

THINGS IN PROGRESS

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In certain linguistic environments – the scope of a clausal negation, the consequent of a subjunctive conditional, the complement of a non-factive attitude verb, etc. – the existential entailments of proper names, descriptions, and quantifier phrases are suspended. Such *existentially neutral* contexts are of interest to anyone who wants to understand how ordinary sentences in natural languages carry ontological commitment. It is usually obvious which contexts are existentially neutral; what we need is a semantic analysis that accounts for their status. But sometimes intuitions are blurry and semantics can help to clarify them.

Take Quine’s famous example: ‘Giorgione was so-called because of his size.’ One might argue that the subject position is existentially neutral because the sentence does not entail ‘There was someone so-called because of his size.’ But once semantic analysis reveals that the ‘so-‘ within the ‘so-called’ refers to the name ‘Giorgione’ in the premise but not in the conclusion, it becomes evident that the inference equivocates, and that this equivocation has nothing to do with existential commitment. ‘Giorgione was so-called because of his size’ entails ‘There was someone called Giorgione so-called because of his size,’ and this is enough to show that the subject position of this sentence is not existentially neutral. Instead, the position is *descriptively* selective: while you can quantify into it, you are constrained in describing what you quantify over.

In this paper, I propose a semantic analysis to adjudicate a long-standing disagreement about existential entailments of sentences in the progressive. On the one hand there is the semantic establishment, insisting that ‘Jack London was building a house’ does not entail that ‘There was a house Jack London was building.’ On the other hand there are the semantic rebels, pointing to the fact that we are willing to say of a foundation and some unfinished walls ‘This is the house Jack London was building at the end of his life.’¹ The establishment backs intensional analyses of the progressive, which I will criticize.² But I won’t follow the rebels either in advocating a simple extensional

analysis. Unfinished houses aren't houses, even if we occasionally say so. What distinguishes the direct object position of 'was building' from ordinary contexts is not that it blocks the raising of the indefinite article but that it blocks the raising of an arbitrary predicate combined with that article: 'Jack was building a house' entails only 'There was a *thing* Jack was building,' not 'There was a *house* Jack was building.' Like the subject position of 'so-called', the direct object position of 'was building' is descriptively selective. Or so I will argue.

In discussing existential commitment it is important to watch your quantifiers. There is a quick but fallacious argument against intensional analyses of the progressive: one can point at the fact that 'Jack London was building a house' cannot be true unless 'Jack London was building *something*' is, and claim that this settles the matter. But it does not settle anything. The remarkable fact about certain single-word quantifiers in English (*viz.* 'something', 'somewhere', 'somehow', but not 'someone') is that unlike ordinary quantifying phrases, they are insensitive to intensional contexts. If Ponce de Leon was looking for the fountain of youth, then he was looking for *something*, namely, the fountain of youth. By contrast we cannot say that there is *some thing* Ponce de Leon was looking for. There is no such thing to look for. What the right semantics of 'something' might be is an interesting and widely open question. Since it is not my topic here I will set it aside.³ What matters in assessing whether the direct object position of 'was building' is existentially neutral is whether 'Jack London was building a house' entails 'Jack London is building *some thing*'. And this is by no means obvious.

One methodological caveat before I start. As I see it, semantic theorizing has two components. The first is closely related to what philosophers tend to call *analysis*: you look at paradigmatic occurrences of an expression (in this case, the progressive morpheme) within relatively simple sentences and you try to state in less controversial terms what those sentences say. The usual way to do so is to assign to those sentences appropriate logical forms – sentences in a formal language with the same truth-conditions. The second step is to integrate these assignments into a *compositional theory*. This involves specifying semantic values for primitive expressions and laying out rules of composition whereby the logical forms of sentences within a fragment of a natural language can be determined bottom up. In doing so one must investigate the way the

relevant expression semantically interacts with other problematic expressions (in this case, with quantifiers, tense morphemes, modal auxiliaries, etc.). My focus here is exclusively on analysis, and accordingly, my conclusions must remain tentative. But I think it is important to do the analysis first, and design the compositional theory only when we are confident that we know what we want the theory to capture.

The plan of the paper is as follows. I begin by criticizing standard modal accounts of the progressive in section 1. In section 2, I turn to more a more general intensional (but not necessarily modal) account, and argue that it too is inadequate. The fundamental problem with all intensional accounts is that they fail to explain why the objects of progressive accomplishments are specific. In section 3, I respond to some objections against the extensional account, but concede that simple versions of this account are indeed inadequate. In sections 4 and 5, I outline my own proposal and in section 6, I discuss an important objection.

1. Against standard modal accounts

According to the standard view, the progressive is a modal operator or a quantifier over possible worlds. The classic possible world-based analysis is due to David Dowty; the idea is that a progressive sentence is true in a world w at a time t just in case it is true in some (or all⁴) of the *inertial worlds* w' of w at t at some later time t' . Inertial worlds are the ones where things unfold as they normally do. So, 'Mary is crossing the street' is true just in case she eventually gets across in some (or all) of the worlds where nothing out of the ordinary happens.

An obvious problem with this is that Mary's crossing of the street can be interrupted by the natural course of events. Suppose she is hit by a truck before she would reach the other side. Given earlier states of the world and the laws of nature, had the truck not prevented Mary from crossing the street *that* would have been a miracle. Since inertia worlds are by assumption non-miraculous, it looks like Mary does not get across the street in any of them. And if this is so, Dowty's theory incorrectly predicts that 'Mary was crossing the street, when a truck hit her' is always false.⁵ Another problem is that if it is Mary's habit to cross the street every day at the same time and the same place then

Dowty's theory predicts that 'Mary is crossing the street' is true already before Mary would step off the sidewalk: it is surely already the case when she is waiting for the light to turn green that she crosses the street in all the inertia worlds.

The natural way to amend the proposal is to say that the worlds relevant for the truth or falsity of 'Mary is crossing the street' are not the worlds where *everything* follows its expected course, but rather the larger set of worlds where *Mary's crossing of the street* does. So, 'Mary is crossing the street' is true just in case she eventually gets across in some (or all) of the worlds where nothing extraordinary interferes with the event the sentence describes. This is roughly what standard modal accounts of the progressive say.⁶

Why think the progressive aspect has anything to do with modality? The analysis is often motivated by the need to block the inference from progressive sentences to their perfective counterparts: 'Mary was crossing the street' could be true and 'Mary crossed the street' false if Mary's crossing was interrupted. If the former sentence only says that Mary's crossing culminates in certain worlds and the second that it culminates in the actual world, the lack of entailment is accounted for. But there is surely no need to bring in modality just for this. If the first sentence says that Mary's crossing *was in progress*, it surely does not entail that it *culminated*. Nothing forces us to explain what it is to be in progress in terms of possible culminations.

It is sometimes said that the key modal intuition about the progressive is that an event in progress culminates unless it is interrupted. One may worry about how informative this claim really is – after all, it uses two problematic notions to analyze just one. We could equally well say that culmination is what happens to an event in progress if it is not interrupted, or that interruption is what happens to an event in progress if it does not culminate. Moreover, I think these claims are prone to counterexample. John could be driving to his friend's house but never make it because while he is on his way the house unexpectedly burns down. Clearly, the fire does not interrupt John's driving to his friend's house, but it nonetheless ensures that the event does not culminate.

The best motivation for a modal analysis of the progressive can be summed up in a slogan: nothing is happening unless it can eventually happen.⁷ Standard examples that support the slogan are (1) and (3), both of which are commonly held to be false no matter

what Frank and Sarah are actually doing. Any semantic theory according to which the slogan is analytic can explain their falsehood by the falsehood of (2) and (4), respectively:

- (1) Frank is squaring the circle.
- (2) Frank can square the circle.

- (3) Sarah is swimming across the Atlantic.
- (4) Sarah can swim across the Atlantic.

