Psychological Explanations in Gricean Pragmatics
and Frege’s Legacy

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1. Overview
At the end of the 19th century, Gottlob Frege developed a new concept of logic. In his
Begriffsschrift (Frege 1879), he presented a function/argument analysis of the logical
form of judgements according to which the reference of a predicate is a function from
objects to truth values. This proposal marked the beginning of modern logic and
breaking away from psychological logic which focussed on the study of thought
processes and subjective mental representations. Frege’s writings abound in
arguments against psychologism in logic. While his task to ban psychologism from
logic can be considered accomplished, at least for mainstream modern conception of
it\(^2\), there is a closely related question that remains unanswered: since Frege’s logic
provides the theoretical foundations for the conception of meaning adopted in truth-
conditional semantics, does Frege’s ban on psychologism extend to the theory of
natural language meaning? In other words, does it extend to truth-conditional
semantics and to its contextualist Gricean extension that is often called truth-
conditional pragmatics?

In this paper I shall concentrate (apart from the final section of semantic
minimalism) on the contextualist, post-Gricean approach to meaning according to
which the result of pragmatic inference can contribute to the truth-conditional content
as a ‘free’, ‘top-down’ process of modulating the content – a process that is not
restrained by the syntactic form of the expression (see e.g. Recanati 2004, 2005). I
identify four areas in which moderate psychologism is necessary in order to obtain a
pragmatic theory that can be subjected to experimental testing:

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1 I am grateful to Aly Pitts, David Cram, Mikhail Kissine, and the participants of Istvan Kecskes and
Jacob Mey’s panel on intentions and common ground at the 10th International Pragmatics Conference
for the discussion of various aspects of this paper. I am also indebted to Jay Atlas for drawing the
contentious issue of psychologism in pragmatic theory to my attention through his recent papers.

2 But see Travis (2006: 125-6) who tentatively suggests that taking any stance, including Fregean, on
how logical laws apply to thinking subjects may constitute a form of psychologism.
The selection of the perspective to be adopted: that of the speaker, the addressee, or a Model Speaker – Model Addressee interaction;

The unit on which the pragmatic inference or default enrichment operate;

The definition and delimitation of automatic (default) interpretations vis-à-vis conscious pragmatic inference;

and

The definition of the object of analysis (called here Primary Meaning).

For the purpose of this discussion, I analyse two post-Gricean approaches to meaning: Levinson’s (2000) theory of presumptive meanings and my Default Semantics (Jaszczolt 2005) and demonstrate that they both fulfil [1] with the help of considerations from processing; the theory of presumptive meanings is deficient in [2] and [4] and lacking in [3], and Default Semantics is at present deficient in [2] and lacking in [3] through shunning psychological explanations.

The structure of the paper is as follows. In Section 2, I present Frege’s arguments against psychological claims in logic that will constitute the background for the discussion of psychologism in post-Gricean pragmatics and point out that, pace some attempts to do so, the transfer of this ban to pragmatics is by no means automatic. In Sections 3-6 I address the need for psychological explanations in the four areas identified above. I further justify the need for arguments from utterance processing by pointing out, in Section 6, that moderate psychologism in pragmatics is perfectly compatible with Frege’s exclusion of psychology from logic and his arguments against psychological logic. In Section 7 I contend that even minimalist semantic accounts, as long as they are proposition-based, cannot escape psychologism.

In post-Gricean pragmatics, one has a choice of adopting one of the two perspectives on speaker’s intentions: either (a) remain close to Grice and neo-Griceans and assume that pragmatic theory should offer a model of utterance interpretation that accounts for the meaning that can be plausibly construed as that
intended by a speaker (Grice 1975), or (b) assume that pragmatic theory should model intentions as they are recovered by the addressee – a view represented by relevance theory (Sperber and Wilson 1986/1995). In the last two decades relevance theorists have argued for the advantages of the latter construal of pragmatics over the first. However, as Saul (2002) suggests, these two projects allegedly have fundamentally different objectives and do not yield to a relative evaluation. On her reading of Grice, Grice’s notion of what is said makes it possible that both the speaker and the addressee are wrong about what is said. Grice’s what is said (his meaning$_{ma}$) closely depends on the sentence and on the possible enrichments of the sentence that can be accounted for by rules capturing the regularities in rational conversational interaction. It is speaker’s meaning but not in the sense of mental representations and processing of intentions. Instead, it is speaker’s meaning in the sense of a typical, model speaker and the meanings this speaker conveys to the model addressee. On the other hand, relevance theorists seek an account of utterance processing: an account of the psychology of utterance interpretation. According to Saul, these projects are very different and can happily coexist.

In this paper I support a perspective on utterance meaning which is compatible with Grice’s position and present it as a model of utterance interpretation on which an utterance by a Model Speaker is recovered by a Model Addressee. But unlike Saul, I argue that adopting Grice’s position cannot mean shedding the interest in the psychology of processing. I focus in this paper on the so-called cultural defaults: cultural assumptions which constitute ‘shortcuts’ through pragmatic inference. I demonstrate in the example of cultural defaults in utterance interpretation that neither of the two views can entirely avoid psychologism in pragmatics. The process of utterance interpretation figures as an essential explanatory component in the intention-based post-Gricean pragmatics if we want to provide a satisfactory account of utterance comprehension, including an account of pragmatic inference and default interpretations. Such defaults can, in principle, be understood in three different ways: as (i) defaults intended by the speaker and recovered by the addressee; (ii) intended by the speaker and not recovered by the addressee; and (iii) not intended but ‘recovered’. In order to select the perspective which is most adequate from the methodological point of view, one needs to resort to the discussion of utterance processing. I will argue that one cannot provide a pragmatic theory with an adequate account of
utterance meaning without stepping down, at least in this introductory stage, to the issues of processing.

2. Psychologism: a ‘corrupting intrusion’?

In his *Grundlagen der Arithmetik*, Frege (1884) takes a firm stance against psychological explanations in logic, which gave rise to entirely new understanding of truth, logic, definitions, objects of study of logic and mathematics, and also shed some light on linguistic theory. Frege (1884a: 90) says that ‘[t]here must be a sharp separation of the psychological from the logical, the subjective from the objective’. He distinguishes concepts and objects on one hand, and ideas (‘Vorstellungen’) on the other, where the latter are psychological constructs and fall outside objectual investigations proper. Ideas are not to be confused with objects. The way people represent an object to themselves is not to be confused with the object itself. For example,

“If someone feels obliged to give a definition, and yet cannot do so, then he will at least describe the way in which the object or concept is arrived at. This case is easily recognized by the absence of any further mention of such an explanation. For teaching purposes, such an introduction to things is quite in order; only it should always be clearly distinguished from a definition.” Frege (1884a: 89).

In logic this means that checking the correctness of a definition or validity of a proof must not make use of psychological notions such as ‘thinking that something is true or valid’ but instead one must resort directly to the laws of logic. At the time this was a landmark in philosophy, logic and arithmetic: a successful rebuttal of Husserl’s view that logic is concerned with mental processes. Frege (1884a: 88) writes:

“The description of the origin of an idea should not be taken for a definition, nor should the account of the mental and physical conditions for becoming aware of a proposition be taken for a proof, and nor should the discovery [‘Gedachtwerten’] of a proposition be confused with its truth! We must be reminded, it seems, that a proposition just as little ceases to be true when I am no longer thinking of it as the Sun is extinguished when I close my eyes.’

Frege’s attack on psychologism permeates many of his works. In his *Grundgesetze der Arithmetik*, vol. 1 (Frege 1893), he dubs the effect of psychology on logic a ‘corrupting intrusion’ (p. 202). He repeats that ‘being true’ is quite different from

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1 See Frege’s letters to Husserl (Frege 1906/1976) and his review of Husserl’s *Philosophy of Arithmetic* I (Frege 1894).
being held as true’ (p. 202). Similarly, in Logic, Frege (1897/1969) presents the task of logic as ‘isolating what is logical … so that we should consciously distinguish the logical from what is attached to it in the way of ideas and feelings’ (p. 243), because

‘Logic is concerned with the laws of truth, not with the laws of holding something to be true, not with the question of how people think, but with the question of how they must think if they are not to miss the truth.’


