5. SEMANTICS, PRAGMATICS AND THE CONCEPTUAL-PROCEDURAL DISTINCTION
University of Gent, November 2012

Deirdre Wilson
deirdre.wilson@ucl.ac.uk

1. <u>Introduction</u>

Issue: Is all word meaning cut to a single pattern? Can all words be treated (say) as encoding concepts, or instructions to fetch concepts, or rules for use in performing felicitous speech acts?

Standard distinctions suggesting two types of meaning: describing/indicating, truth-conditional/non-truth-conditional, saying/conventionally implicating, asserting/ presupposing, propositional content/illocutionary force, character/content, conceptual/procedural, lexicalised/grammaticalised...

Goals of this talk: to consider
1a. The rationale for a conceptual-procedural distinction of the type drawn in relevance theory.
1b. Some current issue and objections.
1c. Some comparisons with alternative approaches.
1d. Possible directions for future research.

2. <u>Rationale for the distinction</u>

Starting point (Blakemore 1987)
2a. Most lexical items (e.g. *dog, red*) encode **concepts** (e.g. DOG, RED) which are **constituents** of conceptual representations and affect the **truth conditions** of utterances in which they occur.
2b. Some expressions (e.g. *but, so, however, also*) make no difference to the **truth conditions** of utterances, and cannot therefore be seen as encoding concepts.
2c. Still, these expressions have linguistic meaning which belongs on the **semantic** side of the semantics-pragmatics distinction (hence not all linguistic semantics is truth-conditional).
2d. **Blakemore's hypothesis**: These expressions guide the **inferential comprehension process** by imposing procedural constraints on the construction of **contexts** and/or **cognitive effects.**

3a. It's raining, *so* the grass is wet. [*P so Q* indicates that P **contextually implies** Q]
3b. The grass is wet. *After all*, it's raining. [Q **strengthens**/provides evidence for P]
3c. It's raining, *but* the grass is not wet. [Q **contradicts** & **eliminates** a potential implication of P]

Initial scope of the distinction (Blakemore 1987)
The conceptual/procedural distinction **coincides with** the truth-conditional/non-truth-conditional distinction. Truth-conditional items encode **concepts** that figure in conceptual representations and affect **truth conditions** of utterances. Non-truth-conditional items encode **constraints on the inferential phase of comprehension** (and hence contribute to **implicatures**).

Related approaches:
4a. Grice on **conventional implicatures** as semantic but non-truth-conditional.
4b. Ducrot (1980) on procedural expressions as **argumentative operators**.

For Grice, discourse connectives are indicators of **non-central speech acts**. For Ducrot, they add an **argumentative orientation** to utterances. For Blakemore, they guide **comprehension.**

Generalising the distinction (Wilson & Sperber 1993, Wilson 1998, Blakemore 2002)

5a. The conceptual/procedural distinction **cross-cuts** the TC/Non-TC distinction.
5b. Some **non-truth-conditional** adverbials (e.g. *unfortunately, seriously*) encode concepts.
5c. Some **truth-conditional** items (e.g. *I, she, now, then*) don't encode full-fledged concepts.
5d. Some **non-truth-conditional** items (e.g. mood indicators, particles, interjections, intonation) encode procedural constraints on **speech-act, propositional-attitude or affective-attitude** information (analysed in terms of **higher-order explicatures** rather than implicatures).

6a. *Seriously,* are you leaving? [I'm asking you seriously/please tell me seriously]
6b. *She* is leaving. [Proposition expressed = e.g. *Jane Smith* is leaving]
6c. The train has left, *alas.* [Speaker is expressing regret that the train has left]

Current scope of the distinction
Conceptual expressions encode constituents of either **basic** (truth-conditional) or **higher-order** (non-truth-conditional) **explicatures** (cf (6a). Procedural expressions can constrain **any** aspect of **inferential comprehension**, either implicit (cf *but, so*) or explicit (cf. (6b), (6c)).

