

Intensional "transitive" verbs and concealed complement clauses

Marcel den Dikken, Richard Larson & Peter Ludlow

A number of authors in recent semantics and philosophy of language literature have argued that the object of a propositional attitude is an interpreted logical form (ILF) – i.e. a syntactic representation (or "phrase-marker") combined with the semantic values that are assigned to various parts of that representation. One of the consequences of the ILF theory (in particular its formulation in Larson & Ludlow (1993)) is that the intensionality of various natural language constructions is argued to live off of an interpreted *that*-clause. This idea has strong consequences for constructions which are known to be intensional, but do not appear to have clausal constituents. Famous examples include:

- (i) John wants a donkey
- (ii) John seeks a donkey.

Facing a similar situation, Quine (1960) proposed that *seeks* might be reanalyzed, introducing a clause into the construction. The idea has not merely attracted philosophers, however. McCawley (1974), Karttunen (1976), and Ross (1976) all gave early arguments for a concealed complement clause to intensional verbs. One way of updating this idea is to suppose that there are "invisible" complement clauses containing phonologically unrealized verbal elements. For example, (i) might have the analysis in (i')

- (i') John wants [PRO VERB2 a donkey].

In this paper we revisit that idea and offer some preliminary syntactic evidence in support of its plausibility in contemporary linguistic theory, drawing evidence for the implicit clause analysis from facts about passivization, and left-branch effects, and quantifier float.*

1. Introduction

Harman (1972), Higginbotham (1986), Segal (1989), Larson & Ludlow (1993), and Larson & Segal (1995) have argued that the object of a propositional attitude report (e.g. *Ralph believes that snow is white*) is an interpreted logical form (ILF) – i.e. a syntactic representation of the complement clause combined with the semantic values that are assigned to various parts of that clause.¹

One of the questions facing ILF theories has been how they can

be extended to natural language constructions which are known to be intensional, but do not appear to have clausal constituents. Famous examples include:

- (1) John wants a donkey
- (2) John seeks a donkey
- (3) John looks for a donkey.

Clearly these examples induce intensional environments – John may just as easily want or seek or look for a unicorn – so how can this be reconciled with the fact that there are no apparent clausal constituents in (1)-(3)?

One possible response is to extend the ILF construction algorithm of Larson & Ludlow (1993) so that ILFs can be constructed from smaller constituents such as NPs. While there may be no inherent barrier to such a move, in our view it is unnecessary. Due to independent evidence, we believe that examples like (1)-(3) in fact have implicit clausal constituents. In effect, examples (1)-(3) are propositional attitude reports in disguise, and the ILF theory extends to such cases trivially.

The view that “intensional transitive constructions” involve a covert clausal complement has previously been argued in the linguistics literature on a number of grounds.² As noted by McCawley (1974), Karttunen (1976), and Ross (1976), many of these constructions show an ambiguity with adverb construal, strongly suggesting the presence of a covert predicate. Consider the following examples.

- (4) John will want a hippogriff tomorrow
- (5) John is hoping for a fish tomorrow

(4) for example, is ambiguous between a reading in which the adverb modifies the matrix verb (“tomorrow John will want a hippogriff”) and a reading in which the adverb modifies an implicit verb with approximately the meaning of *have* (“John will want (perhaps later today) that tomorrow he have a hippogriff”). Notice that such ambiguities are not found with simple transitive verbs such as *kick* or *eat* which take no clausal complement.

- (6) John will kick a hippogriff tomorrow
- (7) John will eat a fish tomorrow

If there is an implicit clause with *want* and *hope for*, then the ambi-

guity can be viewed straightforwardly as reflecting a simple difference of attachment site for the adverb, analogous to (8a) vs. (8b):

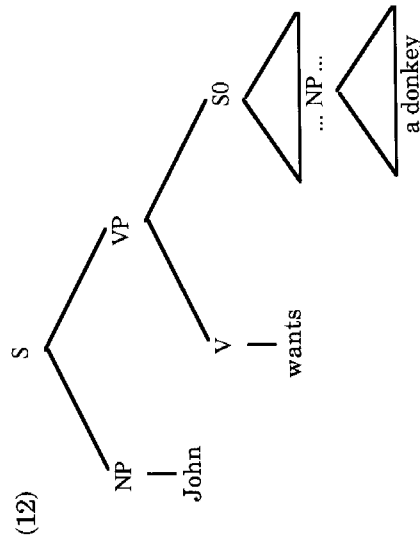
- (8) a. John will [want [PRO to have a hippogriff tomorrow]]
- b. John will [want [PRO to have a hippogriff] tomorrow].