(3) is supposed to be particularly instructive. No matter how deluded Sarah might be, if she gets into the water in Boston and starts swimming towards Le Havre she isn't crossing the Atlantic. She might be trying to do it but she isn't doing it. She isn't doing it because she cannot do it.⁸

Still, I think the slogan is false. Here are two counterexamples. The first is that of George, who has an incurable heart disease and has but a few months to live.⁹ George ends up dying much earlier because he is accidentally shot during a robbery at a convenience store. After he gets shot but before he dies from the gunshot a few days later in a hospital (5) seems true, but (6) false. While the gun shot will certainly prevent him from dying from heart disease (and hence, he cannot die from a gunshot and heart disease), it does not stop the slow but irresistible process of dying of heart disease (and hence, he continues to be dying from both a gunshot and heart disease as long as he lives).¹⁰

- (5) George is dying from a gun shot and heart disease.
- (6) George can die from a gun shot and heart disease.

The second counterexample is that of Antoni, an architect working on an enormous cathedral.¹¹ It is clear to him that the cathedral will not be finished within his lifetime but that there is a good chance others will continue the work. Under these circumstances (7) seems true, but (8) false. While Antoni's eventual death will not prevent the completing of the cathedral, it certainly will prevent his completing it.

- (7) Antoni is building the cathedral.
- (8) Antoni can build the cathedral.

My claim is not that (5) or (7) cannot be handled by a modal account of the progressive. With sufficient flexibility they can. If (5) is analyzed as a clausal conjunction ('George is dying from a gun shot and George is dying from heart disease') and if the domain of possible worlds relevant for the evaluation of the two clauses can differ (including worlds where George is not shot or where his wound miraculously heals in the set of worlds relevant for the evaluation of the second but not the first clause), (5) can come out true in the situation described.¹² (It remains a mystery why the same trick does not guarantee that (6) comes out true as well, but there may well be a story about different ways the progressive and 'can' restrict their respective domains.) The truth of (7) can perhaps be explained by claiming that in some possible worlds a series of architects, including Antoni himself, collectively build the cathedral, and that this fact makes Antoni (as well as each of the others in the series) subject of a possible completed cathedral building.¹³ (Here too it remains a problem why similar considerations don't make (8) true as well, but again, substantive explanations may be forthcoming.) The point I wish to emphasize is only that (5) and (7) provide counterexamples to the slogan that nothing is happening unless it can eventually happen, and accordingly, they undermine the *motivation* for proposing a modal analysis of the progressive. The question is not whether with sufficient ingenuity modal analyses are sustainable; it is rather whether have good reason to opt for a modal analysis in the first place.

A defender of the modal analysis may concede that sometimes things are happening that cannot ever happen, but insist that nothing ever is happening that is *absolutely* impossible to happen. Let's call this the *qualified slogan*. There are some pretty extraordinary possible worlds – among them worlds where wounds unexpectedly heal and where architects live hundreds of years. But there are no possible worlds where Frank squares the circle. By adhering to the qualified slogan the modal account can at least explain why (1) is necessarily false.

The qualified slogan is subject to the following counterexample:

(9) Frank is enumerating the primes.

If Frank is rational and knows a modest amount of arithmetic he would never attempt to do such a thing. But he might be a bright nine year old who starts with 2, and at every step takes special care to name the next prime. (9) seems to be a sensible way to say what such a child is doing. Modal analyses of the progressive predict that (9) is necessarily false, simply because there is no possible world where ‘Frank enumerated the primes’ is true.^{14,15} Note that I am not saying that there is no possible world where the primes get enumerated. Perhaps in some possible worlds there are creatures who can count faster than any finite speed, and perhaps such a creature could get the job done.¹⁶ But, I take it that it is not possible for Frank to be an infinite being.

Once again, I am not claiming that modal analyses cannot get around this difficulty. Even if it is impossible for Frank to be an infinite being, it may well be conceivable for him to accomplish an infinite task. We could hold on to the idea that if Frank is counting the primes then Frank *might* count the primes, and preserve in our semantics the qualified slogan by appealing to some sort of epistemic modality.¹⁷ (It remains obscure why we cannot also say that Frank might square the circle, but I grant that there might be a sense of “conceivable” in which squaring the circle is inconceivable and counting the primes is not.) My concern, again, is not whether the truth of some version of the qualified principle can be defended. It is whether we have good reasons to believe that an adequate semantic theory must guarantee its analytic status.

The difference between squaring the circle and enumerating the primes is that while the latter is a process cannot be completed, the former cannot even be started. No step of an Euclidean construction counts as a step towards squaring the circle, but enumerating the first n primes does count as making n steps towards (the unattainable goal of) enumerating the primes. (Compare the oddness of the command ‘Please, start squaring the circle!’ with ‘Please, start enumerating the primes!’) This is, I think, why intuitions about (1) and (9) diverge.¹⁸ But there is no room for such a contrast within the usual modal accounts, which try to analyze the progressive in terms of possible culminations.

Subjunctive conditionals also tend to be analyzed modally, and that analysis is problematic for reasons similar to the ones I cited here. According to the standard possible world semantics of subjunctive conditionals ‘If Mary were to cross the street she would be happy’ is true just in case Mary is happy in all the closest possible worlds where she crosses the street. But there clearly are subjunctive conditionals with impossible antecedents whose truth-conditions are non-trivial, and the standard modal analysis cannot account for them.¹⁹ I am inclined to view this as a serious problem. Nonetheless, I concede that it might be unwise to give up the modal analysis of subjunctive conditionals on this ground alone. Subjunctive conditionals have a rich network of inferential connections with overtly modal sentences and the standard modal analysis explains many of these connections successfully. By contrast, the modal analysis of the progressive is designed to explain one thing: the slogan that nothing is happening unless it can eventually happen.²⁰ I argued that the slogan is false, or at the very least highly questionable. If I am right it is not clear what theoretical work remains for modality within the semantics of the progressive. I suggest that we look elsewhere for an adequate analysis.

2. Against the adverbial account

Intensional accounts of the progressive need not be modal. The proposition that Esther was building a house need not be the proposition that there was a house built by Esther in certain possible worlds – it can be instead the proposition that Esther was engaged in a building with a certain character. According to the adverbial analysis, the semantic function of ‘a house’ within ‘Esther was building a house’ is not to describe what is being built – it is rather to describe what sort of building process was going on. Graeme Forbes has recently suggested a way to make this idea more precise.²¹ Since his is a modification of Terence Parsons’s classic account of the progressive I will briefly summarize the latter first.

Parsons claims that the logical form of perfective/progressive minimal pairs is identical except for a predicate of the underlying eventuality. Neglecting tense and

leaving the definite description *in situ* for the sake of simplicity, the proposed logical forms are:²²

(10) Mary crossed the street.

(10') $\exists e (\text{crossing}(e) \wedge \text{AGENT}(e, \text{Mary}) \wedge \text{THEME}(e, \text{the street}) \wedge \text{CUL}(e))$

(11) Mary was crossing the street.

(11') $\exists e (\text{crossing}(e) \wedge \text{AGENT}(e, \text{Mary}) \wedge \text{THEME}(e, \text{the street}) \wedge \text{HOLD}(e))$

(10') says that there was a crossing of the street by Mary that *culminated*, and (11') that there was a crossing of the street by Mary that *held* in progress.²³

The advantages of postulating quantification over underlying events are familiar. Postulating underlying events in logical form allows a straightforward explanation of the pattern of modification through certain adverbs and prepositional phrases; it helps with cross-sentential anaphora, with perceptual reports, with nominalizations, and with causatives. Representing the verb as a one-place predicate and connecting it to its arguments indirectly sits well with the common syntactic assumption that verbs assign thematic roles to their arguments, which in turn explains many of their selectional properties.²⁴

The logical forms of (10) and (11) contain different aspectual predicates and this blocks entailment in either direction. The fact that the analogous inferences are valid for (12) and (13) has to be explained somehow:

(12) Mary ran in the park.

(13) Mary was running in the park.