Frege’s argument hardly requires further defence, his aim was successfully accomplished. Modern logic dominated old phenomenological approaches and the function/argument analysis of judgements established firm foundations for formal analyses of artificial and subsequently natural languages, developed by Tarski and Davidson respectively. The parallel emergence of structuralist linguistics took it one step further. Just as the history of thinking about an object fell outside the science proper, so de Saussure’s synchronic/diachronic distinction established firm foundations for the dissociation of the history of a phenomenon from theorizing about it as an object in itself.

Truth-conditional semantics became established in the dominant orientation for analysing natural language meaning. But when the boundaries of truth-conditional semantics became blurred by Gricean and post-Gricean attempts to make various types and degrees of pragmatic inference ‘intrude’ into the unit of which truth conditions should be legitimately predicated, the question of psychologism resurfaced. The applicability of Frege’s arguments to post-Gricean analyses of meaning is not direct or straightforward. While psychologism is to be banned from definitions in logic, it need not always be banned from explanations in a subject matter that uses logic as a tool. Our task is to assess whether, and if so, to what extent Frege’s arguments are applicable to the current theories of meaning, and to post-Gricean pragmatics of a propositional, truth-conditional variety in particular. The kinds of questions that arise are:

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4 Pace Travis 2006.
5 On Frege’s function/argument analysis of judgements see also e.g. Baker and Hacker 2003, Green 2006, and Stalmaszczyk 2006.
6 The literature on the semantics-pragmatics boundary issue is ample. For an overview see e.g. Horn 2006 and Jaszczolt 2002, forthcoming.
Q1: Should psychological explanations be present in definitions of what is said, truth-conditional content, the explicit/implicit distinction, etc.?

Q2: Should the psychology of utterance processing be considered in the discussions of the boundary between semantics and pragmatics?

In the course of this paper I shall give a positive answer to these and related questions by means of investigating the identified areas [1]–[4] one by one. I will conclude that a moderate dose of psychologism is a necessary feature of any Gricean, truth-conditions-based, theory of meaning.

3. Whose perspective?
I move now to the discussion of the identified area [1]: the perspective to be adopted in modelling utterance meaning. Frege writes about Husserl’s psychological treatment of number in his review of Husserl’s *Philosophy of Arithmetic, I*:

‘If a geographer was given an oceanographic treatise to read which gave a psychological explanation of the origin of the oceans, he would undoubtedly get the impression that the author had missed the mark and shot past the thing itself in a most peculiar way. (...) The ocean is of course something real and a number is not; but this does not prevent a number from being something objective, and this is what is important. Reading this work has enabled me to gauge the extent of the devastation caused by the irruption of psychology into logic…’ Frege (1894: 209).

It is difficult to disagree. But it does not follow that psychology causes an equal ‘devastation’ to pragmatics. What I mean by this caveat is this. The definitions of the proposition, utterance meaning, default enrichment, pragmatic inference, must be established first and this is to be done with the help of the distinction between the three perspectives: that of the speaker, the addressee, and Model Speaker – Model Addressee. In other words, one has to decide whose meaning one wants to model. This is particularly important when the interlocutors differ with respect to the background cultural knowledge and the common ground is wrongly assessed. At this stage psychology plays an essential part, and, indeed, the psychology of utterance processing is the main object of the argument. Constructing the object of study

7 I attend to the notion of common ground and cultural defaults in Section 4 while discussing my area [2].
involves these psychological considerations necessarily. It is only at the subsequent stage, once the orientation is selected, that we can proceed either way: stay close to Frege and opt for (I) a theory of a Model Speaker – Model Addressee interaction, or depart in the more radically psychological direction for the remaining two positions: theories of (II) speaker’s or (III) addressee’s mental representations. The decision concerning the perspective is not, however, a decision as to whether to admit psychologism into pragmatic theory. Rather, it is a decision within the domain of the psychology of processing. Perspectives (I)-(III) are all ‘contaminated’, so to speak, albeit to different degrees.

It should also be pointed out that option (I) is the closest to Frege in spirit in that Fregean thoughts are not psychologically real ideas of a person but rather entities of a different realm, external to particular minds and brains. Also, Frege’s analysis of judgements into function and argument calls for a notion of a function from objects to judgements (‘true’ or ‘false’) which is independent of the actual judgements made by judging agents. The analysis has to account for assertions that have never been made, allowing for formalizing those that could have been made, those yet to be made, etc. Green (2003: 224), for example, claims that ‘the notion of a function is derivative of the prior grasp of what it is to be sensitive to the presence of a property’. However, it is the human kind’s ‘sensitivity to properties’ that makes up Frege’s concepts, rather than the particular sensitivities of particular minds.

The final point on the choice among (I)-(III) concerns their compatibility. One may be tempted to extend Saul’s (2002) claim that Gricean programme and relevance theory can happily co-exist to all three of the above standpoints and say that all three can happily co-exist: they have different, compatible objectives. I will refer to this thesis as the Co-existence Thesis. However, as I have argued here, this co-existence would be possible if not for the fact that all three positions involve some degree of psychologism. We are not faced with a choice between (a) two possible types of accounts of utterance processing, speaker- and addressee- oriented, vs. (b) Grice’s account of meaning, free from considerations of processing. If we were, the

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8 See Green 2003, Section 2 where she points out the connection between the semantics of sentences and the structure of perceptual judgement, making the case for the priority of ontological categories over those of syntax. Nota bene, she says that ‘[[language … records and conveys the results of perceptual judgements’ (p. 213), showing thereby that the kind of psychologism Frege bans is not the psychological reality of his analysis of judgements but rather the need for talking about individual minds. I come back to this issue at the end of this section.

9 See Section 1 above.
co-existence of (I) with (II) or (I) with (III) would be defensible. Grice’s very
distinction between context-free and context-dependent implicatures, as well as his
construal of implicature as a post-propositional process (in his original sense of
‘implicature’) of recovering an implicatum testify to the interest in the psychology of
the recovery and construction of utterance meaning: an interest in the questions as to
whether it is automatic or not (my identified area [3]), and at what stage in processing
the pragmatic meaning is added (my identified area [2]). And once we take one step in
the direction of psychologism, we have to take another, in the interest of consistency
and psychological accuracy. Once one postulates automatic, presumed, default
meanings, one needs an empirically falsifiable account of what exactly counts as
automatic and default. Analogously, once one commits oneself to ‘local’ (cf.
Levinson) or ‘global’, post-propositional (cf. Grice) defaults, one needs an empirically
falsifiable account of how ‘local’ or how ‘global’ they are to be. It is for this reason
that in Default Semantics the primary meanings of utterances, and their formal
equivalents in merger representations, can be more ‘global’ than a proposition itself
and be built out of larger units of discourse – à la discourse representation structures
(DRSs) in Discourse Representation Theory (DRT, Kamp and Reyle 1993; van Eijck
and Kamp 1997; Kamp et al. forthcoming). But how ‘local’ pragmatic operations can
be remains unanswered at present. Resorting to hypotheses about processing is
sometimes the only way to secure the object for experimental testing.

I attend to these big questions in Sections 4 and 5. For the remainder of this
section I shall move to proposing and tentatively defending option (I), the Model
Speaker – Model Addressee meaning, as the most promising perspective.