It is interesting to note that the so-called intensional transitive verbs are all capable of appearing with “overt” clausal complementation (as in (9)-(11)),

- (9) John wants [Mary to buy a donkey]
- (10) John seeks [PRO to discover the solution]
- (11) John imagined [that a hippogriff was approaching]

suggesting that there is a very close connection indeed between clausal complementation and intensional environments.

If so-called intensional transitive constructions are actually clausal, then the ILF analysis of propositional attitudes will extend to them directly.³ The syntactic form of (1), for example, will be broadly as in (12):



The ILF formation algorithm of Larson & Ludlow (1993) will operate on S0 just like any other clausal complement, and S0 will thus undergo ILF formation. The net result will be that the NP *a donkey* will be correctly predicted to show intensionality effects.

Semantically, the ILF analysis of these constructions will be trivial. Still, a number of significant questions arise about the form and interpretation of the concealed clause. For example:

- i. What precisely is the form of the embedded S0?
- ii. What precisely is the semantics of the predicate contained in the concealed clause?
- iii. Why is it that some intensional transitive predicates fail to show all the earmarks of concealed complementation?

All of these questions will need to be taken up. We begin with the issue of the form of the concealed clause.

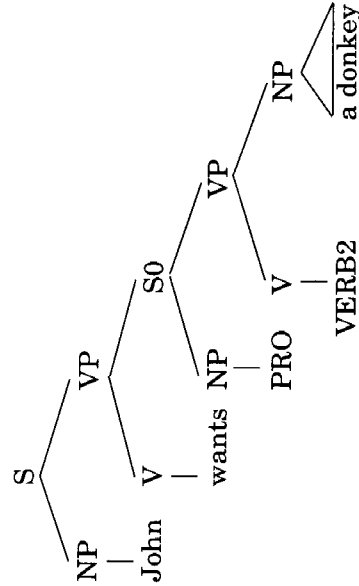
2. *The form of concealed complement clauses*

Intuitively, the simplest possible syntactic hypothesis about concealed complements is that the only thing distinguishing them from overt complements is that they are unpronounced. This embodies two basic ideas:

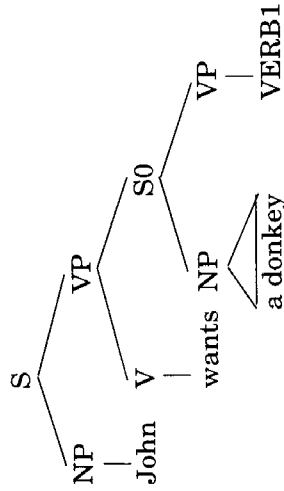
- i. Concealed complements will show the same general range of forms available with overt complements
- ii. Embedded concealed predicates will show the same general range of interactions with their matrix verb as do embedded overt predicates.

Let us consider the consequences of the assumption of the simplest possible syntactic theory. If (so-called) intensional transitive constructions are actually clausal, we would then expect essentially three different underlying forms corresponding to whether NP is the object of a concealed clause (as in 13a), the subject of a concealed clause (as in 13b), or the subject of a "small clause" (as in 13c):

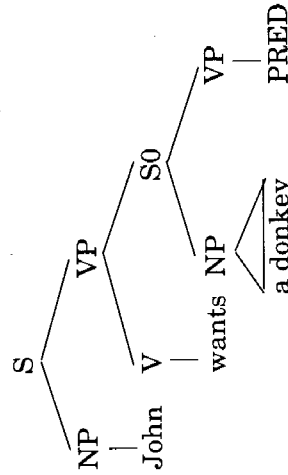
- (13) a. John wants [PRO to have a donkey]
John wants [PRO VERB2 a donkey]



- (13) b. John wants [a donkey to appear]
John wants [a donkey VERB1]



- (13) c. John wants [a donkey in the audience]
John wants [a donkey PRED]



We think that the simplest theory is in fact the right theory – that we can distinguish three basic types of concealed complements corresponding to the three possibilities given above.