Parsons appeals to the aspectual classification of verbs (or more precisely, entire verb phrases) into four categories: those that express states (e.g. 'know', 'have', 'be happy' etc.), activities (e.g. 'run', 'push a cart', 'live', etc.), achievements (e.g. 'recognize', 'find the treasure', 'die', etc.), and accomplishments (e.g. 'grow up', 'cross the street', 'build a house', etc.).²⁵ By their nature states and activities cannot culminate, they simply hold. So the simplified logical forms of (12) and (13) end up identical:

- (12') $\exists e (\text{running}(e) \wedge \text{AGENT}(e, \text{Mary}) \wedge \text{HOLD}(e))$
 (13') $\exists e (\text{running}(e) \wedge \text{AGENT}(e, \text{Mary}) \wedge \text{HOLD}(e))$

Forbes adds to Parsons's theory an account of the *relational/notional* distinction. The distinctive feature of notional readings is supposed to be that the verb does not relate to its direct object thematically. Instead, the linguistic expression in the direct object position is employed to characterize the underlying event:

- (14) Esther was seeking a house.
 (14a') $\exists e (\text{seeking}(e) \wedge \text{AGENT}(e, \text{Esther}) \wedge \text{THEME}(e, \text{a house}) \wedge \text{HOLD}(e))$
 "There was a seeking of a house by Esther going on."
 (14b') $\exists e (\text{seeking}(e) \wedge \text{AGENT}(e, \text{Esther}) \wedge \text{CHAR}(e, \text{a house}) \wedge \text{HOLD}(e))$
 "There was a seeking with *a house* character by Esther going on."

THEME is an extensional predicate which permits the raising of the indefinite description; CHAR is intensional, and accordingly, it does not. So, (14a') entails the existence of a house and (14b') does not.²⁶

According to Forbes, the progressive aspect elicits a notional reading in verbs of creation ('make', 'build', 'cook', etc.).²⁷ While the perfective (15) has only a relational reading, the progressive (16) is interpreted notionally:

- (15) Esther built a house.
 (15') $\exists e (\text{building}(e) \wedge \text{AGENT}(e, \text{Esther}) \wedge \text{THEME}(e, \text{a house}) \wedge \text{CUL}(e))$
 "There was a building of a house by Esther which culminated."
 (16) Esther was building a house.
 (16') $\exists e (\text{building}(e) \wedge \text{AGENT}(e, \text{Esther}) \wedge \text{CHAR}(e, \text{a house}) \wedge \text{HOLD}(e))$
 "There was a building by Esther with *a house* character which held."

Forbes proposes an abstract schema for analyzing CHAR in terms of modality and other primitives.²⁸ Given my comments in the previous section, it goes without saying that I reject the analysis. But it is important that, at least from the perspective of the question of existential commitment, Forbes's theory is independent of that analysis. As

long as CHAR is an intensional predicate of some sort ‘Esther was building a house’ will not entail the existence of any object other than Esther herself.

I have three objections against this proposal. The first is that Forbes assigns *only* notional readings to sentences containing verbs of creation in the progressive. He notes that the building process may continue after the house is finished, in which case ‘There is a house Esther is building’ seems true. But he also says that this would be a case of ‘building onto a house’, and ‘build onto’ is not a verb of creation.²⁹ This is plausible, but postulating similar ambiguities in other verbs of creation is less so. The natural readings of (17a) and (18a) entail the existence of a large block of stone and the dough; the natural readings of (17b) and (18b) don’t entail the existence of a small statue and the cookies.

(17a) Ned was carving a large block of stone.

(17b) Ned was carving a small statue.

(18a) Sam was baking the dough.

(18b) Sam was baking the cookies.

I am not at all convinced that this fact alone gives us good reason to postulate an ambiguity in ‘carve’ and ‘bake’. I think Forbes would be better off acknowledging relational readings for (17a) and (18b).

The second objection is that Forbes assigns *only* relational readings to sentences containing ordinary accomplishment verbs in the progressive. At first, this might strike us as a good thing: ‘Mary was crossing the street’ does seem to entail ‘There was a street Mary was crossing’. But on reflection we must reject this intuition. Suppose the street is being built sideways. (Imagine that it is supposed to be a short but wide street, so building it from one side to the other makes some sense.) Mary begins her crossing and she moves slowly behind the construction crew. Before the crew would complete the construction of the street (and hence, before Mary would get across) the money runs out and everyone goes home. In this situation the sentence ‘Mary was crossing the street’ is true despite the non-existence of the street Mary was crossing. I conjecture that similar examples can *in principle* be constructed for all accomplishments.³⁰ Consequently, Forbes is mistaken in suggesting that the reason ‘Esther was building a house’ does not

entail ‘There is a house Esther was building’ has anything to do with the fact that ‘build a house’ describes the making of something and not some other sort of accomplishment.

The two points hitherto raised call for minor adjustments only – I claim that the relational/notional ambiguity arises *in principle* with all progressive accomplishments. But my central concern with Forbes’s account is more fundamental. The core of the proposal is the claim that verbs of creation are ‘part-time’ intensional verbs, that is, that they are intensional when in the progressive. The logical forms of ‘Esther was seeking a house’ and ‘Esther was building a house’ are supposed to be the same, except for the predicate contributed by the verb. But there is a crucial difference. The second sentence requires a *specific* reading, the first does not. (19) is a perfectly fine, while (20) is decidedly odd:

- (19) Esther was seeking a house but no particular one.
- (20) ?? Esther was building a house but no particular one.

Seekings need not be specific – one can strive for mere “relief from houselessness.” There is no analogy of this in the case of a building process.

Forbes disagrees. He thinks that despite its oddity (20) is true if the building of Esther’s house was not following a strict plan, and hence, for a while there were different possibilities open leading to different houses. He concedes that once the building process becomes *modally determinate* (i.e. once it is the case that in all possible worlds where the process culminates the *same* house is built) there is a particular house Esther is building. However, he insists that ‘There is a particular house Esther is building’ does not express a claim of actual existence – it involves a possibilist quantifier.³¹ In this way, he holds on to the idea that until the building process culminates there isn’t any actual entity Esther is building. I will briefly return to this suggestion towards the end of the paper. For now, let me just say that even if one accepts this as an adequate explanation of the oddity of (20), the suggestion cannot account for two further phenomena I am about to mention.

The first a contrast in the intelligibility of questions of location:

- (21) – I am seeking a house.
- ?? – Oh yeah? Where is it?

- (22) – I am building a house.
– Oh yeah? Where is it?

The question in (21) is silly, as long as the first sentence is read notionally. By contrast, the question in (22) is in perfect order. Note also that if I am conducting a general house search in Ulan Bator, I cannot felicitously respond to the question in (21) by uttering ‘In Ulan Bator’. By contrast, if I am building a house there I certainly can respond to the question in (22) just that way whether or not I am following some specific plan. The natural way to understand ‘I am building a house’ requires that there be some particular thing at a particular place that I am building.

The second phenomenon is a contrast in the availability of demonstrative reference. If I successfully complete a general search for a house I began last October I cannot point at it and say (23), but if I successfully complete the building of a house, which I began last October I can point at it and say (24):

- (23) *This* is what I was seeking since last October.
(24) *This* is what I was building since last October.

Here appeal to possible houses seems entirely moot. (24) is true but it is not as if all the possible houses that I could have ended up building are such that I was building them since last October. Some of those possible houses would have been finished by now, so those are certainly not such that I was building them since last October! I cannot see any way to account for the contrast between (23) and (24) short of saying that while there is no actual, particular, demonstrable object Esther was seeking throughout the search, there is such an object she was building throughout the construction.

3. Against the simple extensional account

The outcome of the last section is puzzling. The data suggest that, despite widespread agreement to the contrary, the progressive aspect does not create an existentially neutral context at all. If Esther is building a house then there is an object such that she is building

it. The object is a concrete particular that exists and is available for demonstration throughout the building process. This undermines not only Forbes's account or adverbial accounts in general – it undermines *any* intensional account. We need an *extensional* account of the progressive, after all.

There is a famous example by Fred Landman that goes against this intuition.³² It is supposed to illustrate that it is at least *in principle* possible to be in the process to bring something to being without there being absolutely anything one could claim to be the object of the creative effort:

(25) God was creating the unicorn when he changed his mind.

I find the example intriguing but ultimately unconvincing. The trouble is that it leaves open what exactly we should conclude from God's change of mind. I have no problem accepting a continuation of (25) with (25a) or (25b). (25c), however, seems to me to yield an incoherent sequence of sentences:

(25a) ... and so there is no unicorn he was creating.

(25b) ... and so there is no entity he ended up creating.

