

Talk about Coming into Existence

by

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CHAPTER I

Against the Modal View of the Progressive

1.1 Introduction to Chapter 1

Scanning around my office, I notice a cup filled with tea, some books on metaphysics and philosophy of language, pens and paper for writing, and my computer with all of its necessary electrical equipment coming out of its sides. Each object can be described in many different ways: the cup is brown and made of clay, while the books on metaphysics and philosophy of language are made of paper and are pretty much black and white on the inside, with bright colors on the covers. However, the following can be said of each object: it exists now.¹

Not everything exists now. The dinosaurs, all of them, they no longer exist. The old supermarket I used to shop at as a child, it no longer exists. Various stars and planets in far off galaxies, certain kinds of species on our planet, they also do not exist anymore. Unlike the objects in my room, we can no longer say that these things, however disparate they may be from one another, exist.

I am interested in what lies in between existence and non-existence. My cup was made for me by a friend of mine. Before he made it, it did not exist. After he made it, it did exist. But what can be said about the cup during the process of his making

¹Where ‘now’ is indexed to the time this paper was written, sometime during the month of July, 2009.

it? And what are processes of coming into existence and how do they interact with the objects that come about as a result of them?

To get a grip on these features of the world, it is important to investigate *how we talk* about them, not because all our metaphysical questions will be answered but because we do not want to enter into any unnecessary metaphysical puzzles. Pursuing this approach, there are two obvious types of expression to look at when it comes to processes of coming into existence: the progressive (i.e., the *is VERB-ing* construction in English) and verbs of creation (e.g., ‘make a cake’ and ‘build a house’). When we talk about things coming into existence, we use both of these expressions. My friend is making the coffee cup. Mary is building a house. I am writing a dissertation. Each of these sentences displays both progressive aspect and some verb of creation.

I will begin this investigation into processes and objects of creation by focusing on the progressive. There is a standard view regarding the progressive’s meaning that comes with a ready made response. Assuming the progressive is given a semantics similar to that of typical modal operators, then it turns out there is little more to coming into existence than existing in possible situations. In other words, coming into existence is reduced to existence at other worlds.

In what follows, I will argue that this standard view, which I call *the modal view* of the progressive, cannot be supported. I will take a closer look at the various arguments given in favor of the modal view and argue that they should not be accepted. In the concluding section, I will gather the results and suggest that we need an independent account of the progressive, of verbs of creation, and of telic eventualities to appropriately account for how we talk about processes and objects of creation.

1.2 Why Focus on the Progressive?

Consider the following (pretty uneventful) situation. Jack decides to go to his favorite store. He is on one side of the street and the store is on the other. It is a

Sunday morning and traffic is light. Jack looks to one side, then to the other, and finally makes his way to the store successfully.

Assume we are interested in Jack's street crossing. There are two importantly different ways we can talk about this. We can either say that Jack was crossing the street to get to his favorite store or that he crossed the street to get to his favorite store. Depending on which features of Jack's street crossing we are interested in, we might choose one or the other. If we are interested in describing Jack's street crossing as something that is in progress, we would use the progressive sentence 'Jack was crossing the street'. If we are interested in describing Jack's street crossing as something that has already occurred, then we would use the sentence with perfective aspect 'Jack crossed the street'.

This gives some insight into why the progressive is at issue when it comes to processes of coming into existence. The progressive allows us to talk about and represent the world as in progress and incomplete. With regard to Jack's street crossing, describing the situation as 'Jack was crossing the street' turns our attention to the process as it was occurring. Not to the outcome, but the process itself. When it comes to understanding processes of creation and the status of objects as they are being created, it seems natural then to turn to expressions that allow us to represent the world as in progress and incomplete to get a better understanding of what it means to be *coming into existence* rather than being *already in existence*.

But it is not only the progressive that is involved when we talk about things coming into existence. The kind of verb phrase that is marked with the progressive is also important. To talk about things coming into existence we typically use verbs of creation with progressive aspect. Some examples include: 'John is baking a cake', 'Mary is building a house', 'Keats is writing a sonnet', and 'Barry is making a meal'. This suggests that we should not only investigate the meaning of the progressive but the meaning of the progressive *and* the meaning of verbs of creation in general to get

a clearer understanding of how we talk about coming into existence.

I heartily agree. But, the modal view of the progressive seems to provide an adequate account of coming into existence without requiring any special treatment of verbs of creation in particular. So from here forward, I will turn to the modal view and see if it ought to be accepted. As I will argue, it should not due to a poverty of evidence. Although we are focusing on the progressive for now, I will show that there is much more to account for if we want to understand how we talk about processes and objects of creation.