Grice’s what is said, as Bach (1994) and Saul (2002) well explain, is not very
well suited as a technical term for a cognitive theory of utterance processing. When
the speaker’s intentions are incompatible with the conventional meaning of the
sentence, the speaker’s meaning becomes dissociated from what is said: the speaker
‘makes as if to say’ what his or her utterance of the sentence conventionally conveys.
Similarly, the addressee’s meaning can become dissociated from what is said: the
addressee may misunderstand the speaker’s intentions. What we are left with is a
theoretical notion of what is said that is supposed to fulfil two tasks: (1) capture the
fact that speakers are not free to convey any content by any randomly chosen

10 For some results of empirical studies of salient meanings see Giora (2003) and her Graded Salience
Hypothesis. See also Kecskes forthcoming on individual and collective salience.
utterance but rather are constrained by the conventions of sentence-type meaning and (2) provide a unit of meaning that combines sentence meaning with those utterance-specific embellishments that his theory allows (i.e. disambiguation and reference assignment, see Grice 1978).

This theoretical construct of what is said can happily exist without making recourses to the psychology of utterance processing. However, as we know from the last thirty years of pragmatics research, this construct is faulty in many respects. Firstly, it is an arbitrary decision to draw a line between reference assignment to indexical expressions and disambiguation on the one hand, and the wide array of other pragmatic additions to the meaning of the sentence. Next, tying the notion of saying to sentence’s conventional meaning is at odds with any concept of utterance meaning, be it speaker’s, addressee’s, or neither. Instead, one can entertain the following construal. The theory of utterance meaning (meaning_{im}) is to account for the meanings the interlocutors normally convey and at the same time the meanings the addressees normally recover in the process of a rational conversational interaction – a cooperative interaction that is founded on principles (maxims, heuristics) that capture the regularities of their behaviour, where the latter is assumed to be rational. On this construal, we have a Model Speaker and a Model Addressee and proceed to explain why it is so ‘easy’ to communicate one’s thoughts. What we don’t capture is the cases when it is not easy: the cases when there is a mismatch between the intended and the recovered meaning. They can occur when, for example, a cultural assumption is incorrectly taken by the speaker to be shared by the interlocutors, when an implicature is intended but not recovered, or ‘recovered’ when not intended, such as in the cases of misconstrued sarcasm or irony. In these cases there are misconceptions about the common ground, where by ‘common ground’ I will understand the set of cultural, social, and other assumptions taken by the interlocutors to be shared, as well as the particular context of conversation which gives rise to shared information.\footnote{‘Common ground’ is not a primitive concept on this construal and in a theory of communication has to be accounted for in terms of the effects of conscious pragmatic inference and (various categories of) default meanings. I am grateful to David Cram and to the participants of Istvan Kecskes and Jacob Mey’s IPrA conference panel on intentions and common ground (Göteborg, July 2007) for the discussion of this point.}

This omission is a justified one. We abstain from making unsupported hypotheses about processing, the theory is free from ‘contamination from psychologism’ and we have a generally adequate account of how speakers normally...
externalize their intentions, allowing even for the context-dependent particularised implicatures which are catered for as inferences from the proposition meant and which, as I argue in Default Semantics (Jaszczolt 2005a) and Section 6 below, can function as the primary intended content. They are regarded as primary meanings on the grounds of their salience, irrespective of the criteria laid out in the distinctions between ‘said’ and ‘implied’ or ‘explicit’ and ‘implicit’. We can even cater for the constraints in (1) and (2) above in that there is nothing to stop us from increasing the range of permissible enrichments à la Carston (1988) and relaxing the concept of saying à la Bach (1994) in search for an adequate unit on which pragmatic inference and defaults are founded. The search for such a unit is identified as the second area ([2] above) in which psychological considerations have a role to play and is discussed in the following section.

For the purpose of the discussion of the three identified areas for psychology of processing, I use the example of conversational defaults in Levinson’s (2000) and Jaszczolt’s (2005) theories. Cooperation in conversation is based on the manifestation of speaker's intentions which are recovered by the addressee either by means of pragmatic inference or by relying on shortcuts through such a process, called among others default interpretations (Asher and Lascarides 2003, Jaszczolt 2005a) or presumptive meanings (Levinson 2000). Default interpretations, understood as a theory-independent, common-sense category of salient, unmarked meanings, are hardly controversial\(^\text{12}\). A fortiori, by default reasoning (no pun intended), my argument amounts to the claim that any Gricean theory of utterance meaning must include a dose of psychologism and attend to the differences between (a) conscious, costly, inferential and (b) automatic processes.

Let us consider first Levinson’s (1995, 2000) presumptive meanings, utterance-type meanings, or, as he calls them after Grice, generalised conversational implicatures (GCIs). As I explain in Section 4, Levinson’s GCIs are not identical with Grice’s original conception but this point will not have to concern us at this moment. What is important is that for both authors GCIs belong with Model Speaker’s meaning. They are not default inferences performed by the addressee and hence do

\(^{12}\) Evidence and theoretical arguments in support of the existence of default interpretations are indeed compelling. See e.g. Horn 2004, Levinson 2000, Asher and Lascarides 2003, Jaszczolt 2005a, Bach 1984, Veltman 1996, Giorgio 2003 for various aspects of, and approaches to, default meanings. See also Jaszczolt 2006a for an overview of the seminal accounts of defaults in semantics and pragmatics.
not belong with addressee’s meaning.\textsuperscript{13} Neither do they belong with the speaker in the sense of being part of the mental representation or any other psychologically-loaded phenomenon. They belong with speaker’s meaning in a processing-free sense of a theory of linguistic competence where we can talk about ‘normal’, \textit{ceteris paribus} inferences. For Levinson (2000: 1),

‘Utterance-type meanings are matters of preferred interpretations (…) which are carried by the structure of utterances, given the structure of the language, and not by virtue of the particular contexts of utterance.’

They constitute a ‘middle level’ between sentence meaning and utterance-token meaning. They are triggered by a set of three heuristics – a set of generalizations over rational conversational behaviour which amounts to an improved set of Grice’s maxims of conversation. But in order to have such Model Speaker – Model Addressee theory of defaults, one has to be in a position to say (a) what unit triggers such defaults and (b) what exactly counts as default, as opposed to inferentially achieved, interpretation. We cannot provide this answer by direct experimentation alone. In order to design experiments, one needs intuitively plausible hypotheses, theories to be tested. Such a discrimination between extant theories, or, even better, constructing more plausible ones, cannot proceed without answering the question ‘what would processing have to be like for this claim to be true?’. Only then do we provide food for experimentation. In other words, we also have to have answers in areas [2] and [3].

Let us move now to Default Semantics. Like Levinson’s account, it adopts the Model Speaker – Model Addressee orientation. So, the discussion of the former applies to the latter as far as our identified area [1] is concerned.

To conclude, I proposed in this section that while Gricean theory of meaning respects Frege’s rejection of psychological explanations from logic, one must resort to psychology in choosing and defining this perspective and thereby choosing and defining the object of study. I have also pointed out that the choice of the object of study is not a free choice founded on individual interests. I have argued against Saul’s claim, and against an extended Saul’s claim which I called the Co-Existence Thesis, that the three possibilities of construing a theory of utterance meaning can co-exist. An important task for the Gricean pragmaticist is to choose that option from among

(I)-(III) that is methodologically superior by the well-established criteria of adequacy of a scientific theory. I argued that option (I), a theory of meaning for a Model Speaker – Model Addressee interaction, is such a methodologically preferred position. I shall finish this section on a Fregean conciliatory note. Just as Frege, in Der Gedanke (1918-19), writes that the task of logic is not ‘investigating minds and contents of consciousness owned by individual men’, the task is ‘the investigation of the mind; of the mind, not of minds’ (p. 342), so a theory of meaning is the investigation of the utterance meaning; the meaning, not meanings for speakers or addressees. Similarly, just as for Frege (ibid., p. 342) ‘[a]lthough the thought does not belong with the contents of the thinker’s consciousness, there must be something in his consciousness that is aimed at the thought’, so, for a post-Gricean, although utterance meaning does not belong with the mental processing of an utterance by the interlocutors, there must be something in mental processes that is aimed at the utterance meaning. This ‘something’, Frege warns, should not be confused with the object of study. But post-Gricean pragmatics need not be at fault in this respect and indeed neither of the two accounts discussed above (Levinson 2000 and Jaszczolt 2005a) is culpable of such confusion. As I have argued here, the opposite is the case: we need more psychological considerations in choosing the perspective from which meaning should be modelled. Only when this is achieved and experimentally tested, may Frege’s arguments for the separation from psychology begin to apply.