(25c)??... and so there is no entity he was creating.

There must have been a thing God was creating before he changed his mind. If it is insisted that there was not, I strongly prefer (26) over (25):

(26) God was about to create the unicorn when he changed his mind.

If I had made all the preparations for cooking but have not started to assemble the ingredients when you called, I might say that I was making dinner when you called, but that would be strictly speaking false. I was about to be making dinner. Of course, God's creating the unicorn may not have much in common with my cooking – but then we should probably not appeal to such mysterious processes when we are testing our intuitions about the workings of ordinary language.

Shelly Kagan (p.c.) has suggested to me an example that is similar to Landman's but involves an ordinary and familiar creation process:

- (27) At noon Jack and Jill were making a baby, but there was no entity they were making then.

There is reason to think that (27) can be true. Egg fertilization in mammals is a complex process. Before freshly deposited sperms could fertilize an egg, they must undergo the process of capacitation within the female reproductive tract. In humans the process usually requires several hours. But before fertilization there seems to be no entity of which it could be plausibly said that Jack and Jill were making it.

I feel the force of the example but I think that what's behind it is sheer metaphysical skittishness. We have robust specificity data in this case: if Jack and Jill are making a baby then it makes perfect sense to ask where the thing they are making is located (it is inside Jill) and nine months later we may well point at someone and say truthfully that Jack and Jill were making him or her nine months ago. So, why not say that the entity Jack and Jill were making before the fertilization of the egg is the scattered object consisting of sperms undergoing capacitation and a nearby egg? We need scattered objects anyway: if I made a three course dinner then (before it was eaten) there was a scattered object – the three course dinner – I made.

One might worry that the scattered object I claim Jack and Jill were making came to exist too late: Jack and Jill had been making a baby for a while before sperms got to the right place for the capacitation to begin. But it is not clear to me that our inclination to say that they were making a baby before the capacitation of sperms began is different from our inclination to say that I was making dinner when I was still looking for the right ingredients in the fridge at some time before I actually started putting those ingredients together.

One might also worry that once sperms are at the right place and the capacitation begins the process unfolds without any further interference from Jack and Jill, and consequently, they are no longer making a baby. But this does not seem particularly puzzling either. In the end, the idea that making a baby is a relatively short process

somewhere within a significantly longer process of doing something else (which we sometimes also call ‘making a baby’ as a result of a process rhetoricians call *synecdoche*) strikes me as quite sensible.

In the end, then, I don’t find either Landman’s or Kagan’s examples persuasive. Parsons has a simple extensional account of the progressive: Esther was building a house just in case there was a building event going on whose Agent was Esther and whose Theme was a house. No entailment that she may eventually build that house, no intensional predicate used to characterize the building process, just the usual thematic relation permitting existential generalization. Shouldn’t we just stick with that?

According to Parsons, when Esther begins the building of a house from the very first moment there *already* is a house. This sounds paradoxical. If there already is a house, what’s the point of building it? The response to this is that the object at the beginning of the building process is an *incomplete* house and that the point of building is to *complete* it. This is fine as far as it goes, but for Parsons’s purposes it does not go far enough. Incomplete houses are not houses, just as fake diamonds are not diamonds and retired police officers are not police officers. When we count the houses on the street we do not count the incomplete ones. (We might count ones that are close enough to completion, but those are almost houses, so that is just a case of over-counting by courtesy.) We do not answer affirmatively to the question “Do you have a house?” if we are at the beginning of its construction. More importantly, we do not pay taxes on it until it is done, or at least the “certificate of substantial completion” is issued.

An adequate extensional semantics must be more complex than Parsons’s. To motivate the crucial new element in the analysis I will take a step back and consider a problem for most existing accounts of the progressive.

4. Events in progress

A central aim of semantic analyses of the progressive has been to account for the *imperfective paradox* – the lack of entailment from some progressive sentences to their perfective counterparts.³³ But the fact that (28) does not entail (29) is no more important for an adequate semantics of the progressive than the fact that (29) *does* entail (28):

- (28) Mary was crossing the street.
 (29) Mary crossed the street.

The right generalization appears to be that the truth of a simple accomplishment sentence in the perfective requires a process that leads up to the culmination of the event the sentence describes.³⁴ If there is no process leading to Mary being across the street we can only use achievement verbs to describe the situation, saying that Mary got across the street or that she found herself across the street. The fact that accomplishments behave differently from achievements means that there is no simple way to account for the entailment pattern: it can't be a matter of the interpretation of the progressive morpheme alone.³⁵ In what follows, I propose an analysis of the phenomenon.

The first step is the old idea that the logical form of accomplishments is akin to that of causatives.³⁶ Being across the street is a state brought about by crossing the street, just as being molten is a state brought about by melting. The standard logical form of causatives within event-based semantics involves quantification over an event and a resulting state. Ignoring tense, aspect, and leaving the definite description *in situ*, the logical forms are as follows:

- (30) John melted the butter.
 (30') $\exists e$ (AGENT (e, John) \wedge $\exists s$ (being molten (s) \wedge THEME (s, the butter) \wedge CAUSE (e, s)))
 "There was an event by John which causally led to a state of the butter being molten."

An important advantage of the analysis is that the validity of the entailment from (30) to (31) – the claim that the result state of the accomplishment described by (30) obtained – is accounted for:

- (31) The butter was molten.
 (31') $\exists s$ (being molten (s) \wedge THEME (s, the butter))
 "There was a state of the butter being molten."

Note that the event that causally led to the moltenness of the butter remains uncharacterized in (30'): all we are told is that it is an event whose Agent is John. The second step in the analysis is to recognize that we could characterize it. I suggest that it is the melting of the butter *in progress*, an incomplete melting.³⁷ We can add this characterization to the logical form using a predicate modifier IP (“in progress”) whose semantic value is a function that maps *F* events to *F* events in progress. We also need some semantic mechanism that ensures that the butter that is the Theme of the melting in progress is the same as the butter that becomes molten as a result of the melting in progress. I will indicate this by using indices. So, instead of (30'), I suggest (30'') as the logical form of ‘John melted the butter’:

(30'') $\exists e ((IP(\text{melting}))(e) \wedge \text{AGENT}(e, \text{John}) \wedge \text{THEME}(e, \text{the butter}_i) \wedge \exists s (\text{being molten}(s) \wedge \text{THEME}(s, \text{the butter}_i) \wedge \text{CAUSE}(e, s)))$
 “There was a melting of the butter in progress by John and it causally led to a state of the butter being molten.”

If we assume that the claim that there was a melting of the butter in progress by John just *is* the claim that John melted the butter, we account not only for the validity of the entailment from (30) to (31), but also of the entailment from (30) to (32):

(32) John was melting the butter.
 (32') $\exists e ((IP(\text{melting}))(e) \wedge \text{AGENT}(e, \text{John}) \wedge \text{THEME}(e, \text{the butter}))$
 “There was a melting of the butter in progress by John.”

Now, this is *not* how causatives are usually understood by semanticists. The standard idea is that the event which causally brings about the state of the butter being molten is something like John’s *heating* of the butter. As the oddity of the response in (33) suggests, the melting in progress is the wrong kind of thing to count as a cause.

(33) – What caused the moltenness of the butter?
 ?? – John’s melting it being in progress.

I think this intuition is correct but beside the point. What I claim is not that the melting in progress causes the moltenness, it is that they stand in the CAUSE relation. It is crucial that CAUSE is not the relation expressed by the English verb ‘cause’, a point familiar from the literature discussing the relationship between ‘kill’ and ‘cause to die.’ Officially, CAUSE is a semantic primitive, like the thematic relations, or the aspectual predicates. It may well be ultimately analyzable in terms of causation and other notions, but any attempted analysis is bound to be elusive and controversial. I have paraphrased CAUSE as ‘causally leads to’, but I do not claim that the paraphrase is entirely accurate.³⁸ Still, once we use this paraphrase things fall in place. The answer in (34) is still awkward – explicit event-talk often is – but it seems true.

- (34) – What led to the moltenness of the butter?
– John’s melting it being in progress.