3. *The interpretation of the concealed predicates*

One general question facing a theory of the kind embraced here lies in the vagueness of the concealed predicate. In some cases concealed clauses can be paraphrased relatively accurately and uniformly with overt forms. For example, *John wants a high performance off-shore power boat* can be paraphrased as "John wants to have a high performance off-shore power boat".

In the majority of cases, however, concealed clause structures can be paraphrased with any number of different predicates, depending on context. For example, Decarrico (1983) has stressed that *hopes for a bus* may be paraphrased as "hopes a bus will arrive", or

"hopes to receive a bus", etc. This raises the question as to what kinds of semantic axioms are going to be introduced for empty predicates.

We suggest a general answer to this question using the theory of events initially proposed by Davidson (1967) and developed by Parsons (1990), Higginbotham (1989), Schein (1994) among many others. Under this analysis verbs are analyzed as unary predicates of events, whose nominal arguments are related to the "core" event by binary thematic relations. For example *hit* receives the axiom in (14), where $\text{Val}(x,y,z)$ is read as "X is the semantic value of Y with respect to assignment Z".

- (14) $\text{Val}(\langle x,y,e \rangle, \textit{hit}, s)$ iff
 e is a hitting and x is the agent of e and y is the theme of e

We suggest that the empty verbs and predicates in concealed clauses be analyzed in these terms. Specifically, we propose that the semantic axioms for empty verbs depart from those of lexical verbs in the following ways: (i) the former lack a core event predicate, and (ii) the relevant thematic relations for the empty verbs will be somewhat less specific (for example, instead of the agent relation, we will speak of a more general 'participant' relation). We propose the following axioms for VERB2, VERB1, and PRED.

- (15) $\text{Val}(\langle x,y,e \rangle, \text{VERB2}', s)$ iff
 e is an event in which x is a participant, and y is the theme
- (16) $\text{Val}(\langle x,e \rangle, \text{VERB1}', s)$ iff
 e is an event in which x is a participant
- (17) $\text{Val}(\langle x,e \rangle, \text{PRED}', s)$ iff
 e is an event in which x is the theme

Notice that this analysis captures "what is said" when one says, for example, that one wants a hippogriff. We may be able to infer more, for example that the hippogriff is desired for a collection or perhaps for dinner, but such knowledge need not make it into the content of what is expressed by the speaker (Strictly speaking, the actual role may be somewhat stronger than mere participant. For current purposes, the relation needs to be at least that strong. If a stronger role can be identified, then so much the better).

4. Why is it that some intensional transitive predicates fail to show all the earmarks of concealed complementation?

Consider the following examples:

- (18) John seeks a narwhal
 (19) John looks for a tile fish
 (20) John hunts a grouper

Clearly the verbs in each of (18-20) induce an intensional environment, yet verbs like these do not appear to be candidates for the concealed clause analysis. Specifically, it appears that these verbs fail to evince an ambiguity when an adverb is appended. Consider (21-23):

- (21) John seeks a narwhal tomorrow
 (22) John looks for a tile fish tomorrow
 (23) John hunts a grouper tomorrow.

In (21) for example, the looking occurs tomorrow. There is no reading in which one seeks today, and has the narwhal tomorrow.

Although it has been suggested by Partee (1974) and others that these facts argue against the thesis that there is implicit clausal structure in these examples, we find such conclusions altogether too hasty. All that follows from there being implicit clausal structure is that there be two adjunction sites for the adverb. It does not immediately follow that the two possible adjunction sites will give rise to two possible interpretations. Consider the following example, in which the second clause is a kind of result clause.

- (24) I will kick a ball into the net with the result that I score a goal tomorrow.

