\, w \mid w \in c' \land \text{Sarah's corgi is sleep in } w \,\} & c \cap \{\, w \mid \text{Sarah has a corgi in } w \,\} \\ & \subseteq \{\, w \mid \text{Sarah has a corgi in } w \,\} \\ \text{undefined} & \text{otherwise} \end{cases}$$

$$c'[\text{Sarah's corgi is sleepy}] = \{\, w \mid w \in c' \land \text{Sarah's corgi is sleep in } w \,\}$$

1.4   Towards an update semantics

Successive assertion patterns with *conjunction* wrt presupposition projection (Danny's handout from last week; Karttunen's generalization).

A natural way of cashing this out: a conjunctive sentence induces successive update.

(6)   Conjunctive sentences in update semantics (def.)
      $c[S \text{ and } S'] \coloneqq c[S][S']$

What kind of rule is this? It looks very much like a *construction-specific* update rule.