Recently the idea that accomplishments are causatives has come under fire.³⁹ It has been argued that it is counterintuitive to say that that if Sue ate a sandwich then she caused something to happen to the sandwich. It is also clear that if Rita drank Mark sick she need not have done anything that caused Mark to be sick. But these sorts of examples do not undermine a causative analysis of accomplishments, as long as we construe CAUSE as I suggested. If Sue ate a sandwich then her eating it being in progress causally led to the non-existence of the sandwich, and if Rita drank Mark sick than her drinking him sick being in progress causally led to his being sick.

Still, there is an important difference between uncontroversial causatives and all the rest of accomplishments. If John melts the butter, there is something he does some time before the butter is molten which causally triggers the entire process – he lights a match, puts the pail out to the sun, or something similar. By contrast, if John crosses the street, there need not be anything he does that initiates the process in this way. Perhaps he skips off the sidewalk, or shouts out ‘Here I come!’, but there is nothing in the meaning of ‘cross’ that suggests this: he can just start crossing the street. One might insist that the only verbs that deserve to be called causative are the ones that behave like ‘melt’ in this regard. If this is a matter of terminological stipulation, I won’t object. But I do think it is

a misleading stipulation: verbs like ‘melt’ have a *doubly* causative meaning: John melted the butter because he did something that causally led to the butter’s melting in progress by him, which in turn causally led to the moltenness of the butter.⁴⁰

Here is the bare outline of the proposed analysis illustrated on simple sentences expressing a state, an activity, an achievement and an accomplishment. The progressive morpheme on the verb always introduces the modifier IP. States cannot be in progress, activities, achievements, and accomplishments can, so this introduction leads to anomaly in (35).⁴¹

(35) *Mary was being across the street.

(35') * $\exists s ((IP(\text{being across}))(s) \wedge IN(s, \text{Mary}) \wedge THEME(s, \text{the street}))$

(36) Mary was walking on the street.

(36') $\exists e ((IP(\text{walking}))(e) \wedge AGENT(e, \text{Mary}) \wedge \text{on}(e, \text{the street}))$

(37) Mary was getting across the street.

(37') $\exists e ((IP(\text{getting across}))(e) \wedge AGENT(e, \text{Mary}) \wedge THEME(e, \text{the street}))$

(38) Mary was crossing the street.

(38') $\exists e ((IP(\text{crossing}))(e) \wedge AGENT(e, \text{Mary}) \wedge THEME(e, \text{the street}))$

The perfective marking (in English null, but in many other languages visible on the surface) is supposed to introduce a bi-clausal structure: the first clause describing a process and the second a state the process causally leads to. My hypothesis is that for atelic sentences this introduction fails for semantic reasons. States and processes are fundamentally different kinds of entities: stative verb phrases cannot encode processes and activity verb phrases cannot encode states. So, for stative sentences the perfective yields the clause describing a state only and for activity sentences it yields the clause describing a process only. For telic sentences, the introduction of the bi-clausal structure is successful; the difference between achievements and accomplishments is that only the latter characterize the process causally leading to the result state.⁴² The IP operator applies in logical form of a sentence expressing an achievement to a dummy predicate (E, for ‘event’) instead of the verb that occurs in the sentence.

- (39) Mary was across the street.
 (39') $\exists s$ (being across (s) \wedge IN (e, Mary) \wedge THEME (s, the street))
- (40) Mary walked on the street.
 (40') $\exists e$ (walking (e) \wedge AGENT (e, Mary) \wedge on (e, the street))
- (41) Mary got across the street.
 (41') $\exists e$ ((IP (E))(e) \wedge
 $\exists s$ (being across (s) \wedge IN (e, Mary) \wedge THEME (s, the street) \wedge CAUSE (e, s)))
- (42) Mary crossed the street.
 (42') $\exists e$ ((IP(crossing))(e) \wedge AGENT (e, Mary_i) \wedge THEME (e, the street_j) \wedge
 $\exists s$ (being across (s) \wedge IN (e, Mary_i) \wedge THEME (s, the street_j) \wedge CAUSE (e, s)))

Let me emphasize again that my aim here is not a compositional theory of aspect. I said nothing about how these logical forms arise, given the syntax of these sentences and assignment of semantic values to their lexical constituents. I also did not give a particularly informative analysis – for that I would need to analyze the modifier IP and the predicate CAUSE as well. I presented the sample logical forms here in order to show that even without digging deeper, the analysis I am proposing can capture certain logical relations. ‘Mary crossed the street’ and ‘Mary got across the street’ entail ‘Mary was across the street’, but ‘Mary walked on the street’ does not. ‘Mary crossed the street’ entails ‘Mary was crossing the street’ but ‘Mary got across the street’ does not entail ‘Mary was getting across the street’. And finally, ‘Mary crossed the street’ entails ‘Mary got across the street’ but not the other way around. All as it should be.

5. Objects in progress

The analysis of progressive accomplishments above suffers from the same shortcoming as Parsons’s account: it incorrectly predicts that ‘Esther was building a house’ entails ‘There was a house Esther was building.’ But now we have at hand something that might fix the problem. The key is IP, which I argued we need anyway to account for the fact that ‘Esther built a house’ entails ‘Esther was building a house’. All we need is to apply this modifier in the logical form of progressive sentences more than once. I claim that existential generalization from the direct object position of a progressive sentence is

valid, but the predicate within that position cannot be freely exported. If Esther is building a house there is a thing she is building – a house in progress. The logical form of the usual reading of ‘Esther was building a house’ I propose is as follows:

- (43) Esther was building a house.
(43') $\exists e ((IP(\text{building}))(e) \wedge \text{AGENT}(e, \text{Esther}) \wedge \text{THEME}(e, \text{a IP}(\text{house})))$
“There was a building in progress by Esther of a house in progress.”

My proposal is similar to what possibilists or eternalists say about existential generalization from within the scope of a modal and temporal operator. I say that in its most natural reading ‘Esther was building a house’ does not entail ‘There was a house Esther was building’ but it does entail ‘There was a thing (*viz.* a house in progress) that Esther was building.’ Similarly, the possibilist says that ‘There could be blue swans in the pond’ in its most natural reading does not entail ‘There are blue swans which could be in the pond’ but it does entail ‘There are things (*viz.* possible blue swans) that could be in the pond’, and the eternalist says that ‘There were dinosaurs in North America’ in its most natural reading does not entail ‘There are dinosaurs which were in North America’ but it does entail ‘There are things (*viz.* past dinosaurs) that were in North America’. A house in progress is as real as a finished house – it is a concrete entity available for demonstrative reference with a determinate location in space. Its ontological status should be, if anything, less controversial than that of a possible blue swan or a past dinosaur.

Still, what sort of objects are houses in progress? Given that there is no question of ontological category (we know they are concrete material objects) and no question of familiarity (we have all seen plenty of them) the query must be taken as a call for reduction. I am not against ontological reduction in general but in this case caution is called for. In particular, it should be emphasized that houses in progress are not simply parts of houses. At a time when the construction of a house is completed, there is a house with all its parts, but there is no house in progress anymore. Moreover, if a building project is abandoned before completion we do have part of a building, but arguably no building in progress. Finally, when the building of a house is halfway done then one has already built part of a house, but that is not to say that one has already built a house in progress. All this suggests that building processes play a crucial role in individuating

houses in progress. This is enough to ensure that there cannot be a simple reduction of houses in progress to other, allegedly less suspicious objects.

One might wonder whether this proposal mischaracterizes the thing Esther is building. What Esther was building is after all not a house in progress – it is a house. If it were a house in progress we could presumably say that Esther is building a house in progress. But saying that sounds like saying that she is working on a house that is supposed to remain forever unfinished, which is definitely not what she is doing when she is building a house. This seems to push us back to Parsons’s more straightforward view.

Still, I think the awkwardness of the paraphrase is not a good objection against the current proposal. First of all, if ‘Esther was building a house in progress’ mischaracterizes the object she is building, so does ‘Esther was building a completed house.’ We are inclined to say that the thing she is building is not a completed house, for if she is still building it then it cannot be completed. I would be reluctant to try to give full credit to both intuitions – denying that the thing Esther is building when she is building a house is *neither* in progress nor completed is more than a bit paradoxical. It is better to seek a way to explain away of the appearances.