4. Pragmatic increments

In this section I address the identified area [2]: the unit on which pragmatic inference or automatic enrichment operate in utterance interpretation, and by the same token the unit that should be adopted as a basis for such pragmatic ‘modifications’ in pragmatic theory.

A modest recourse to utterance processing is a condition sine qua non for any Gricean theory of utterance meaning when it tries to answer the question as to at what stage in the interpretation of discourse inferential and automatic enrichments take place. Questioning the recourse to processing by questioning the need for pragmatic theory to answer this question would have direct consequences on the Gricean program of providing a theory of utterance meaning, and hence constitutes too radical a solution.
Let us consider Levinson’s presumptive meanings in his theory of generalized conversational implicature. Grice’s GCIs are based on the proposition said (in his restricted sense of *what is said*\(^{14}\)). For Levinson, GCIs can arise locally, pre-propositionally: sentence meaning does not have to be *processed first*. This assumption of localism is an essential step in introducing and defining the concept of GCIs/presumptive meanings. But does localism adhere to the processing-free conception of pragmatic theory? One can levy the following objection at this point. While apparently abstaining from using processing as an *explanans*, Levinson has to include it as an *explanandum* in order to introduce his notion of presumptive meanings:

‘Explicit processing considerations do not enter the framework offered here, but they do form part of the background, for the character of the inferences in question as default inferences can, I think, be understood best against the background of cognitive processing. The evidence, so far as it goes, from the psycholinguistic literature is that hypotheses about meaning are entertained incrementally – as the words come in, as it were.’ Levinson (2000: 5)

What this means is that the enrichment to the default meaning takes place as soon as the relevant item is processed – be it a word, a phrase, a whole proposition, or, indeed, a morpheme: ‘…for example, a scalar quantifier like *some* will, as I will show, already invoke default enrichments before the predicate is available.’ (*ibid.*).

Examples in (1)-(3) emphasise the importance of locality for Levinson’s GCIs.

1. Some of the boys came.  
   \(\rightarrow\) ‘not all’
2. Possibly, there’s life on Mars.  
   \(\rightarrow\) ‘not certainly’.
3. If John comes, I’ll go.  
   \(\rightarrow\) ‘maybe he will, maybe he won’t’

(from Levinson 2000: 36-37).

These examples are all captured by the Q-heuristic, ‘What isn’t said, isn’t’: if a stronger expression is available and was not used, infer that it is not the case. As the glosses of what is conversationally communicated \(\rightarrow\) indicate, the presumptive meaning is triggered by the smallest relevant item: ‘some’ triggers ‘not all’, rather

\(^{14}\) See Section 1.
than ‘Some of the boys came’ triggering ‘Not all of the boys came’ as it was the case on Grice’s original construal.

Examples subsumed under the working of the I-heuristic (‘What is expressed simply is stereotypically exemplified’) make even more use of the feature of locality:

(4) bread knife $\rightarrow$ knife used for cutting bread
    kitchen knife $\rightarrow$ knife used for preparing food, e.g. chopping
    steel knife $\rightarrow$ knife made of steel

(5) a secretary $\rightarrow$ female one
(6) a road $\rightarrow$ hard-surfaced one
(7) I don’t like garlic. $\rightarrow$ I dislike garlic. [triggered by ‘don’t like’, KJ]

(from Levinson 2000: 37-38, adapted)

There are two problems here. Firstly, examples in (4) are compounds and therefore they are better regarded as lexical entries than examples of local default enrichment.\(^{15}\) Secondly, examples (5) and (6) are contentious. For example, ‘the Prime Minister’s secretary’ does not seem to trigger an enrichment to ‘female’ and hence the default status of this interpretation is doubtful. ‘Road’ is a lexical item that comes with the conceptual baggage of a prototype, definition, set of features, and so forth, depending on one’s favoured approach to word meaning, and does not seem to undergo ‘local’ enrichment. Neg-raising in (7), on the other hand, is a wide-spread fact of conversation but it is not obviously ‘local’: the shift in the interpretation to ‘dislike’ seems to be triggered by the content, the proposition. One can rebut these objections by pointing out that Levinson’s theory of GCIs is a theory of utterance-type meaning and as such it can easily be dissociated from the observations on the incremental nature of utterance processing made by psycholinguists.\(^{16}\) After all, its main preoccupation is with the modularity of semantics and pragmatics and with the differentiation of the middle level of GCIs from both modules. This level is not pragmatic because it does not involve computation of speaker’s intentions, neither is it

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\(^{15}\) Compounds can exhibit different orthographic conventions, they can be written jointly, separately, or hyphenated. The fact that the examples in (4) are written separately is immaterial.

\(^{16}\) The literature on this topic is vast and growing rapidly. See e.g. articles in Noveck and Sperber 2004, Katsos 2007.
semantic because it does involve ‘default inferences’ from the output of grammatical processing. GCIs are not Bach’s (1995) standardised, routine meanings either: ‘new’ meanings can also be captured by the three heuristics. They are, as a product of some or other process of utterance interpretation, propositional. It is this emphasis on the product that allows Levinson to eschew questions about processing. But does it allow him to do so successfully? Some presumptive meanings are amenable to being ‘construed as local’, with no claim about processing being included. Possible as it seems, this is not what Levinson’s theory does. As the quotation from Levinson (2000: 5) clearly shows, Levinson is concerned with matters of processing. Cognitive adequacy of his presumptive meanings is an important goal.

The final problem concerns default cancellation, or defeasibility. The more ‘local’ the enrichments, the higher the likelihood that they have to be taken back later on in discourse, when more information becomes available. For example, the default reading of ‘some’ has to be cancelled in (1’):

(1’) Some (\(\rightarrow\) ‘not all’) of the boys came. In fact, all of them did.

It has to be cancelled even sooner in (1’’):

(1’’) Some (\(\rightarrow\) ‘not all’), in fact all, of the boys came.

Cancellation is costly. If we remained close to Grice’s original concept of an implicature and adopted post-propositional, ‘global’ enrichments, the cost and frequency of such cancellations would be substantially reduced but would not disappear completely. If we went further and allowed implicatures (including the default ones) to be founded on units even larger than a sentence (proposition) when this is appropriate, i.e. when there is clear evidence that this is so, then we would come even closer to an intuitively adequate model of utterance interpretation. What we ultimately want is a theory that construes pragmatic inference and defaults as operating on a unit that is adequate for this particular discourse. And by ‘adequate’ I mean here cognitive, psychological adequacy, that can be expected to be corroborated by testing of the processing.

\(^{17}\) I discussed the defeasibility problem at length in Jaszczolt 2005a while demonstrating the advantages of ‘global’, ‘post-propositional’ defaults of Default Semantics, so will resort to repeating it only briefly.
In Default Semantics, the problem of combining information from stereotypes with the meaning derived from the sentence is approached in the following way. When we assume a pragmatic approach to the compositionality of meaning (Recanati 2004, Jaszczolt 2005a), such cultural defaults need not pertain to the enrichment of the logical form understood as the output of syntactic processing but they can also ‘override’ it. This view results in a notion of what is said which is more psychologically plausible from the point of view of accounting for intentions, and at the same time does not suffer from the problem of justification of the enrichment of the logical form as a different concept from implicatures (logically and functionally independent logical forms, Carston 1988, 2002). In composing utterance meaning, the output of syntactic processing is not pragmatically ‘enriched’ but instead all the sources of information about meaning are equal contributors to the so-called merger representation.\(^{18,19}\) The primary meaning of an utterance is understood as the meaning that is intended by a model speaker and recovered by a model addressee – a result of, and a contribution to, the assumed common ground. If the result of merging the sentence with the information from default interpretations is a representation that does not resemble the logical form of the uttered sentence, there is no special case there that would be in need of an explanation: the resemblance is not the norm, and neither is there a requirement that the primary meaning of the utterance has to be a proposition that entails the proposition uttered or be a development of the logical form of the sentence. Primary meaning is the most salient meaning that can be assumed to be intended and recovered as intended, full stop.