It is difficult to force an ambiguity in this example and the reason is that the events of kicking and scoring must spatiotemporally overlap. They are perhaps the same event under different descriptions. You cannot kick the ball into the net on Monday and score on Tuesday. Whether the adverb modifies the kicking or the scoring, it is ultimately modifying the same event.

Events need not be identical for this sort of result to occur. It might be that one event is properly contained in the other. For example,

- (25) I raced the 100 meters full throttle with the goal of finishing first yesterday.

The finishing must be contained spatiotemporally within the racing, so if the finishing occurs yesterday at least some of the racing does as well.

Similar considerations apply to sentences with complement clauses (like *John will be trying to find a unicorn tomorrow*) and in particular to sentences with concealed complement clauses. Events like seekings and lookings are much like the cases discussed above. While you can seek something today with the goal of finding it by tomorrow, you cannot not seek something today with the goal of finding it tomorrow. If you seek something, look for something, etc., and you obtain the object as the result of your search, the time of your obtaining the object must overlap with the time of your search.

The following thought experiment supports this claim. Suppose that a plane goes down in the amazon jungle and we are interested in finding the survivors. Suppose further that an oracle tells us that we will not find the survivors today, but that if we search diligently today, we will be rewarded by finding the survivors tomorrow. If we believe the oracle and go out today, are we really searching, or are we merely going through the motions? Just going through the motions, in our judgement.

Concerns of a different nature have been raised about the plausibility of the intensional verb *fear* taking a propositional complement. Specifically, Kaplan (1986:267) claims that if I fear unicorns, I need not fear that they should harm me, or indeed do anything. I might just fear them simpliciter.

“... when a hunting accident so traumatizes Ctesias that he comes to fear unicorns (not, to fear that there are unicorns or that he will encounter a unicorn, but to have a true unicorn phobia – one that has begun to ‘generalize’ to take in horses and antelopes), what propositional attitude will capture his psychological state? ‘What is it you fear will happen?’, we ask Ctesias. ‘Nothing’, he replies ‘I just don’t like unicorns’.”

It is interesting that Kaplan slides from using the term *fear* to using the term *phobia*. Ctesias might fear sharks, but it would be odd if he

would fear a shark in an aquarium. And if, upon seeing a shark in an aquarium, Ctesias is gripped with fear, we would probably say that he is not afraid so much as phobic. Strictly speaking, he does not fear sharks, but sharks are the occasion for an emotional reaction by Ctesias.

The upshot, we think, is that if you truly fear sharks, you fear that they will do something. Moreover, it is clear that *fear* passes all the tests for having an implicit clausal complement. Notice that *fear* admits of scope ambiguities, and even evinces an adverb attachment ambiguity. (26) can mean either that John fears a particular drunken sailor, or he may fear that a drunken sailor may accost him (if, for example, if he wanders in Marseille):

- (26) John fears a drunken sailor.

Sentence (27) shows us that a temporal adverb need not modify the event of fearing but may modify an implicit event of the storm’s arrival:

- (27) Until he heard the updated weather report, John feared a storm tomorrow.

We conclude that *fears*, like *seeks*, falls neatly into the same paradigm as *wants* and *desires*.

5. *The three types of concealed propositional complements and how to differentiate between them: some preliminary syntactic investigations*

Clearly, the proposal put forward thus far is programmatic. It is one thing to propose that there are implicit clauses, but quite another to investigate their structure in detail. What makes any such investigation challenging, of course, is that so much of material in these clauses is unpronounced. We have, so to speak, entered into an investigation of a largely “invisible” world, and just as investigations into the nature of the invisible have prompted other sciences to develop new tools and methods, we will need to develop certain linguistic tools to probe the nature of invisible clauses. Happily, a number of familiar tools can be adapted to our purposes. In particular we can gain considerable insight into the nature of these constructions by adapting familiar linguistic tests such as the possibility of passivization, left-branch extraction, and quantifier float. We will take up these tests in turn.