If we assume that that IP *normally* modifies the entire nominal within the direct object position of a perfective accomplishment verb we predict its intrusion within the paraphrases as well:

- (44) ?? Esther was building a house in progress.
(44') $\exists e ((IP(\text{building}))(e) \wedge \text{AGENT}(e, \text{Esther}) \wedge \text{THEME}(e, \text{a IP}(\text{house in progress})))$
“There was a building in progress of a house in progress in progress by Esther.”
- (45) ?? Esther was building a completed house.
(45') $\exists e ((IP(\text{building}))(e) \wedge \text{AGENT}(e, \text{Esther}) \wedge \text{THEME}(e, \text{a IP}(\text{completed house})))$
“There was a building in progress of a completed house in progress by Esther.”

In other words, the account *predicts* that (44) and (45) should strike us as anomalous. When we try to translate the logical form (43) back into English, the resulting sentence ends up having a different logical form. All this a useful reminder not to mistake paraphrases for logical form.

While the progressive aspect of the sentence forces the application of IP to ‘build’, its application to ‘house’ is probably not obligatory. Although intuitions on this matter are divided, (45) may well have another reading in which it describes the building of a completed house into something else, say, a castle.⁴³ This reading could be captured as (45'')

(45'') $\exists e ((\text{IP (building)})(e) \wedge \text{AGENT (e, Esther)} \wedge \text{THEME (e, a house)})$

Even if (45'') is not a real reading of (45), there are other verbs where the relevant reading is clearly available – ‘carve’ and ‘bake’ were already mentioned in section 2:

(46a) Ned was carving a large block of stone.

(46a') $\exists e ((\text{IP (carving)})(e) \wedge \text{AGENT (e, Ned)} \wedge \text{THEME (e, a large block of stone)})$

(46b) Ned was carving a small statue.

(46b') $\exists e ((\text{IP (carving)})(e) \wedge \text{AGENT (e, Ned)} \wedge \text{THEME (e, a IP (small statue))})$

(47a) Sam was baking the dough.

(47a') $\exists e ((\text{IP (baking)})(e) \wedge \text{AGENT (e, Sam)} \wedge \text{THEME (e, the dough)})$

(47b) Sam was baking the cookies.

(47b') $\exists e ((\text{IP (baking)})(e) \wedge \text{AGENT (e, Sam)} \wedge \text{THEME (e, the IP (cookies))})$

In section 2, I also observed that ‘Mary was crossing the street’ must have a reading that does not entail the existence of a street. The sentence can be true in a situation where Mary is walking behind a construction crew that is building the street sideways even if the work of the crew is interrupted, the street never gets built, and Mary never gets across. We can get this reading by applying IP within the direct object position of ‘was crossing’. But if that application of IP is optional there is also another reading that does entail that there was a street Mary was crossing, which sits well with our ordinary intuitions about the sentence.

I want to push the example further. Suppose the situation is again that the street is being built sideways and Mary follows the construction crew. This time the work and Mary’s walk go on uninterrupted. However, there is a group of vandals walking behind

Mary systematically destroying what the construction crew built. As a consequence, at no point of time is there a street Mary is crossing. Still, we could truthfully say ‘Mary crossed the street.’ This, of course, is very puzzling.⁴⁴ The least unintuitive thing to say seems to me to be this: while there never was a street that Mary crossed, she did actually cross a street in progress. If we allow the application of IP not only in characterizing the thing Mary was crossing but also the thing she crossed we can capture this intuition. (48’) is the usual reading of ‘Mary crossed the street’, (48’’) is the one that is true in the case described:

(48’) $\exists e ((IP(\text{crossing}))(e) \wedge \text{AGENT}(e, \text{Mary}_i) \wedge \text{THEME}(e, \text{the street}_j) \wedge \exists s (\text{being across}(s) \wedge \text{IN}(e, \text{Mary}_i) \wedge \text{THEME}(s, \text{the street}_j) \wedge \text{CAUSE}(e, s)))$

(48’’) $\exists e ((IP(\text{crossing}))(e) \wedge \text{AGENT}(e, \text{Mary}_i) \wedge \text{THEME}(e, IP(\text{street}_j)) \wedge \exists s (\text{being across}(s) \wedge \text{IN}(e, \text{Mary}_i) \wedge \text{THEME}(s, IP(\text{street}_j)) \wedge \text{CAUSE}(e, s)))$

To sum up, what I suggest adding to the semantic analysis outlined at the end of the previous section is the optional application of the IP modifier to the nominal within the direct object position of a progressive sentence. If the argument is co-indexed with another position within the logical form – as in the analysis of perfective accomplishments – IP applies optionally to the nominal in that other position as well.

This gives us readings we often overlook – e.g. I predict that ‘John is solving a problem’ and even ‘John solved a problem’ have readings that can be true even if there is no problem that John was solving and no problem that he solved. To see that such a reading is available, all we need to do is to imagine a scenario analogous to the one where Mary crossed the street between the construction crew and the vandals. It must be that as the problem is emerging John is already working on the solution and as he proceeds with it the problem is already disappearing. John could be, for example, an air traffic controller who is responding to a developing crisis as the number of planes asking for permission to land is approaching the number of available strips. He handles the situation skillfully and works out a way to bring in all the planes. But as he gives out emergency instructions to the incoming planes various strips unexpectedly become available. It turns out that had he not done anything unusual, all the planes could still have landed without

difficulty. There was an emerging problem – a problem in progress – but there never was a problem. Still, John was solving a problem and he eventually solved it.

6. Destinations and goals

There is an important objection against the analysis I gave: existential generalization *of any sort* fails for some progressive accomplishments. I will argue that the observation is correct but can be accommodated without abandoning the analysis I proposed.

The example is from Andrea Bonomi.⁴⁵ Suppose Leo wants to go to a concert and he knows of three suitable ones in three French towns. Leo lives in Turin and knows that the best way to get to any of the towns he must drive on highway A5. So he starts driving without making a decision where to go. Once he is on the way, it seems that (49) is true but neither (50) nor (51) is. The falsity of (50) is expected, but the account I suggested yields a suspicious explanation: it does not seem that the place Leo is driving to is a French town in progress. The problem is that there is *no* place whatsoever Leo is driving to.⁴⁶

- (49) Leo is driving to a French town.
- (50) There is a French town Leo is driving to.
- (51) There is a place Leo is driving to.

So, why do (50) or (51) not follow from (49)? My answer is that the context after ‘is driving to’ really is intensional. But I deny that this is due to the presence of the progressive marking on the verb. The source of intensionality is the preposition ‘to’ – it marks the destination of driving, and destinations can be non-existent. This is well illustrated in (52), which shows that Leo can be driving to an event that never existed:

- (52) Leo was already driving to a party when he heard that it has been cancelled.

The natural objection to the suggestion that the source of intensionality in the context following ‘is driving to’ is the preposition not the aspectual marking is that we should then expect that the context following ‘drove to’ is also intensional. But note that given

the analysis of perfective accomplishments in the previous section, such an expectation is not borne out. The reason we get existential entailment from (53) is that the second clause contains ‘a French town’ in an ordinary extensional context:

(53) Leo drove to a French town.

(53') $\exists e ((IP(\text{driving}))(e) \wedge \text{AGENT}(e, \text{Leo}) \wedge \text{to}(e, \text{a French town}) \wedge \exists s (\text{being}(s) \wedge \text{at}(s, \text{a French town}) \wedge \text{CAUSE}(e, s)))$

(54) Leo was driving to a French town.

(54') $\exists e ((IP(\text{driving}))(e) \wedge \text{AGENT}(e, \text{Leo}) \wedge \text{to}(e, \text{a French town}))$

Similar analyses for (55) and (56) are possible. The first is an example from Rich Thomason, the second is due to Angelika Kratzer. In these cases existential generalization of all sorts is blocked, I contend, because of the intensionality of the context following ‘is driving to’ and the intensionality of the thematic role ‘choose’ assigns to its direct object.

(55) The coin is landing on one of its sides.

(55') $\exists e ((IP(\text{landing}))(e) \wedge \text{THEME}(e, \text{the coin}_i) \wedge \text{on}(e, \text{one of its}_i \text{ sides}))$

(56) Mary was choosing a pumpkin.