A further advantage of merger representations comes from their dynamic-semantic foundation. Just like DRSs of DRT, they can collect information incrementally across sentence boundaries. They are representations of discourses, not sentences. When a proposition that corresponds to the speaker’s meaning relies on

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\(^{18}\) Needless to say, Default Semantics subscribes to what Bach (2006) calls Propositionalism, a view that the proper object of study of a theory of meaning is a proposition and that that proposition is recovered from the sentence and the context – here in the form of default meanings and pragmatic inference. On an alternative view, represented by Bach, a semantic minimalism that is even more ‘minimal’ than minimal propositions in that it is not even a task of semantics to deliver truth conditions, see Bach 2004. On different forms of minimalism in semantics see Section 6 below and Jaszczolt 2007.

\(^{19}\) This construal is in fact compatible with the general assumptions of relevance theory (e.g. Sperber and Wilson 1995) and Recanati’s truth-conditional pragmatics (e.g. Recanati 2004). In Sysoeva and Jaszczolt (2007) we develop an argument demonstrating that contextualist approaches to meaning need not be bound by the ‘syntactic constraint’, i.e. that the primary meaning (explicature, what is said, or even Bach’s impliciture) need not be construed as a development of the logical form of the uttered sentence.
more than one sentence, this situation can easily be accommodated in a merger representation. Anaphoric dependencies carry on intersententially. The condition of flexibility of the unit to which defaults and inference pertain is fulfilled and we can conclude that merger representations seem to constitute the ‘food for experimentation’ that we were looking for. In Section 5 I argue that merger representations of Default Semantics (Jaszczolt 2005a, 2006b), loosely modelled on DRSs of DRT, fit the role of such flexible units in principle, although no general hypotheses concerning the length of the unit are worked out at present. The framework allows for local as well as global enrichment but the principles are not worked out at present for making generalizations concerning the length of the unit on which inference or automatic enrichment operate. Therefore, as a ‘safe bet’, all enrichment is considered to be global, post-propositional, until a more detailed hypothesis can be worked out and submitted for experimental testing.

To sum up at this point, hypotheses about processing are necessary in specifying the triggering unit for automatic enrichment. What is important for the current argument is the order in which theoretical explanations and experiments are to be placed. Before we can design reliable experiments, we need theories, hypotheses to be tested. We need a theory that would be more relaxed about the locality of enrichments than Levinson’s presumptive meanings and more informative than Default Semantics that takes enrichments to be global. The hypothesis that is to be tested should allow for different lengths of the input on which inference-based or default interpretation are formed. By ‘length’ I mean here the variability between very local, less local, post-propositional, or even multi-propositional input as it is conceived of in DRT and in Default Semantics. At the same time, the theory should preserve the intuition that the cancellation of such interpretations is costly and unwelcome. All these theoretical assumptions can only be properly discussed when we are not made to shun psychologism and theorizing about processing. Theorizing comes first and establishes hypotheses; experiments can follow. Avoiding theoretical discussions of the issues of processing led to the current situation in which experimental pragmatics is starved of hypotheses to test. Current experimentation is largely confined to falsifying Levinson’s account with its rather inflexible notion of GCIs (see Noveck and Sperber 2004). Instead, it would be more profitable to test hypotheses that use a variable input to salient meanings.
In his 2006b, Atlas expresses a view against what he calls ‘armchair psychologizing’ and in favour of ‘empirical psychology of sentence-processing’. What I am arguing for here is that ‘psychologizing’ has to appear before empirical studies. It is necessary in selecting and defining the object of study before empirical psychologists know what to test. And if psychological explanations have to, temporarily, figure in definitions, so be it.

5. Cultural defaults and cultural inferences
The third of our identified areas is drawing the boundary between automatic, default interpretations and conscious pragmatic inference. As soon as we try to model any cases of default interpretations, i.e. ‘shortcuts’ through pragmatic enrichment of the sentence’s content, we stumble across the problem of their definition and delimitation. This is the problem that permeates Grice’s GCIs and also Levinson’s theory of presumptive meanings. The reason for this is their shunning psychological explanations.

Let us consider the case of the possessive in the form of a genitive NP as in (8) and Levinson’s multiple-choice gloss of it:

(8) John’s book is good. +> the one he read, wrote, borrowed, as appropriate.

(from Levinson 2000: 37)

There are two problems with this gloss. First, it is difficult to see how genitive NPs count as a case of a default, presumed meaning. This problem is analogous to the one we encountered in examples (5) and (6) above but appears even more prominently here. A fair amount of assumed background is needed before the enrichment can take place, and it seems plausible to assume that this enrichment is not automatic but instead takes the form of conscious pragmatic inference. Secondly, even if they are to be understood as triggering presumed meanings, it is not clear exactly which unit triggers this enrichment: is it the NP, or the entire sentence, or the genitive marking on the noun itself. Compare (9) and (10):

20 I use the acronym ‘NP’ in the theory-neutral sense.
(9) Chomsky’s book is about grammar.
(10) John’s book won the Booker Prize.

Arguably, assuming the standard common ground that the interlocutors are likely to adopt here, (9) defaults to ‘the one he wrote’, and, arguably, it does so as soon as the word ‘Chomsky’s’ is processed. In (10), ‘John’s book’ is likely to default to ‘the one he wrote’ when the entire VP has been processed. It seems that we cannot give a comprehensive account of the GCIs pertaining to possessive constructions unless we resort to ‘increments’ in processing that are of a variable length, depending on a particular circumstance. Neither can we progress any further with this account without speculating on the boundary between utterance-type and utterance-token. Where does the common ground fit in? Is (11) the case of utterance-type because it is plausible to assume that the interlocutors identify Leonardo with Leonardo da Vinci? And, how reliable is this move? Can we also apply this reasoning to ‘Larry’, meaning Larry Horn, in (12)? If not, where do we place the boundary?

(11) Leonardo’s painting was stolen from Czartoryskis’ Museum in Kraków.
(12) Larry’s book is a thrilling account of negation.

Let us now move to presumptive meanings subsumed under the M-heuristic: ‘What’s said in an abnormal way isn’t normal’ and examples in (13)-(14):

(13) It’s not impossible that the plane will be late.
    +> ‘rather less likely than if one had said ‘It’s possible than…’

(14) Bill caused the car to stop.
    +> ‘indirectly, not in the normal way, e.g., by use of the emergency brake’

(from Levinson 2000: 39).

By comparing the utterances in (13) and (14) with some more standard ways of communicating the same content one can obtain the GCIs as above. However, once again, the question arises as to where to draw the boundary between these alleged GCIs and inference from the context. A related question is how do we decide whether
enrichments that are triggered by a word are cases of M-triggered GCIs or simply lexical coding, as in (15)? If Tom acquired a particularly expensive car, the verb ‘purchased’ may not trigger additional implicatures. On the other hand, (16) may do so, as indicated.

(15) Tom purchased a car.
(16) Tom purchased a hamster.

\[\Rightarrow\] Tom blew the event of acquiring a hamster out of proportion.

A similar problem applies to the compounds in (4) above (‘bread knife’, ‘kitchen knife’, and ‘steel knife’) in that they can easily be construed as cases of lexical meaning.\(^{21}\) It is quite possible that in pursuit of localism Levinson may have gone too far and subsumed lexical meanings under pragmatic enrichment.