Conceptual items: encode stable concepts, i.e. constituents of a 'language of thought'.
Procedural items: don't encode concepts because they (a) never affect truth conditions (*but*), **or** (b) affect truth conditions only indirectly (*he*) **or** (c) are purely expressive (*alas,* intonation).

Related approaches:
7a. Bach (1999) argues that *but, so* etc. are really truth conditional.
7a. Potts (2005) treats 'conventional implicatures' as conceptual but non-truth-conditional.
7b. Wierzbicka (1992, 2000) proposes a 'universal semantic metalanguage' for affective items.

3. Current issues and objections

A. Is procedural information semantic or pragmatic? (Bezuidenhout 2004, Recanati 2004)

" … the notion of a procedural unit is something that has a place in an account of language *use*, and hence it belongs to a theory of pragmatic performance and not to a theory of semantic competence." (Bezuidenhout 2004: 1)

"Something that lies on the procedural side of the procedural/declarative divide is something inherently pragmatic that belongs to a performance system, and is distinct from the knowledge that is constitutive of a speaker-hearer's semantic competence." (Bezuidenhout 2004: 1)

Short answer (Wilson & Sperber 1993, Blakemore 1987, Carston 2002)
The semantics-pragmatics distinction coincides with the **decoding-inference** distinction. Although procedural items may carry information **about** inferential processes, the link between a procedural item and the information it carries is just as **arbitrary** (hence **coded**) as the link between a conceptual item and the concept it encodes. We need to distinguish *what* is encoded (i.e. a concept or a procedure) from the nature of the encoding relation itself.

Longer answer (*Relevance*: 172-3)
" … a language is a set of semantically interpreted well-formed formulas. A formula is semantically interpreted by being put into systematic correspondence with other objects: for example, with the formulas of another language, with states of the user of the language, or with possible states of the world."

Hypotheses
8a. Conceptual expressions correspond systematically to elements in a **language of thought.**
8b. Procedural expressions correspond systematically to **states of language users.**
8c. The language of thought corresponds systematically to possible **states of the world.**

Elaboration of (8b)
States of language users include those where a certain **procedure** or **mechanism** is highly activated. Procedural expressions may be seen as **activating,** or **triggering,** cognitive procedures already available to the organism. These may be of any type at all, so that what all procedural items have in common is not their **cognitive function** but **only** their triggering role. So we may expect to find procedural expressions with many **disparate** cognitive functions.

Consequences
9a. Procedural items (e.g. pronouns, particles, interjections) should activate procedures formulated in a sub-personal 'machine language' rather than full-fledged concepts which are constituents of a 'language of thought' and hence accessible to consciousness and available for general inference (cf pronouns, particles, intonation, etc.)
9b. The meanings of procedural items may be hard to pin down in conceptual terms.
9c. Thoughts (unlike 'silent speech') should not contain procedural elements (*although, alas*)
9d. We may expect to find differences in acquisition, production and processing between **lexicalised** (conceptual) expressions and corresponding **grammaticalised** (procedural) expressions (cf e.g. Matsui et al. 2009, Matsui & Miura 2009).

B. Must all lexical items be EITHER conceptual OR procedural? (Fraser 2006)

"In this article I will challenge the claim put forth by relevance theory ... that a linguistic form--a morpheme, a lexical item, a syntactic structure, or a stress or intonation contour--must be analyzed as having either conceptual meaning or procedural meaning but not both." (Fraser 06)

Short answer
There is no reason why a single expression shouldn't encode **both** a concept **and** a procedure.

Arguments in favour
10a. Concepts themselves (and hence the words that encode them) give access to **both** encyclopaedic information (data) **and** procedures (e.g. logical inference rules).
10b. Following Ducrot, words like *barely, hardly, almost, few, a few* can be seen as encoding not only conceptual information but also an **argumentative/inferential orientation**.