(56') $\exists e ((IP(\text{choosing}))(e) \wedge \text{AGENT}(e, \text{Mary}) \wedge \text{GOAL}(e, \text{a pumpkin}))$

The analysis I gave for (54), (55) and (56) is adverbial. My main criticism against adverbial analyses of the progressive was that they do not capture the specificity of the sentences it seeks to analyze: if Esther was building a house there was a particular thing at a specific place about which we can say that *it* is the thing Esther was building. Of course, I am not offering an adverbial analysis of *the progressive*, but an adverbial analysis of certain accomplishments. And since the relevant readings of (54), (55) and (56) are non-specific – there is no particular place Leo is driving to, no particular side the coin is landing on, and no particular pumpkin Mary is choosing – the analysis remains plausible in these cases, even if it fails in general for progressive accomplishments.

7. Conclusion

Parsons got the ontology right but the ideology wrong in the semantics of the progressive.⁴⁷ Ordinary talk commits us to the existence of things described by the expression occupying the direct object position of progressive verb phrase but it does not commit us to the correctness of the description. This, in turn, suggests a particular outlook about *when* things come to exist, an outlook that is somewhat at odds with our unreflective judgments. When we build a house, cook dinner, or write an article, there is always an object in existence right from the beginning of the process. Initially it is not a house, a dinner, an article – only a house in progress, a dinner in progress, an article in progress. The point in time we most care about – when we open the champagne – is at the end of the creation process, when if everything went well, our familiar predicates finally come to apply to the things we brought to existence earlier.⁴⁸

References

- Abusch, Dorit (1986) 'Verbs of change, causation and time', CSLI report no. CSLI-86-50.
- Bach, Emmon (1986) 'The Algebra of Events' *Linguistics and Philosophy* **9**: 5 – 16.
- Bonomi, Andrea (1999) 'The progressive and the Structure of Events', *Journal of Semantics* **14**: 173 – 205.
- Brogaard, Berit (forthcoming) 'The but not all: A new account of plural definite descriptions.' *Mind and Language*.
- Chisholm, R., 1957. *Perceiving: A Philosophical Study*. Ithaca: Cornell University Press.
- Dowty, David (1977) 'Towards a Semantic Analysis of Verb Aspect and the English "Imperfective" Progressive', *Linguistics and Philosophy* **1**: 45 – 78.
- Dowty, David (1979) *Word Meaning and Montague Grammar*. Dordrecht: Reidel.
- Forbes, Graeme (2006) *Attitude Problems*. Oxford: Oxford University Press.
- Goodman, Nelson (1976) *Languages of Art*. Hackett Publishing Company.
- Higginbotham, James (1985) 'On Semantics.' *Linguistic Inquiry* **16**: 547 – 593.
- Higginbotham, James (2005) 'The English Progressive', in J. Gueron and J. Lecarme eds., *The Syntax of Time*. Cambridge, MA: MIT Press, 2004. pp. 329-358.
- Landman, Fred (1992) 'The Progressive', *Natural Language Semantics* **1**: 1 – 32.
- Levin, Beth (2000) 'Aspect, lexical semantic representation, and argument expression' *Proceedings of the 26th Annual Meeting of the Berkeley Linguistics Society*, 413 – 29.
- Lombard, Lawrence (1985) 'How not to Flip the Prowler: Transitive Verbs of Action and the Identity of Actions', in E. LePore and B. McLaughlin, eds., *Actions and Events: Perspectives on the Philosophy of Donald Davidson*. Oxford: Blackwell.
- Moltmann, Friederike (2003) 'Nominalizing Quantifiers.' *Journal of Philosophical Logic* **32**: 445 – 81.
- Parsons, Terence (1990) *Events in the Semantics of English*. Cambridge, MA: MIT Press.
- Pietroski, Paul (2005) *Events and Semantic Architecture*. Oxford: Oxford University Press.
- Porter, Paul (1999) 'The Progressive in Modal Semantics' *Language* **74**: 760 – 87.
- Rothstein, Susan (2004) *Structuring Events*. Oxford: Blackwell.
- Szabó, Zoltán Gendler (2004) 'On the Progressive and the Perfective' *Noûs* **38**: 29 – 59.
- Varasdi, Károly (2007) *On the Progressive and the Imperfective*. PhD Dissertation at ELTE, Budapest.
- Vendler, Zeno (1957) 'Verbs and Times', reprinted in his *Linguistics in Philosophy*, 1967, Ithaca: Cornell University Press, 97 – 121.
- Zucchi, Sandro (1999) 'Incomplete Events, Intensionality, and Imperfective Aspect', *Natural Language Semantics* **7**: 179 – 215.

¹ Parsons (1990): 174. Parsons says tour guides at the Jack London Historical State Park tend to such things. According to the web-site of the park, construction of the so-called Wolf House began in 1910 and the house was nearly finished when it burned down in 1913, three years before Jack London's death.

² I follow the general practice of calling an analysis intensional just in case it permits existential neutrality of broadly non-quotational, non-negative contexts. (A narrowly quotational context is one within quotation marks; broadly quotational contexts also include the subject position of 'so-called.' A narrowly negative context is one within the scope of a clausal negation; broadly negative contexts also include the subject position of 'is absent'.) An analysis that is intensional in this sense may or may not assign intensions (functions from indices to extensions) to linguistic expressions.

³ An obvious idea is that these special quantifiers are substitutional but this may not work; cf. Moltmann (2003).

⁴ The existential account is in Dowty (1977); the universal in Dowty (1979).

⁵ Vlach (1981): 286. Note that this is a problem for both the existential and the universal analyses, assuming that there are inertia worlds for the actual world at the time when the truck hit Mary. (If there aren't the analysis says that the sentence is vacuously false; not a welcome result.)

⁶ E.g. Asher (1992), Landman (1992), Portner (1999), Bonomi (1999), Zucchi (1999), or Higginbotham (2005). The details of these accounts vary considerably.

⁷ Zucchi (1999) and Higginbotham (2005) are quite explicit that this is the primary motivation. The slogan need not be true on accounts of the progressive that involve universal, rather than an existential quantification over possible worlds. But even these define what it is for something to be in progress in terms of possible worlds where the process culminates. Everyone who is advocating such an analysis assumes that the progressive carries at least the presupposition that its perfective counterpart is true in some worlds.

⁸ The example is from Landman (1992). As Landman notes, there is more to explain about the case. If Sarah miraculously manages to swim to the other side we will be inclined to revise our judgment and declare that she was, after all, crossing the Atlantic.

⁹ Higginbotham (2005) has a similar example. His involves competing causal processes (cancer and heart disease) where it is a random matter which one culminates. I think indeterminacy is a red herring here, so I avoided it in my own example.

¹⁰ While I think it is clear that (5) is true in the scenario described, I concede that asserting it might be misleading. To say that George is dying from a gun shot and heart disease conversationally implicates that the speaker does not know which of the two processes will culminate first and thereby prevent the culmination of the other. If the speaker knows that the gun shot will kill George before the heart disease would, he knows that mentioning the latter is irrelevant in ordinary contexts.

¹¹ A similar example is in Szabó (2004).

¹² The resources for this type of account are laid out in Portner (1999).

¹³ This is suggested in Varasdi (2007).

¹⁴ Nick Kroll has suggested to me that (9) is ambiguous – it can mean either that Frank is enumerating all the primes (in which case it is false), or it can mean that he is enumerating some of them (in which case it is true). (There is some independent evidence for thinking that plural definite descriptions are covert partitives and that they generally display such an ambiguity; cf. Brogaard (2007).) But even if this is so, a problem remains for the modal analysis. There seems to be no similar ambiguity in 'Frank enumerated the primes' – this sentence is true only if Frank enumerated all the primes. The only reading of 'Frank was enumerating the primes' that is supposed to be true – the one that says that Frank was enumerating some of the primes – still need not entail that 'Frank enumerated the primes' is true in some possible world.

¹⁵ Modal analyses that quantify universally over a restricted set of worlds predict that (9) is vacuously true. But (9) has non-trivial truth-conditions, so these accounts fare no better than ones that involve existential quantification.