To conclude at this point, psychological explanation (*followed by* empirical evidence) of processing is necessary in (i) discriminating between cases of default and inference-based enrichment, and (ii) discriminating between default inference and lexical meaning.

Finally, let us consider the default – inference boundary problem in the theory of Default Semantics. In Default Semantics, a typology of default interpretations is suggested and it includes a category of so-called *social-cultural defaults*: interpretations that arise without conscious inference thanks to shared information about culture and society. But assumptions concerning such sharing of cultural or social knowledge can be mistaken. For example, the exchange in (17) achieves a humorous effect due to such a mismatch of intended and recovered meaning.

(17) A: So, is this your first film?
B: No, it’s my twenty second.
A: Any favourites among the twenty two?
B: Working with Leonardo.
A: da Vinci?
B: DiCaprio.
A: Of course. And is he your favourite Italian director?

(Richard Curtis, *Notting Hill*, 1999)

\(^{21}\) We are disregarding for the purpose of this argument the history of lexicalization that, according to one influential theory, proceeds through the stages PCI>GCI>SM (where ‘PCI’ stands for particularized conversational implicatures and ‘SM’ for semantic meaning). See Traugott 2004.
I shall concentrate here on shared cultural assumptions and will call them for this purpose cultural defaults. To repeat, cultural defaults can, in principle, be construed in three different ways: as (i) defaults intended by the speaker and recovered by the addressee; (ii) intended by the speaker and not recovered by the addressee; and (iii) not intended but ‘recovered’. Attending to all three cases would require a significant dose of psychologism in semantic theory – far more than a linguistic theory can benefit from. A more satisfactory solution is to opt for a particular perspective, for example that of the speaker. Or we can opt for a model that is closer to Grice (and Levinson) in spirit and construe an account of utterance meaning on which we try to discern those standard interpretations that are normally shared between the interlocutors.\(^{22}\) This option corresponds to the perspective of a Model Speaker – Model Addressee utterance interpretation defended in Section 2. In this way ‘defaults’, ‘presumptive meanings’, ‘unmarked interpretations’, ‘generalized implicatures’, and so forth, are closer in spirit to what we intuitively understand as defaults: interpretations that can be safely assumed to go through. However, one of our previously discussed problems persists on this account. Such defaults are highly dependent on the context of the particular discourse. For example, we can say that ‘working with Leonardo’ triggers for many people the referential individuation as Leonardo DiCaprio in (17) above because of the previous co-text of talking about acting in films, as well as the general context of an interview with a movie star.\(^{23}\) So, there is a problem here of how much of the previous discourse are we allowed to consider while still retaining the concept of ‘default’ for a particular interpretation rather than calling it a case of pragmatic inference. We need reliable criteria for discerning such reliable, shared interpretations. In other words, we need to establish where, at what level of specificity, the default meaning ends. In Levinson’s (2000) example (18), it is assumed that the speaker and the addressee belong to a society in which nannies are normally female and the enriched, default interpretation occurs automatically, unreflectively.

\[(18) \quad \text{We advertised for a new nanny.} \quad +\rightarrow \text{a female nanny.}\]

\(^{22}\) See also Kecskes forthcoming on ‘collective salience’.

\(^{23}\) The interpretation on which ‘Leonardo’ is identified as short for ‘Leonardo da Vinci’ would be plausible if the proper name referred, say, to Leonardo’s paintings and thereby ‘working with Leonardo’ could mean ‘working with Leonardo’s paintings’. In the context of the interview in (17) it could also stand for an actor playing the part of Leonardo da Vinci.
However, as I pointed out elsewhere (Jaszczolt 2005a: 55),

‘…what the speaker uttered is that they had advertised for a nanny, of unspecified sex, age, social status, marital status, hair colour, skin colour, religion, sexual preferences, etc. How far do we want to go in postulating defaults? And, more importantly, what would the criterion for such a default representation content be?’

Do we also want to include enrichment from our cultural and social stereotypes of nannies in the content of the default interpretation? If so, do we use Mary Poppins, Maria from *The Sound of Music*, or perhaps even Nanny McPhee? This question remains unanswered and, it seems that the best way to answer is an empirical investigation. It is necessary to find out what the processing of such utterances really entails, but only when the plausible ‘food for experimentation’ is established: one needs a reliable criterion for distinguishing defaults from results of pragmatic inference and it seems that the only available move is a recourse to processing à la Recanati (2004).

We can conclude that both the theory of presumptive meanings and Default Semantics are wanting in the criteria for delimitation of automatic, default interpretations and that these criteria cannot be postulated in a void; they need arguments from psychology. They don’t need arguments from experimental psychology because experimental psychology needs precisely this ‘food for experimentation’ that good hypotheses can provide. Poor hypotheses are a waste of experimenters’ time, as the evidence form the premature testing of locality triggered by Levinson (2000) clearly indicates: ‘premature’ because neither locality, nor the demarcation between defaults and inference, were sufficiently well worked out theoretically.

6. Primary meaning and Fregean thoughts
I proceed now to the identified area [4]: the definition and delimitation of the object of study, commonly known as ‘what is said’, ‘utterance meaning’, ‘explicit meaning’, and so forth. I have already committed myself in Section 3 to the perspective of Model Speaker – Model Addressee and will therefore assume it and confine the discussion to the question of the explicit/implicit boundary, that is whether the
primary, explicit meaning which is subjected to the truth-conditional analysis in post-
Gricean contextualist pragmatics has to obey the syntactic constraint and constitute
the development of the logical form of the uttered sentence. This question is discussed
in depth and with empirical support in a separate paper (Sysoeva and Jaszczolt 2007).
For the aim at hand I shall flag the problem and present some arguments in favour of
rejecting the syntactic constraint.

Within the contextualist orientation in post-Gricean pragmatics there are
several suggestions for what is to count as the primary unit of analysis. The most
prominent candidates are Recanati’s (1989) what is said, relevance-theoretic (Sperber
and Wilson 1986) explicature, and Bach’s (1994) impliciture. We can also add here
the default-semantic (Jaszczolt 2005) meaning merger, also called primary meaning
(Sysoeva and Jaszczolt 2007). All these concepts are contextualist concepts in that
they subscribe to some form of pragmatic enrichment of the truth-conditional content.
In one of the more radical versions of contextualism, this enrichment is called
modulation and is stipulated to be present in every case of utterance interpretation:

‘Contextualism ascribes to modulation a form of necessity which makes it
ineliminable. Without contextual modulation, no proposition could be expressed…’

Recanati (2005: 179-180)

and

‘…there is no level of meaning which is both (i) propositional (truth-evaluable) and
(ii) minimalist (that is, unaffected by top-down factors)’.


For example, (19) is the uttered sentence, corresponding to a so-called minimal
proposition, and (20) is its modulated equivalent or what is said.

(19) Mary hasn’t eaten.
(20) Mary hasn’t eaten breakfast yet.

According to the view represented in Default Semantics, there is indeed such a top-
down process of pragmatic inference that interacts with the aspects of meaning
provided by the sentence. It also interacts with the aspects of meaning provided by social and cultural assumptions which are added automatically. But not all utterances make use of this pragmatic process of modulation. In this respect the view is not contextualist in Recanati’s strong sense, although contextualist in the more general sense of allowing for a wide range of free enrichments to the truth-conditional content.

Default Semantics also says that the object of study of a truth-conditional theory of utterance meaning is the primary meaning construed as intended by the Model Speaker and recovered by the Model Addressee. This primary meaning need not obey the syntactic constraint. In other words, it need not be dependent on the syntactic representation of the uttered sentence. The latter claim distinguishes Default Semantics from other contextualist frameworks. To compare,

‘What is said results from fleshing out the meaning of the sentence (which is like a semantic ‘skeleton’) so as to make it propositional.’