Illustration
If, in an utterance of the form *If P then Q*, might be seen as encoding
11a. The concept IF, which provides access to
11b. Logical inference rules/procedures such as Modus Ponens, Modus Tollens, etc.
11c. A procedural constraint (activated by *if*) which triggers a search for the antecedent *P*.

The procedural information in (11c) would help to explain why, even though *If P then Q* is **logically equivalent** to *Not-P or Q,* their roles in inferential comprehension are very different.

Question
How might points A and B interact with recent developments such as **lexical pragmatics**, the **massive modularity** hypothesis, etc. to suggest new directions for research?

4. Lexical pragmatics and the conceptual-procedural distinction

Statements in the lexical pragmatic literature that need some clarification

"Quite generally, the occurrence of a word in an utterance provides a **piece of evidence**, a **pointer to a concept** involved in the speaker's meaning. It may so happen that the intended concept is the very one encoded by the word, which is therefore used in its strictly literal sense. However, we would argue that this is no more than a possibility, not a preferred or default interpretation." (Sperber & Wilson 1998: 196)

"We believe that **pro-concepts** are quite common, but the argument of this chapter does not depend on that assumption (or even on the existence of pro-concepts). What we will argue is that, quite commonly, **all words behave** *as if* **they encoded pro-concepts**: that is, whether or not a word encodes a full concept, the concept it is used to convey in a given utterance has to be contextually worked out." (Sperber & Wilson 1998: 185)

full concept: a non-schematic concept (RED, DOG) which can act as a constituent of thoughts
pro-concept: a schematic concept (e.g. MY, HIS) that needs fleshing out into a full concept.

Frequent claim (e.g. Carston 2002, Wilson & Carston 2007, Sperber & Wilson 2008)
The concept encoded by a conceptual expression is **activated** during comprehension, but not necessarily **deployed.**

Illustrations
12a. Sue has *money*. [MONEY*, MONEY**, MONEY***…] (*lexical narrowing*)
12b. The bottle is *empty*. [EMPTY*] (*approximation, hyperbole*)
12c. Jane is a *chameleon*. [CHAMELEON*] (*metaphor*)

Question: What triggers ad hoc concept construction when a word encodes a full concept?

Hypotheses (suggested by Dan Sperber on the Relevance e-mail list)
13a. Assume that **all** lexical items encode procedures (whether or not they also encode concepts)
13b. Items that encode concepts are **also** procedural in the sense that they automatically trigger a procedure for constructing an ad hoc concept based on the encoded concept.
13c. **All** items, whether or not they encode concepts, may also be procedural in the sense that they trigger more specific procedures (cf. (10)-(11) above and Blakemore 1987, 2002).

Advantages of this approach
14a. It would explain why hearers don't simply accept the encoded concept as part of the speaker's meaning, but automatically construct an ad hoc concept based on it.
14b. It would explain how lexical items can be 'pointers to', or 'pieces of evidence about' a speaker's meaning, even when they encode full concepts.
14c. It suggests that there might be a **continuum of cases** between items that are fully conceptual and those that are purely procedural.
14d. It allows for the possibility that items might move **along the continuum**, e.g. from fully conceptual to purely procedural, as in **grammaticalisation** (Traugott 1997, Wharton 2009)

14e. It allows us to reanalyse some of Ducrot's examples (e.g. *few, a few, barely, almost*) as involving concepts plus a procedural orientation, and to look for further examples.

Implication: This might allow for a much more abstract treatment of certain types of case. So scalar terms such as *tall* and *short* might be seen as encoding the same conceptual information (e.g. LOCATED ON THE HEIGHT SCALE) but different procedural orientations. *Tall* would indicate that relevance increases as one moves **up** the height scale, and *short* would indicate that relevance increases as one moves **down** the height scale.