A. Passivization

To aid our discussion, let's label the three types of complement clauses in (13a), (13b) and (13c), 'type 1', 'type 2', and 'type 3' cases respectively. Thus, type 1 cases will be those in which there is a PRO subject, and a transitive verb: [PRO VERB2 [NP]]. In both the type 2 and type 3 cases, the NP will be in subject position: [[NP] VERB1/PRED].

According to widely attested observations about passivization, a matrix passive involving raising of the embedded object in an explicit type 1 case should be blocked, while passivization from the subject position of a type 2 case should generally be unproblematic. Thus, in the *explicit* cases, we have the contrast between an explicit type 1 case like (28), and explicit type 2 case like (29):

- (28) a. John is expecting to see a bus
- b. *A bus is expected to see (by John)
- (29) a. John is expecting a bus to arrive
- b. A bus is expected to arrive (by John).

Can we use this distinction to purchase any insight into the structure of invisible complement clauses? One fact is clear. As (30) shows, passivization of the so-called intensional transitive verb is possible:

- (30) A bus is expected by John.

The key question is what underlying form does (30) come from? According to the assumptions we have made above, the passive form in (30) should be possible, but it must be derived from the underlying type 2 case: 'expects [[a bus] VERB]', and not from the underlying type 1 case: expects [PRO VERB [a bus]]. But what sort of probes will tell us what the source structure of (30) must be?

As a first attempt, we might ask which of the following is the more plausible meaning for (30):

- (31) John is expecting to see a bus
- (32) John is expecting a bus to arrive.

A somewhat more refined test turns on the meaning that our theory assigns to VERB2 and VERB1. Recall that the axioms for these elements differed in that the semantics for VERB2 dictated that the

controller of PRO (in this case John) is a participant in the described event, while in the case of VERB1 John need not be a participant – the NP (*a bus*) is simply the theme of the described event (Note that John is not "prohibited" from being a participant; (32) is simply mute on John's involvement).

Thus, it is possible to distinguish the type 1 and type 2 cases by asking whether it is necessary that the matrix subject be a participant in the downstairs event. In the case under discussion, (30), we can ask whether John is expecting some event to unfold in which he is an active participant, or whether he simply expects that a bus may arrive when he is miles from the scene. Our intuitions are clear on this matter; in (30) there need be no expectation that John is a participant in the described downstairs event. Hence we conclude that the evidence points to a type 2 source for the passive form in (30) – exactly as the theory predicts.

Bear in mind that the implicit clause cases should track the explicit ones, so for those verbs in which passivization from a type 2 source is blocked, we predict that there should be no passive form available. Consider *wants*, for example. As (33)-(34) show, passivization from both a type 1 and a type 2 structure is blocked:

- (33) a. John wants to have a hippogriff
- b. *a hippogriff is wanted to have (by John)
- (34) a. John wants a hippogriff to appear
- b. *a hippogriff is wanted to appear (by John)

Thus, we predict, correctly it seems, that passive in the implicit clause case (as in (35)) will be greatly degraded:

- (35) a. John wants a hippogriff
- b. ??a hippogriff is wanted (by John).

To the extent that (35b) is acceptable it appears to trade on the "wanted poster" construction: *Smith is wanted by the law*. Some informants find this construction productive, suggesting to us that the underlying form for the passive in such cases may be the type 3 (implicit small clause) construction. So, for example, even in the wanted poster case, we have *wanted dead or alive*. Presumably, those individuals that find (35b) acceptable, also find (36) acceptable:

- (36) ??a hippogriff is wanted dead or alive (by John)

B. Left-branch effects

We can also gain some insight into the structure of invisible clauses by studying left-branch effects. Consider the contrast between the following two sentences:

- (37) Who is John expecting [PRO to see [a friend of e]]
- (38) *Who is John expecting [[a friend of e] to appear].

In (37), the wh-element is extracted from an NP in object position. In (38) it is extracted from the subject position, or left branch, of the embedded clause.

Clearly in the case of so-called intensional transitive verbs, wh-extraction is possible:

- (39) Who is John expecting [a friend of e].

This is as predicted. The crucial question, however, is whether the extraction is coming from an implicit type 1 form or an implicit type 2 form. Given the assumptions that we made above, implicit type 1 cases should allow subextraction; implicit type 2 cases should block it as a left-branch effect.