1.3 The Modal View of the Progressive

The modal view assigns to the progressive truth conditions similar to those of standard modal operators.² On this view, what it is for something to be coming into existence is just for it to exist in some set of possible situations. In this section, I will explain both of these claims.

In addition to typical claims about how things are, we make various claims about how things could have been. So I not only talk about the IBM Thinkpad that is in fact on my desk, I also talk about the Apple Powerbook I could have bought instead. Instead of the the cup of tea on my desk, I could have made coffee and had a biscuit with it.

Modal claims—claims about possibility and necessity—pose a problem when it comes to accounting for their truth conditions. When I say ‘there is a cup of tea on my table’ this sentence is true partly in virtue of the meaning of the sentence and its parts, but also in virtue of the world being such that there is indeed a cup of tea on my table. When I say ‘I could have had a cup of coffee on the table’ this is true in virtue of the meaning of the sentence and its parts, but not in virtue of the world

²Although the details vary by author, adherents of this view include, but are not limited to, *Asher* (1992), *Bonomi* (1997), *Dowty* (1979), *Kamp and Reyle* (1993) (not explicitly, but it is suggested in a passing comment), and *Portner* (1998).

being such that there is a cup of coffee on the table.

Intuitively, the sentence ‘I could have had a cup of coffee on the table’ is true, in part, because it is possible for there to be a cup of coffee on the table or because I could have had a cup of coffee on the table. This is fine, if we are OK with allowing undefined modal terms into our semantic theory of modal expressions. But whereas it is easy to grasp what it is for there to be a cup of tea on the table when in fact there is a cup of tea on the table, it is not so clear what it means for there possibly to be a cup of coffee on the table. It would help if some further elaboration or reduction could be offered.

The most plausible and productive option here is to reduce talk of possibility to talk of what there is. To do so, we need some additional concepts. Instead of possibilities, let’s talk about worlds instead.³ For sentences such as ‘there could have been a cup of coffee on the table’ we can now offer the truth condition that there is a world in which there is a cup of coffee on the table. For sentences such as ‘there must have been a cup of coffee on the table’ (i.e., statements about necessity) we can now offer the truth condition that in all worlds there is a cup of coffee on the table. The old truth conditions are in terms of possibilities and possible objects. The new truth conditions are in terms of worlds and the things that exist in them.⁴

In the transition from possibilities to worlds, there is also a transition from unreduced modal concepts in the semantic theory about modal expressions to use of standard quantificational concepts. Just as a sentence such as ‘some dog is barking’ means there is something such that it is a dog and it is barking, we can restate the

³For the time being, I will not define what worlds are. Simply let our talk about possibility and the things in possible situations be replaced with talk about worlds and the things that exist in worlds. This will help ease any problems with using possibilities in our semantic theories since it makes possible a unification of modal talk with quantification (more on that below). It is now up to the theorist who uses worlds to offer an account of worlds. Insofar as such an account can be offered without modal terms, then we have a successful reduction. But offering the account can, for the most part, be put off while still enjoying the benefit of using worlds in our semantic theory for modal expressions.

⁴The general strategy for reducing modal talk to non-modal talk is thoroughly presented and defended throughout David Lewis’s work. For the most thorough statement see *Lewis* (1986).

meaning of ‘there could have been a cup of coffee on the table’ as there is a world in which a cup of coffee is on the table (with the embedded sentence ‘there is a cup of coffee on the table’ being evaluated at the world in question, which need not be the actual world). Similarly, just as a sentence such as ‘all bears are animals’ means all things are such that if they are bears then they are animals, we can restate the meaning of ‘there must have been a cup of coffee on the table’ as all worlds are such that there is a cup of coffee on the table (with the embedded sentence being evaluated at all worlds, including the actual one).⁵

The modal view about the progressive can then be described as follows. Take a sentence such as ‘Mary is building a house’. The meaning we are aiming for is something like *it must eventually be that Mary built a house*. But, a small complication arises. As I will go into detail later, sentences such as ‘Mary is building a house’ can be true despite Mary failing to complete the house she is building. So the ‘must’ in the truth conditions for this sentence should not include the actual world in it, since the actual world need not eventually make true ‘Mary built a house’. Instead of letting ‘must’ range over all worlds, we restrict it to range only over worlds that are normal extensions of the actual world. The normal extension worlds will be those worlds that are similar to the actual world up until a given time (in the present case, up until and including the time at which Mary is building her house) and that proceed normally from thence forward.⁶ Since unexpected events occur in the actual world,

⁵This is a very primitive theory of modal expressions in natural language that is immediately suggested by the reduction of possibility talk to world talk and is fine for my present purposes. However, it is nowhere near adequate to capture the richness of modal expressions in natural language. For key papers on semantics for modal expressions in natural language, see *Gillies and von Stechow* (2008), *Kratzer* (1977), *Lewis* (1979), and (for a brief overview of a contemporary Kratzer-approach to natural language modals and the connection with the progressive) *Portner* (1998).