5. Massive modularity and the conceptual-procedural distinction

Massive modularity hypothesis (e.g. Sperber 2005, Carruthers 2006)
The hypothesis that human cognition involves a huge variety of special-purpose cognitive mechanisms or modules adapted to regularities in particular domains.

"A cognitive module has its own **procedures** and may also have a **data-base** of its own."
i.e. the distinction between **computation** and **representation** is preserved in this new picture.

Hypothesis
If the function of procedural expressions is to **activate** or **trigger** cognitive procedures already available to the organism (cf. section 3 above), we might expect to find **clusters** of procedural items linked to modules frequently used in communication and comprehension (e.g. mindreading, language production and parsing, inferential comprehension, etc.).

Illustrations

A - We find clusters of procedural items (interjections, attitudinal particles, intonation) linked to **emotion reading** (procedures for which are known to be present very early, hence modular).

B. - We find clusters of procedural items (e.g. mood indicators) linked to **mind-reading** (Baron-Cohen 1995) (procedures again thought to be present very early, cf. Onishi & Baillargeon etc.).

C. – We find clusters of procedural items (e.g. punctuation, prosody, discourse particles) which guide the **comprehension process** in one direction or another, cf the effect of a comma, or 'comma intonation', on the interpretation of (15):

15. Sue didn't sign the petition(,) because Mary did.
16a. Because Mary signed the petition, Sue didn't sign it.
16b. It was not because Mary signed the petition that Sue signed it.

D. - We find clusters of procedural items (grammaticalised honorifics) linked to **social cognition** more generally (procedures for tracking the place of individuals in a social group).

Question: Are there further sets of modular procedures that could give rise to procedural items?

Proposed answer (Sperber et al. 2010)
Hearers have a set of modular mechanisms for **epistemic vigilance** which enable them to assess the reliability of communicated information and defend themselves against mistakes or deliberate deception on the part of speakers.

Two types of epistemic vigilance mechanism
17a. **Argumentative mechanisms:** assess the consistency/coherence of communicated **content**
17b. **Source monitoring mechanisms:** assess the competence/trustworthiness of the **speaker**.

Hypothesis: There are procedural items linked to both (17a) and (17b).
A. Discourse connectives and argumentative mechanisms

Argumentative mechanisms, geared to assessing the **consistency/coherence of communicated content**, yield intuitions about logical and/or evidential relations among premises/conclusions.

Illustration
18a. The fact that *it's raining* is a good reason to believe that *the grass is wet*.
18b. The fact that *it's midnight* is a good reason to believe that *the pubs are closed*.
18c. The fact that *coffee would keep Mary awake* is a good reason to believe that *she doesn't want coffee.*

Speaker's goal: To get the hearer not only to understand her message but to believe her.

Speaker's strategy (Sperber 2001): To get past the hearer's epistemic vigilance mechanisms by **displaying** logical and evidential relations among propositions for purposes of **persuasion**:

"Displaying [logical/evidential relations] requires an **argumentative** form, the use of **logical** terms such as *if, and*, *or* and *unless*, and of words indicating *inferential relationships* such as *therefore*, *since*, *but*, and *nevertheless*. It is generally taken for granted that the logical and inferential vocabulary is – and presumably emerged as – a tool for **reflection** and **reasoning**. From an evolutionary point of view, this is not particularly plausible. The hypothesis that such terms emerged as tools for **persuasion** may be easier to defend." (Sperber 2001)

Implication of this account
The function of non-truth-conditional discourse connectives (e.g. *but, so, after* all) may be not so much to guide the comprehension process (as in Blakemore's account), but to trigger **argumentative mechanisms** which yield intuitions about **evidential relations**.

B. Evidentials, epistemic modals and source monitoring mechanisms

Source monitoring: assesses **the trustworthiness of the source** of information**:** e.g. how authoritative/reliable is the speaker, what type of evidence does she have, etc. Developmental work (e.g. Mascaro & Sperber 2009, Fitneva & Matsui 2009) suggests this starts very early.