¹⁶ I think it is a subtle question whether one can count the primes in 2 minutes by calling the first in 1 minute, the second in $\frac{1}{2}$ minute, the third in $\frac{1}{4}$ minute, ... , the n th in $\frac{1}{2^n}$ minute, It is obvious is that in doing this, after 2 minutes one will have called all the primes. But it is not obvious whether this is properly called counting them.

¹⁷ Forbes (2006): 104 suggests that the relevant possibility is agent-relative epistemic possibility.

¹⁸ If Frank can be enumerating the primes, why can't Sarah be swimming across the Atlantic? (Thanks to Tamar Gendler for raising this concern.) Note first that unlike 'Start enumerating the primes!', 'Start swimming to France!' *is* an absurd command. I think we tend not to see Sarah's successive strokes as steps in a process of crossing the Atlantic because we do not regard all the strokes she would need to take as equivalent. It is salient to us that she would get more and more tired, and consequently, it would be harder and harder for her to make the next stroke. By contrast, we are thinking of the process of Frank's enumerating the primes more abstractly. We disregard the growing difficulty of determining the next prime in the series, and we see the naming of each new prime as the same kind of act. Why exactly we have these different ways of thinking about the two processes is not clear to me.

¹⁹ My favorite example is the following. Suppose we are running a computer program to find large primes. The program does not test each number in a given set but uses statistical methods. We just finished testing the set of numbers between n and m and came up with no primes. In this situation the sentence 'If there were primes between n and m we would have found them' is true or false depending on how long the program was allowed to run and how reliable it is.

²⁰ Or more precisely, this and only this is what they explain without giving a substantive account of how the worlds relevant for evaluating a progressive sentence are selected.

²¹ Cf. Forbes (2006). The idea goes back at least as far as Chisholm (1957), who employs it for verbs of perception. Forbes's immediate motivation is the analysis of depiction verbs in Goodman (1976).

²² I follow the convention of using small-caps fonts for components of logical forms that are not contributed by lexical items within the sentence. When discussing minimal pairs I will always use the past tense – when the perfective aspect is combined with present tense, in English we have sentences whose only natural reading is habitual.

²³ The aspectual predicates CUL and HOLD are officially primitive, but the following constraints on their interpretation are intuitive: if an event culminates none of its non-final temporal parts do, if it holds all of its temporal parts do. As a result, no temporally extended event can both culminate and hold. This forces Parsons to adopt fairly fine-grained individuation of events.

²⁴ For a survey of arguments in favor of neo-Davidsonian semantics, see Higginbotham (1985) and Parsons (1990).

²⁵ For a discussion of the standard tests used for the classification, see Vendler (1957). For a contemporary survey of Vendler's own tests and some others that have been suggested since, see Chapter 1 of Rothstein (2004). The categorization cannot be seen as a lexical feature of verbs because the aspectual category of the verb phrase is not fully determined by its head; e.g. 'eat sandwiches' is an activity verb phrase, but 'eat a sandwich' is an accomplishment verb phrase.

²⁶ It is not entirely clear to me how Forbes thinks (14a') and (14b') should be derived. There is probably a single lexical item 'seek'. But the combination with the progressive morpheme (and with tense) yields two distinct expressions: the relational 'was seeking', which assigns two thematic roles, and the notional 'was seeking', which assigns only one. What is the source of the ambiguity? (14b') violates that theta-criterion because 'was seeking' does not assign a thematic role to its direct object. If it is not contributed by the verb, how does CHAR appear in the logical form?

²⁷ Verbs of depiction ('paint', 'draw', 'sculpt', etc.) also have this property but they are more complex. The verb in 'Guercino painted a dog' does have a thematic object – a painting of a dog. The source of the ambiguity is that 'a painting of a dog' itself has a relational and a notional reading. 'Guercino was painting a dog' has a doubly notional reading, which entails neither the existence of a dog nor the existence of a painting. Cf. Forbes (2006): 138 – 41.

²⁸ Forbes (2006): 106.

²⁹ Forbes (2006): 134.

³⁰ I say 'in principle' because specific facts about the events described by particular verbs may undermine the construction of such examples. It seems plausible that one cannot be swallowing a candy unless there is a candy one is swallowing, but that's because candies cannot be made while they are being swallowed.

³¹ Forbes (2006): 134 – 5.

³² Landman (1992).

³³ The imperfective paradox is not really a paradox, just a refutation of the once common view that lexical aspect can be analyzed with the resources of classical tense logic.

³⁴ A simple accomplishment sentence is one that describes a single accomplishment. With sentences describing multiple accomplishments things are more complicated. 'John visited four countries' in its usual

reading does not entail ‘John was visiting four countries.’ But if we are talking about a single trip John took last week, the single accomplishment reading of ‘John visited four countries’ becomes salient and the inference goes through.

³⁵ Szabó (2004) incorrectly claims the inference is valid for all simple sentences in the progressive involving a telic verb phrase.

³⁶ The suggestion goes back to Dowty (1979) and Lombard (1985).

³⁷ I made this suggestion is Szabó (2004).

³⁸ Pietroski (2005) argues that the relation holds between a causal process and its final part. Szabó (2004) suggests that Mary crossed the street iff a crossing of the street by Mary in progress caused her being across the street and anything that was caused by that crossing in progress and caused her being across is another crossing of the street by Mary in progress.

³⁹ Especially in Abush (1986), Levin and Rappaport Hovav (1999) and Levin (2000); see also chapter 4.2.2. in Rothstein (2004).

⁴⁰ This is similar to the causative-inchoative analysis suggested for verbs like ‘melt’ in chapter 6 of Parsons (1990). Those who are impressed by the analogy are welcome to call step 1 of my proposal an *inchoative* analysis of accomplishments. I resist this terminology because I wish to emphasize that there is no reason to believe that the BECOME relation (employed by Parsons in the analysis of inchoatives) is anything other than the CAUSE relation (employed by him in the analysis of causatives).

⁴¹ Not all achievements can be in progress – while one can be getting across the street one cannot be finding oneself across the street. Bach (1986) calls the latter type of achievements *happenings*.

⁴² It is sometimes said that causative analyses of certain accomplishments are problematic because the right sort of result states cannot be found. In the case of ‘John melted the butter’ the result state is the butter being molten, in the case of ‘Mary crossed the street’ the result state is Mary being across the street, but what is it for ‘Zelda sang a song’? I suggest that being at the end of the song will do. So, the sentence can be paraphrased as ‘There was a singing of a song by Zelda in progress which causally led to Zelda being at the end of the song’. I do think that it is part of our semantic competence with accomplishment verbs that we know what sort of state the events they describe result in – e.g. a going to London causally leads to being in London, an eating of an apple causally leads to the absence of the apple, a stealing of a car causally leads to the having of the car, etc.

⁴³ “Building the house into more of a home” – title from the *Baltimore Sun* 2002, September 1.

⁴⁴ Zucchi (1997) mentions the same puzzle using the example ‘Mary drew a circle in the water.’ The sentence can be true even though nature takes care of the destruction of the circle in the water before its construction is completed. What my examples shows is that the puzzle arises with accomplishments in general, not only with verbs of creation.

⁴⁵ Bonomi (1999). He uses it to argue against the analysis of the progressive in Landman (1992).

⁴⁶ I don’t deny, of course, that Leo is driving somewhere. In fact, he is driving somewhere in France. But as I stressed at the beginning of the paper, the question is whether he is driving to some thing or to some place. And the answers to the latter questions are negative in the situation described.

⁴⁷ Parsons carefully notes that the real disagreement here is a matter of ideology. It is “primarily a question of the proper use of words – whether an unfinished house is properly called ‘a house’.”

⁴⁸ I thank audiences at the University of Lisbon, the University of Maryland, the University of Toronto, the University of Barcelona, Stanford University and Yale University for discussion of earlier versions of this paper. Special thanks to Cleo Condoravdi, Aswini Deo, Graeme Forbes, Ithamar Francez, Tamar Szabó Gendler, Benj Hellie, Shelly Kagan, Nick Kroll, Beth Levin, Ruth Marcus, Friederike Moltmann and Paul Pietroski.