Here again we can turn to the participation test to see whether the source is type 1 or type 2. For example in (39), is the preferred understanding one in which John's expectation is an event in which he is a participant of some form? Here, unlike the case of passivization, there is a strong pull to say that John is expecting some sort of event involving both the friend and himself. This strongly suggests an underlying form like that in (40), where John is the controller of PRO:

- (40) Who is John expecting [PRO VERB [a friend of e]].

Turning to other verbs, it may seem that some of them, like *fear*, are candidates for a uniform treatment in terms of our type 2 structure, with the NP following the verb being the subject of the verb's abstract clausal complement. If *fear* were strictly a type 2 verb, one would expect extraction from the NP following it to be impossible. The fact of the matter is, though, that examples like (41) readily allow for such extraction:

- (41) Who does John fear stories about?

Close scrutiny reveals that the grammaticality of (41) patterns with an interpretation of the example which fits structure (13a) rather than the type 2 structure in (13b) – the feared state of affairs in (41) is one in which John is a participant, just as in the fully clausal type 1 complementation structure for *fear* exemplified in (42a):

- (42) a. John fears hearing stories about Max
- b. John fears that stories about Max are in the air.

Precisely the fact that (41) forces a reading paraphrasable as (42a) and does not have a type 2 reading of the sort shown in (42b) (which is available for the non-extraction sentence *John fears stories about Max*) vindicates our proposal.

Before leaving the topic of left branch extraction, we would like to consider the case of the verb *imagine*. This verb evinces the scopal ambiguities typical of intensional verbs, as is evident from the fact that (43) is ambiguous between the reading in which I have a particular debutante in mind, and one in which I am merely looking for the richest of the lot (whoever she is):

- (43) I imagined the richest debutante in Des Moines.

Moreover, (44) is ambiguous between a reading in which the imagining is supposed to take place tomorrow, and one in which the hearer is instructed to *imagine* Fred when (for example) he hears tomorrow's news -- another hallmark of clausal complementation.

- (44) Imagine Fred tomorrow!

Our overall proposal therefore leads us to postulate a concealed propositional complement for *imagine*. The transparency of the postverbal NP in (45) for subextraction suggests that, at least in this particular *imagine* construction, the verb's concealed clausal complement is of type 1. Indeed, the fact that *imagine* can take type 1 clausal complements appears to be borne out by examples like (46), which have long been familiar from the philosophical literature:

- (45) Who did John imagine a story about?
- (46) John imagined [PRO seeing the White House from the inside]⁴.

C. Quantifier float

A third probe into the structure of invisible complement clauses is the phenomenon of quantifier float. In the case of "overt" clauses we know that Q-float is available with type 2 cases, but not with type 1 cases (as (47) shows).

- (47) a. John expects to see the children (*all) on Sunday
- b. John expects the children (all) to arrive on Sunday

As (48) shows, a form of Q-float is possible in the case of invisible clauses, so the question arises as to what underlying form allows the Q-float.

- (48) John expects the children (all) on Sunday

Again it appears that the best test is the question of whether some form of involvement by John in the expected event is necessary for the truth of (48). In our judgement, it is not. So, for example, John may have 30 grandchildren who he expects to arrive on Sunday, but he need not expect to see all of them. Indeed, he may expect to be out of town when they arrive. This strongly suggests an underlying type 2 form for the implicit clause (as predicted).

Q-float appears to be relatively more acceptable in certain dialects of English (for example it seems to be more acceptable in British English than American English). One case in point is (49) which appears to be more acceptable to the ear of speakers of British English.

- (49) a. ?John fears the children all tomorrow
- b. ?Imagine the children all tomorrow!

Significantly, informants for whom the examples in (49) are possible tell us that the interpretation does not require John fear some event in which John is a participant. To the contrary, it may simply be that John fears the kids will all "bust up the house" tomorrow. Again, this corresponds with our predictions. Since Q-float is only possible with the type 2 cases, John need not be a participant of the event described by the concealed clause.