‘An assumption communicated by an utterance U is explicit if and only if it is a development of the logical form encoded by U.’


Both concepts, what is said and explicature, obey the syntactic constraint. Similarly, Bach’s ‘middle level of meaning’, called an impliciture, goes beyond what is said in the manner restricted by the syntactic constraint (Bach 1994, 2001, 2004, 2005): the syntactic form is the ‘skeleton’ on which it is built.

To repeat, modulation is a so-called ‘top-down’ process which is pragmatically rather than syntactically controlled. In other words, the additions to the logical form of the sentence are not controlled by the structure of the sentence; they need not be confined to filling in syntactic slots. At this point one can ask whether this modulation should not be construed as being even more free from syntactic constraints. In addition to not being dictated by slots in the logical form, it seems that there is no reason not to model it as being free from the requirement of being a development of the logical form altogether. In defining the main object of study of a theory of utterance meaning it seems only natural to begin with the question what is
the main, primary meaning that can be identified as intended and communicated. Bearing in mind the decision we made concerning [1], the question is further narrowed down as: What is the main, primary meaning that can be identified as intended and communicated by the Model Speaker to the Model Addressee? There is no intra-theoretic or external epistemological reason for this meaning to resemble closely the meaning of the uttered sentence. For example, (19) is frequently used to communicate (21), (22), or a range of other contents as the main intended message.

(21) Mary is hungry.
(22) Mary wants to go for a meal.

(21) and (22) would normally be classified as strong implicatures of (19). But when (21) or (22) is the main intended meaning (primary meaning), it seems that this is the meaning that should constitute the main object of analysis in pragmatic theory, and by extension it should be modelled in contextualist truth-conditional semantics, which we also referred to as truth-conditional pragmatics.24

Default Semantics does not recognise a need for a syntactic constraint. It rests on the assumption that the meaning of the act of communication has to satisfy the methodological requirement of compositionality and utilises a concept of pragmatic compositionality for meaning representations, called meaning mergers according to which the meaning of the act of communication is a function of the meaning of the words, the sentence structure, social and cultural assumptions triggered automatically, procedures of interpretation which rely on the properties of cognitive processes called cognitive defaults, and conscious pragmatic inference. Compositionality is a feature of a representation which is a merger of information coming from these diverse sources.25 Viewed in this way, there is no priority given to sentence structure: sentence structure constitutes one of several sources of information about meaning and information it provides can be overridden, just as information derived from any

24 The terminology and minor differences between contextualist Gricean views are irrelevant for this purpose.
25 The view that meaning construction draws on various sources is not new. It can be traced back to Husserl’s idea of objectifying acts from early 20th century (see my account of Husserl’s vehicles of thought in Jaszczolt 1999). See also Kecskes’ (forthcoming) attempt to reconcile invariant meanings with Wittgenstein’s eliminativism, modelling the mind as a ‘pattern recogniser/builder’ but also a ‘rule-following calculator’.
other source can be overridden. There is no place in this model for a syntactic constraint.

The main point I am making here is this. We have a choice of definitions of the main object of analysis (‘main meaning’) and one of the principles on which we should found our decision is the acceptance or rejection of the syntactic constraint. I would like to suggest that the decision is made by appealing to psychological considerations: the boundary between the primary meaning, which is the most salient meaning construed as that intended by the Model Speaker and recovered by the Model Addressee, and secondary meaning (implicatures that follow it) has to be psychologically real and empirically testable. Whether it uses the sentence as its ‘skeleton’ or not need not concern us when we are in pursuit of the main communicated message. Note that neither Recanati’s intuitively available and automatically processed what is said nor relevance-theoretic explicature are incompatible with this proposal in principle: they can be easily stripped of the requirement of the syntactic constraint. In fact, Carston’s (2002) account of ad hoc concept construction is only one step from affecting some parts of syntactic structure of the sentence, just as it undermines the need for coded meaning. It is precisely by shunning psychological considerations that we become preoccupied with the syntax-pragmatics interface, to the detriment of what pragmatic theory should be really about. Frege repeatedly expressed his mistrust in syntactic categories, claiming that syntax of natural language can be misleading with regard to logical form.26 It seems only natural to go all the way and allow for the cases where syntax has such a small role to play in the representation of the truth-conditional content that it does not even provide a ‘skeleton’. Moreover, there is substantial experimental evidence in support of the claim that the main, most salient meaning is frequently an implicature: according to Sysoeva’s experiments, for example, between 60 and 80 per cent of informants (depending on the language and culture) select implicatures as the main communicated meaning.27

The final question to address is, how does this psychologically plausible unit, free from the syntactic constraint, fare with Frege’s notion of a judgement (Frege 26 See Green 2003, esp. pp. 216-217 for an excellent discussion of the problems with deriving ontology from syntax. She convincingly argues that Frege’s ontological categories of object and concept are prior in the order of explanation to the syntactic categories of singular term and predicate. 27 See Sysoeva and Jaszczolt 2007. For similar results obtained by different methods see Nicolle and Clark 1999 and Pitts 2005.)
1879) or thought (Frege 1918-19). Let us look again at the passage quoted in Section 2. In *Logic*, Frege says:

‘Logic is concerned with the laws of truth, not with the laws of holding something to be true, not with the question of how people think, but with the question of how they must think if they are not to miss the truth.’


The consequences for the semantics of natural language are as follows. When one takes a sentence with, say, indexical terms in it, such as ‘I am hungry’, *being true* cannot apply to this sentence directly. If it did, we would have to say that the sentence is true for some speakers and false for others. Instead, the sentence expresses different thoughts (‘Gedanken’) when uttered by different persons. It is this thought that is true or false, not the sentence. The referent, the time, and place are provided by the thought, leaving ‘being true’ as ‘placeless and timeless’ (Frege 1893: 203). This view is fully respected in post-Gricean pragmatics. Fregean thoughts are not particular person’s thoughts; a thought ‘needs no owner’ (Frege 1918-19: 337) and one can agree that ‘[s]ince thoughts are not mental in nature, it follows that every psychological treatment of logic can only do harm’ (Frege 1897/1969: 250). In the conceptual notation proposed in *Begriffsschrift*, the judgeable content is prefixed with a symbol for assertion (judgement) to form a unit which can be assessed for truth or falsehood. And the analysis of this unit corresponds to the analysis of thought. Thoughts are legitimate recipients of truth conditions. Not only do they ‘rescue’ truth from temporal and spatial relativism, but they also provide a unit with assigned reference to indexical and other deictic expressions, disambiguated lexically and syntactically to fulfil Grice’s (1978) conditions for what is said.

More importantly, there is nothing to stop us using this concept more liberally in the spirit of radical pragmatics (see e.g. Atlas 1977, 1979, 1989, 2005, 2006a). Thoughts (let us call them Neo-Fregean Thoughts) become then theoretical pragmatic constructs that have their semantic counterparts in underspecified semantic representations. When, for example, a sentence does not specify the scope of the negation operator, the corresponding Neo-Fregean Thought does. Thoughts are then compatible with enriched or ‘modulated’ (Recanati 2004) propositions assumed in relevance theory or in Recanati’s (2002, 2003, 2004) truth-conditional pragmatics.

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28 See Jaszczolt 1999, Chapter 1 on ambiguity in semantics.
Such an appropriation of a Fregean thought is also what is modelled in merger representations of Default Semantics.

To conclude, I argued in this section that we need psychological arguments in choosing the unit which is to be modelled in the theory of meaning. Psychological considerations point towards a unit that is regarded as the main, most salient meaning intended by the speaker and recovered by the addressee – or Model Speaker and Model Addressee respectively, if we adopt the perspective assumed in Section 3.