Speaker's strategy: To get past the hearer's source monitoring mechanisms by **showing** her authority (e.g. by intonation, demeanour), or **displaying** the type of evidence she has.

Evidentials: a closed set of grammatical items indicating the **type of evidence** the speaker has for the proposition she is expressing; typically derived via grammaticalisation from fully conceptual items, but do not (typically) contribute to what is asserted, don't fall within scope of negation, and don't express speaker's attitude (Aikhenvald 2004).

Range of possible evidential markers (from strongest to weakest)
Visual; non-visual but directly perceived; inferred from perceptual clues; assumed; reported.

Implication of this account: The function of evidentials is not to guide the comprehension process (the proposition expressed would have been understood just as well without them), but to display the communicator's **competence, benevolence** and **trustworthiness** to the hearer.

Confirmation that evidentials have to do with the source, not the content, of information
"Ignoring evidentiality in a language with evidentials gets you marked as unreliable or a liar." "Accuracy in getting one's information source right is crucial for successful communication, and for the speaker's reputation." "In the use of evidentials, the issue is not morality, or truth, it is accuracy." (Aikhenvald 2004: 335, 344)

Question: How might this approach help to explain differences in the acquisition, production and comprehension of conceptual vs procedural items? e.g. in English, source of information has to be given conceptually; in other languages it can be given either conceptually or procedurally.

Hypotheses:
19a. Conceptual evidential expressions (e.g. 'I see', 'I hear') contribute to an extra (secondary) assertion, with its own truth conditions, whereas procedural expressions do not. So conceptual vs procedural encoding affects information structure.
19b. To acquire a procedural evidential, the child must have (a) appropriate source monitoring procedures, and (b) the ability to work out which item goes with which procedure. To acquire a conceptual evidential, the child must also have access to the appropriate concepts. Hence grammaticalised evidentials are typically acquired before conceptual ones.

6. Concluding remarks

20a. I've tried to show that there is ground for a systematic distinction between conceptual and procedural meaning: some lexical items encode concepts and others encode procedures.
20b. Just as conceptual expressions correspond systematically to available constituents of a language of thought, so procedural expressions correspond systematically to available cognitive (typically sub-personal) procedures.
20c. There is no reason to think that all procedural expressions have the **same** cognitive functions (e.g. all mark speech acts, or argumentation, coherence, implicatures, etc.), any more than all conceptual expressions do. What they share is their triggering function.
20d. In studying the **acquisition** or **breakdown** of procedural expressions, we should take into account the development/breakdown of the associated cognitive procedures (cf. Fitneva & Matsui 2009).

References

Aikhenvald, A. 2004. *Evidentiality.* Oxford University Press.

Bach, K. 1999. The myth of conventional implicature. *Linguistics & Philosophy* 22: 327-66.

Baron-Cohen, S. 1995. *Mindblindness.* Cambridge, MA: MIT Press.

Bezuidenhout, A. 2004. Procedural meaning and the semantics/pragmatics interface. In: C. Bianchi (ed) *The Semantics/Pragmatics Distinction*, 101-131. Stanford, CA: CSLI.

Blakemore, D. 1987. *Semantic Constraints on Relevance.* Oxford: Blackwell.

Blakemore, D. 2002. *Relevance and Linguistic Meaning.* Cambridge University Press.

Carruthers, P. 2006. *The Architecture of the Mind.* Oxford University Press.

Ducrot, O. 1980. *Les mots du discours.* Paris: Editions de Minuit.

Fitneva, S. & Matsui, T. (eds) 2009. *Evidentiality: A Window into Language and Cognitive Development.* In *New Directions for Child and Adolescent Development,* vol. 125, Wiley.

Fraser, B. 2006. On the conceptual-procedural distinction. *Style*. Spring-Summer 2006.

Hall, A. 2007. Do discourse connectives encode concepts or procedures? *Lingua* 117: 149-74.