6. Concluding Remarks

These three probes are not intended to be the last word on ways of investigating the structure of invisible clauses; indeed, they may

not even be the best tools for carrying out such an investigation. Our interest in introducing them is to provide some hints as to what kinds of investigations into the internal structure of these clauses are possible. Internal probes are not the only avenues of investigation open to us however. One of the very strong empirical predictions of this theory is that barring grammatical constraints to block their appearance, invisible clauses should be available wherever we find overt clauses. The following example should illustrate what we have in mind:

- (50) An apple a day keeps the doctor away.

Since, as (51) shows, it is possible to have a full clause as the subject of this construction,

- (51) [PRO eating an apple a day] keeps the doctor away

we predict that an invisible clause may appear here as well, basically following the structure in (52):

- (52) [PRO VERB an apple a day] keeps the doctor away.

Does (52) reflect the actual syntactic form of (50)? It certainly seems to reflect the fact that it is not apples themselves which are asserted to do good in (50), but rather the eating of apples. (52) also seems to reflect the fact that the verb does not agree in number with the NP, as (53) shows, strongly suggesting that the actual argument is a clause, and not the plural NP.

- (53) [PRO VERB 3 apples a day] keep*/keeps the doctor away

In sum, there are plenty of avenues of investigation to be pursued, both into the internal structure of invisible clauses, and (as (50)-(53) show) into the distribution of these clauses within sentences. We iterate, however, that these investigations are preliminary and protogrammatic. While it is far too early to draw strong conclusions about the hidden clause analysis, the evidence accumulated thus far appears to support such an analysis. Given the very strong empirical predictions of such an analysis, the positive evidence is all the more encouraging -- certainly encouraging enough to motivate further research into the nature and distribution of invisible complement clauses, as well as into the interaction of the analysis with the rest of grammatical theory. The results are also encouraging for strict ILF

accounts of intensionality in natural language. If the evidence available so far is correct, then the extension of ILF theories to intensional transitive constructions will be trivial.

Addresses of the Authors

- Marcel den Dikken: Holland Institute of Generative Linguistics, Vakgroep Taalkunde (ATW), Vrije Universiteit Amsterdam, De Boelelaan 1105, 1081 HV Amsterdam, The Netherlands, e-mail: dikken@jet.let.vu.nl
- Richard Larson: Department of Linguistics, SUNY Stony Brook, Stony Brook, NY 11794, USA, e-mail: rlarson@ccmail.sunysb.edu
- Peter Ludlow: Department of Philosophy, SUNY Stony Brook, Stony Brook, NY 11794, USA, e-mail: ludlow@well.com

Notes

- * Earlier versions of this material have been presented at the University of California at Irvine, The University of Amsterdam, The University of Delaware, and the University of Potsdam (Berlin). In addition to the audiences at these talks we are indebted to Anna Cardinaletti, Dan Finer, and Chris Wilder for helpful discussion.
- 1 See, for example, Harman (1972), Higginbotham (1986), Segal (1989), Larson & Ludlow (1993), and Larson & Segal (1995). For a brief introduction to ILF theories see the section introduction by Ludlow in this issue of *Rivista di Linguistica*.
- 2 Of course it has also been discussed in the philosophical literature by Quine (1960), Montague (1960), and even in the work of the medieval logician Buridan (see Buridan (1966)).
- 3 Indeed, Ludlow (1985) argues that the ILF analysis works more smoothly with covert propositional attitudes than with overt ones.
- 4 While (45) highlights the availability of a type 1 structure for 'imagine' constructions, one might be tempted to think that constructions such as (i) show that *imagine* can also take part in type 3 structures, involving small clausal complementation:
- (i) John imagined Bill dead.
- But it does not seem likely that in (i) *dead* is the predicate of the verb's small clausal complement. This is suggested by the paraphrase of (i) given in (ii), where *if he were dead* appears to be an adjunct (in any case it is clearly not in the complement of V). Instead, while (i) does in all likelihood involve small clausal complementation, it seems plausible that the small clause's predicate is an abstract particle. The plausibility of this suggestion is revealed by a cursory inspection of the Dutch counterpart of *imagine*, which is the particle-verb *voorstellen*, *voor* being the particle; see (iii). The fact that this particle continues to be present when we add an additional secondary predicate, *dood* 'dead' in (iiib), suggests – assuming particles cannot head adjunct-SCs – that this additional AP could be