⁶It is important that normal extensions for some world w are given relative to w and a time t that is determined by the progressive sentence being evaluated. This can be done in various ways. One way is to recover the time from context. The other way is to recover the time (and possibly the world) from an event e that is recoverable from the progressive sentence under evaluation. Assuming events are world-bound concrete particulars, then they occur in a world at a particular time. We can then define normal extension worlds as those worlds in which e proceeds normally. These worlds need not include the world in which e actually occurs. For some discussion of why events might be needed in defining normal extension worlds, see related discussion in *Landman* (1992) and

it need not always be included in the set of normal extension worlds. The resulting truth conditions can be stated as follows: ‘Mary is building a house’ is true in the actual world at a given time just in case all worlds that are normal extensions of the actual world at that time are such that ‘Mary built a house’ is eventually true in them. More generally, for any sentence ϕ , $Prog\phi$ is true at some world w and at some time t just in case for all normal extensions w' of w at t , ϕ is true in w' at some time t' (where t' is later than t).⁷

It should now be clear why the modal view offers a clear approach to talk about processes and objects of creation without requiring a separate treatment of verbs of creation. Using a progressive sentence with verb of creation such as ‘Mary is building a house’ as our starting point for inquiring after processes and objects of creation, we see that the sentence is true just in case ‘Mary built a house’ is eventually true in all normal extensions of the actual world. So just as talk about worlds allows us to reduce possibility talk for typical existence talk, we have reduced coming into existence to good old fashioned existence in all worlds (i.e., possible situations) that are normal extensions of the actual world. To complete this account, we need to say more about what it is for a world to be a normal extension of the actual world, but as for the object being created or the process of creation, nothing more needs to be said on behalf of the expressions denoting them.

Szabó (2004).

⁷This presentation is designed to capture some general features of modal accounts of the progressive. As a result, it is not meant to provide an adequate modal account, but one that is sufficient for the purposes at hand. For the original and most influential of modal accounts, see *Dowty* (1979). For a contemporary treatment see *Portner* (1998). It should be noted that my use of the concept *normal extension worlds* is meant to capture Dowty’s use *inertia worlds* in his truth conditions for the progressive. The change of name is simply for understandability’s sake. Since Dowty does not proceed to define the concept of an *inertia world*, I will assume that my notion of *normal extension worlds* picks out the same set of worlds as his use *inertia worlds*.

1.4 Against the Modal View

The modal view makes a linguistic claim about the progressive. It claims that the progressive in natural language has a meaning expressed by some version of a semantics for modal operators. Accordingly, we should accept the view only if it is supported by linguistic evidence. In this section, I argue against this by considering different kinds of evidence that can be used to motivate the modal view and arguing that in each case the evidence falls short of providing the needed support.

1.4.1 The Imperfective Paradox

It is typical to start out a discussion of the progressive with the imperfective paradox. Consider the following sentences:

- (1) a. Mary was running a business.
b. Mary ran a business.
- (2) a. Mary was running a mile.
b. Mary ran a mile.

The imperfective paradox is that (1a) *does* entail (1b) whereas (2a) *does not* entail (2b).⁸ This set of entailment and non-entailment relations is particularly striking because of the similarity in surface form between (1a) and (2a). Both are sentences composed of the name ‘Mary’ and a complex verb phrase consisting of a verb, an indefinite noun phrase, and progressive aspect. Yet despite the similarities, different patterns of entailments result.⁹

Strictly speaking, the imperfective paradox is no paradox at all. The set of entailment and non-entailment relations present among the sentences in (1) and (2) are

⁸By ‘entail’ I mean semantically entail. All uses of ‘entail’ in this chapter should be understood in this way unless the context specifies otherwise.

⁹This way of framing the imperfective paradox and the example used are strongly influenced by Alex Lascarides’s presentation in *Lascarides* (1991). The example is essentially hers, minus one small variation.

not paradoxical. They are what they are—entailments that do hold in the case of (1) but that do not hold in the case of (2).