7. Psychologism and the contextualism-minimalism debate

From the discussion of the identified areas [1]-[4] we can build the following generalization. With respect to [1], Levinson’s presumptive meanings and my default-semantic primary meanings both adopt the Model Speaker – Model Addressee perspective. For area [2], Levinson’s theory adopts an overly ‘local’ unit for pragmatic enrichments, while Default Semantics does not have an answer to the question as to at what stage exactly the inference or automatic enrichment take place and prefers to look at these processes ‘globally’, as if they were post-propositional. As regards [3], they are both lacking in empirically implementable definitions of what counts as automatic enrichment vis-à-vis conscious pragmatic inference. In [4], I argued that the correct way to construe a psychologically real unit of meaning is to exorcise the syntactic constraint –the move that was made in Default Semantics but not in other contextualist accounts. The analyses of all these areas in both frameworks make at least a modest use of psychological considerations of utterance processing. I summarise these conclusions in Table 1, where ‘√’ stands for a solution that was here argued to be adequate, ‘×’ stands for a solution that was found lacking in adequacy, ‘?’ stands for no solution given, and ‘+/− P’ for the need for or making use of psychological considerations.

<table>
<thead>
<tr>
<th>Levinson’s (2000) presumptive meanings</th>
<th>Jaszczolt’s (2005) primary meanings</th>
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<tbody>
<tr>
<td>[1] √ +P</td>
<td>√ +P</td>
</tr>
<tr>
<td>[2] × +P</td>
<td>× +P</td>
</tr>
<tr>
<td>[4] × +P</td>
<td>√ +P</td>
</tr>
</tbody>
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Psychologism seems vindicated: where several solutions are available for an area, such as (I)-(III) for area [1], I have shown that making the choice involves psychological arguments. Where no satisfactory solution has been reached, I have argued that this is so due to shunning arguments from processing. A question arises at this point: are there, or can there in principle be theories of meaning that can be classified as ‘-P’? The obvious candidates are minimalist semantic accounts of Borg (2004), Cappelen and Lepore (2005), or even more so Bach’s (2006) ‘radical minimalism’. In what follows I briefly address the question as to whether they contain a construct of sentence meaning that is truly ‘-P’, leaving psychology outside the realm of truth-conditional analysis.

In the past three years, arguments against psychologism in the theory of meaning have been greatly aided by the revival of the so-called minimalist approaches in the form of Borg’s (2004) *minimal semantics* and Cappelen and Lepore’s (2005a, b) *insensitive semantics*. After three decades of radical pragmatics where underdetermined semantic representation has been thought of as further ‘developed’, ‘enriched’, ‘modulated’, and so forth, by the result of pragmatic processing, the traditional view of a clear semantics-pragmatics distinction is experiencing a revival in a variety of directions. Borg (2004) claims that pragmatic considerations are separate from semantics where the latter is a separate module and concerns the logical form as a property of expressions themselves. Non-demonstrative inference is to be kept apart from semantics which confines itself to formal, deductive operations (see p. 8). The notion of truth conditions is equally minimal on her account. For example, a demonstrative ‘that’ in ‘That is red’ is not to be filled with a referent ‘within the semantics’: context and the verification of the sentence in a situation are outside of the inquiry. The truth condition is, as she says, ‘liberal’: ‘that’ figures in it as a singular term referring to a contextually salient object, whatever this object happens to be in this particular context. In this way psychologism is exorcised by decree (but I return below to the question as to whether it is really absent there). In a similarly minimalist account, Cappelen and Lepore overtly refer to Frege’s ban on psychologism in the theory of meaning (Cappelen and Lepore 2005a: 152-153) when they suggest that

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semantic theory is to identify that content of the sentence that is shared across contexts. The minimal, semantic content is contrasted with what is said (the communicated content) and the first only allows for the filling in of context-sensitive terms, confined to very few classes of expressions, such as demonstratives and indexicals. The latter, what is said, is radically unconstrained: a sentence can express indefinitely many propositions. They call this view Speech Act Pluralism.

The problem with these two ways of banning psychologism by staying close to the sentence meaning is what Bach (2004, 2005, 2006) calls their Propositionalism. Once we adopt a proposition as the object of study of semantic theory and accept that every indexical-free sentence must express a proposition, we have already mixed up psychological and formal considerations. As I demonstrated elsewhere (Jaszczolt 2007), Borg (2004), while attempting to build an autonomous, formal and modular semantics, resorts to utterance meaning for some types of expressions (see her discussion of ‘It is raining’) in order to fulfil the requirement of having a proposition, a unit with (however minimal) truth conditions. She also resorts to psychologism while arguing for the co-existence of contextualism of the relevance-theory type and her minimalism. Cappelen and Lepore’s recourse to pragmatics in filling in the context-dependent expressions without which propositionality cannot be achieved is also a signal of their, however small, making allowances for context, processing, and psychological factors.

We are compelled to conclude that just as Grice’s and relevance-theoretic programmes cannot co-exist because they both resort to claims about cognition and some degree of psychologism, so neither of the two minimalist stances discussed in this section can happily co-exist with contextualism for exactly the same reason. While Cappelen and Lepore’s account can be ‘made’ compatible with contextualism

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30 I am confining this discussion to the forms of minimalism that adhere to Propositionalism (see footnote 18). I also exclude what I called elsewhere ’pseudo-minimalism’ (Jaszczolt 2007) where syntactic slots are liberally postulated for various forms of pragmatic enrichment. See Stanley (2002), Stanley and Szabó (2000) and King and Stanley (2005). ‘Minimalism’ is achieved there by making the syntactic structure unjustifiably rich and ‘unpronounced’. To compare, Recanati 2005 has a more liberal category of minimalisms under which this stance comfortably fits: on Recanati’s (2005: 176) definition, to count as a minimalist one has to maintain that ‘no contextual influences are allowed to affect the truth-conditional content of an utterance unless the sentence itself demands it’.

31 See Borg (2004: 243) and her appeal to children’s and philosophers’ intuitions about minimal propositions. Minimal propositions, as units of autonomous, formal, and modular semantics are not supposed to have any psychological reality, or at least their role in processing should be irrelevant. In contextualism, minimal propositions do not exist. They don’t even make sense as theoretical constructs. For contextualists, every proposition requires pragmatic enrichment (modulation). See Recanati (2005: 179-180).
on methodological grounds because it contains a very clear list of such context-dependent expressions\textsuperscript{32} which we could treat as exceptions for an otherwise ‘truly minimalist’ account, Borg’s arguments make her more contextualist than her professed orientation would justify.\textsuperscript{33}

8. Concluding remarks

It remains to be seen whether the solution is to ban propositions in order to ban psychologism, or to retain propositions and admit some modest dose of psychologism. In this paper I argued for the latter because a proposition-free semantics that is properly formally constrained and compositional is for me inconceivable. Exorcising propositions means exorcising truth conditions. We need a more detailed proposal from anti-propositionalists to challenge the foundations of Tarski, Montague, and of currently very successful dynamic semantic approaches. My contribution therefore does not end the investigation but rather contributes a modest interim conclusion that there is no third alternative: no proposition-based, truth-conditional theory of meaning without at least moderate psychologism. In particular, I argued that psychologism in truth-conditions-based pragmatic theory is necessary in order to formulate food for experimentation on at least the following fronts: [1] the perspective which should be adopted: that of the speaker, the addressee, or a Model Speaker – Model Addressee interaction; [2] the unit on which the pragmatic inference or default enrichment operate; [3] the definition and delimitation of default interpretations vis-à-vis conscious pragmatic inference; and [4] what counts as the main meaning to be modelled. This considerably narrows down the playing field.

\textsuperscript{32} Their tentative list contains personal pronouns, demonstrative pronouns, adverbials such as ‘here’, ‘there’, ‘now’, ‘two days ago’, adjectives ‘actual’ and ‘present’, and temporal expressions. See Cappelen and Lepore (2005a: 144).

\textsuperscript{33} See also my review of Borg 2004 in Jaszczolt 2005b.
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