- the predicate of a small clause in adjunct position.
- (ii) John imagined what Bill would be like if he were dead
- (iii) a. Jan stelde zich Wim voor
 Jan 'put' self Wim for(PRT)
 'Jan imagined Wim'
- b. Jan stelde zich Wim dood voor
 Jan 'put' self Wim dead for(PRT)
 'Jan imagined Wim dead'

References

BURIDAN, JEAN (1966), *Sophisms on Meaning and Truth*, trans. by T.K. Scott, New York, Appleton-Century-Crofts.

DAVIDSON, DONALD (1967), "The logical form of action sentences", in RESCHER, NICHOLAS, ed. (1984), *The Logic of Decision and Action*, Pittsburgh: University of Pittsburgh Press. Reprinted in DAVIDSON (1980):105-48.

DAVIDSON, DONALD (1980), *Essays on Actions and Events*, Oxford, Oxford University Press.

DECARRICO, JEANETTE (1983), "On quantifier raising", *Linguistic Inquiry* 14:343-346.

HARMAN, GILBERT (1972), "Logical Form", *Foundations of Language* 9:38-65.

HIGGINBOTHAM, JAMES (1986), "Linguistic theory and Davidson's program in semantics", in LEPORE, ERNEST, ed. (1986), *Truth and Interpretation: Perspectives on the Philosophy of Donald Davidson*, Oxford, Basil Blackwell.

HIGGINBOTHAM, JAMES (1989), "Elucidations of meaning", *Linguistics and Philosophy* 12:465-518.

KAPLAN, DAVID (1986), "Opacity", in HANN, EDWIN & PAUL SCHLEPP, *The Philosophy of W.V. Quine*, La Salle, Open Court:229-289.

KARTTUNEN, LAURI (1976), "Discourse referents", in MCCAWLEY, JAMES, ed. (1976), *Notes from the Linguistic Underground: Syntax and Semantics* 7, New York, Academic Press.

LARSON, RICHARD & PETER LUDLOW (1993), "Interpreted logical forms", *Synthese* 95:305-355.

LARSON, RICHARD & GABRIEL SEGAL (1995), *Knowledge of Meaning: Semantic Value and Logical Form*, Bradford Books/MIT Press, Cambridge, MA.

LUDLOW, PETER (1985), *The Syntax and Semantics of Referential Attitude Reports*, Columbia University Ph.D. thesis. Reprinted by: University of Indiana Linguistics Club, 1986.

MCCAWLEY, JAMES (1974), "On identifying the remains of deceased clauses", in *Language Research* 9:73-85. Reprinted in *Adverbs, Vowels, and Other Objects of Wonder*. Chicago: University of Chicago Press, 1979:84-95.

MONTAGUE, RICHARD (1960), "On the nature of certain philosophical entities", *Monist* 53:159-194. Reprinted in MONTAGUE (1974).

MONTAGUE, RICHARD (1974), *Formal Philosophy*, ed. by R. THOMASON, New Haven, Yale University Press.

PARSONS, TERENCE (1990), *Events in the Semantics of English*, Cambridge, MIT Press.

- PARTEE, BARBARA (1974), "Opacity and scope", in MUNITZ, Milton & PETER UNGER, eds. (1974), *Semantics and Philosophy*, New York, New York University Press.
- QUINE, WILLARD VAN ORMAN (1960), *Word and Object*, Cambridge, MIT Press.
- ROSS, JOHN ROBERT (1976), "To have and to have not", in POLOME, EDGAR *et al.*, eds. (1976), *Linguistic and Literary Studies in Honor of Archibald Hill*, Lisse, Peter de Ridder.
- SCHEIN, BARRY (1993), *Plurals and Events*, Cambridge, MIT Press.
- SEGAL, GABRIEL (1989), "A preference for sense and reference", *The Journal of Philosophy* 86:73-89.