Mascaro, O. & Sperber, D. 2009. The moral, epistemic and mindreading components of children's vigilance towards deception. *Cognition* 112: 367-380.

Matsui, T. & Miura, Y. 2009. Children's understanding of certainty and evidentiality: Advantage of grammaticalized forms over lexical alternatives. In: Fitneva & Matsui (eds), pp. 49-62.

Matsui, T., Rakoczy, H., Miura, Y. & Tomasello, M. 2009. Understanding of speaker certainty and false-belief reasoning: A comparison of Japanese & German preschoolers. *Dev'mental Science* 12: 602-13.

Mercier, H. & Sperber, D. 2009. Intuitive and reflective inferences. In J. St. B. Evans & K. Frankish (eds) *In Two Minds: Dual Processes and Beyond.* Oxford: OUP.

Mercier, H. & Sperber, D. 2011. Why do humans reason? Arguments for an argumentative theory. *Behavioral and Brain Sciences* 34: 57-111.

Potts, C. 2005. *The Logic of Conventional Implicatures.* Oxford University Press.

Recanati, F. 2004. Semantics and pragmatics. In L. Horn & G. Ward (eds) *The Handbook of Pragmatics,* 442-462. Oxford: Blackwell.

Sperber, D. 2001. An evolutionary perspective on testimony and argumentation. *Philosophical Topics 29:* 401-413.

Sperber, D. 2005. Modularity and relevance: How can a massively modular mind be flexible and context dependent? In P. Carruthers S. Laurence & S. Stich (eds.) *The Innate Mind.* OUP.

Sperber, D., Clément, F., Heintz, F. Mascaro, O., Mercier, H., Origgi, G. & Wilson, D. 2010. Epistemic vigilance. *Mind & Language* 25: 359-393.

Sperber, D. & Wilson, D. 1998/2012. The mapping between the mental and the public lexicon. In P. Carruthers & J. Boucher (eds) *Language and Thought,* 184-200. CUP. In Wilson & Sperber 2012.

Sperber, D. & Wilson, D. 2002/2012. Pragmatics, modularity and mindreading. *Mind & Language* 17: 3-23. In Wilson & Sperber 2012.

Sperber, D. & Wilson, D. 2008/2012. A deflationary account of metaphors. In R. Gibbs (ed.) *The Cambridge Handbook of Metaphor and Thought.* 84-105. Cambridge University Press.

Traugott, E. 1997. The discourse connective *after all*: a historical pragmatic account. Paper presented at the *Sixteenth International Congress of Linguists*, Paris, July 1997.

Wharton, T. 2003. Interjections, language and the 'showing-saying' continuum. *Pragmatics & Cognition* 11: 39–91.

Wharton, T. 2009. *Pragmatics and Non-Verbal Communication.* Cambridge University Press.

Wierzbicka, A. 1992. The semantics of interjection. *Journal of Pragmatics* 18: 159-92.

Wilson, D. 1998. Linguistic structure and inferential communication. In B. Caron (ed.) *Proceedings of the 16th International Congress of Linguists*. Oxford: Elsevier Sciences.

Wilson, D. 2011. The conceptual-procedural distinction: Past, present and future. In V. Escandell-Vidal, M. Leonetti & A. Ahern (eds) *Procedural Meaning: Problems and Perspectives.* Emerald, Bingley, 3-31. (CRiSPI 25).

Wilson, D. & Carston, R. 2007. A unitary approach to lexical pragmatics: Relevance, inference and ad hoc concepts. In N. Burton-Roberts *Pragmatics*: 230-259. Palgrave.

Wilson, D. & Sperber, D. 1993/2012. Linguistic form and relevance. *Lingua* 90: 1-25. In Wilson & Sperber 2012: 149-68.

Wilson, D. & Wharton, T. 2006. Relevance and prosody. *Journal of Pragmatics* 38: 1559-1579.