The problem with (1) and (2) has to do with past theories of the progressive’s meaning. For instance, consider the following account due to Bennett and Partee.¹⁰ Let a progressive sentence such as ‘Mary is building a house’ be true at a particular time just in case there is some larger interval of which that time is a non-final part and in which the sentence ‘Mary built a house’ is true. An account such as this sees that the progressive talks about processes that are in progress and makes the truth of the progressive sentence dependent on some larger temporal interval in which that process has completed itself. However, this is exactly what is not required for the truth of the progressive since ‘Mary is building a house’ can be true despite Mary being unable to complete her house due to an unforeseen loss of funding and materials. So the Bennett and Partee analysis cannot be correct as stated.¹¹

Given this way of accounting for (1) and (2), it is not hard to see why the imperfective paradox can provide motivation for the modal view. The Bennett and Partee analysis makes the wrong predictions. As given, the analysis only appeals to intervals within worlds. The problem is that processes started within a world need not complete itself during some larger interval in that same world. So, a natural suggestion would be to introduce worlds in the context of a modal semantics for the progressive in order to account for this data.

At best, these considerations provide indirect support for the modal view that is primarily theoretically driven. Following the argument so far, it is not that the imperfective paradox itself is best explained by the modal view, but that the modal view provides the best fix for an alternative account of the semantics that fails to predict

¹⁰See *Bennett and Partee* (1978).

¹¹Formally, Bennett and Partee’s analysis is as follows: $\llbracket \text{Prog } \phi \rrbracket^i = 1$ iff for some interval i' such that $i \subset i'$ and i is a non-final subinterval for i' , $\llbracket \phi \rrbracket^{i'} = 1$. This presentation of Bennett and Partee’s analysis of the progressive is due to David Dowty. See (*Dowty*, 1979, p. 145). Also see Nicholas Asher’s work on the progressive in (*Asher*, 1992, p. 463) for a similar presentation.

the imperfective paradox. It would be much better for this view if the imperfective paradox could provide more direct evidential support.

However, the imperfective paradox alone does not provide this kind of support. To see this, we must look to some more examples. Consider the following:

- (3) a. Carl was running.
- b. Carl ran.

- (4) a. Carl was dying.
- b. Carl died.

A similar pattern of entailments is instantiated with these examples: (3a) *does* entail (3b) whereas (4a) *does not* entail (4b). Once again the surface forms of these sentences are similar. Both are composed of the name ‘Carl’ followed by a simple verb phrase with progressive aspect, yet two different patterns of entailments arise.

Although the surface forms in (1)–(2) and (3)–(4) are similar, the underlying form is not. The most pertinent differences among these examples are their different aspectual classes. The verb phrase ‘run a business’ is a typical example of an activity. The verb phrase ‘run a mile’ is a typical example of an accomplishment. The verb phrase ‘run’ is another example of an activity, while the verb phrase ‘die’ is a typical example of an achievement.¹²

¹²The different aspectual classes into which verb phrases are classified are called *Aktionsarten*. The typical fourfold distinction among verb phrases includes *States*, *Activities*, *Accomplishments*, and *Achievements*. Some examples of each are: *States*—‘know the fifty state capitals’, *Activities*—‘push a cart’, *Accomplishments*—‘write a novel’, *Achievements*—‘reach the summit’. This distinction is linguistically motivated by various tests, one of which uses the progressive. Despite the linguistic motivation, there are many issues to be resolved. For instance, I will treat *Aktionsarten* as a distinction among verb phrases. Some have suggested, based on linguistic data, that the distinction is really at the propositional level. Also, some verb phrases are hard to classify and sometimes show coercion, where a verb phrase typically associated with one *Aktionsart* is coerced into another kind. I will not discuss any of these subtleties here since they are tangential to the general argument. For more on this classification, see *Dowty* (1979) (Dowty’s work is important for many reasons, one of which consists in his attempt to give an aspect calculus), *Kenny* (2003), *Rothstein* (2004), *Steedman* (2005), *Vendler* (1967). This is just a sampling, as these issues are very complex. The origins of this classification go back to Aristotle. See, for example, *Aristotle* (2006) and *Kenny* (2003).

Once these differences in aspectual classes are pointed out, the following pattern arises. Both cases of successful entailments from the progressive sentence to the non-progressive sentence occurred with activities. Both cases of non-entailments from the progressive sentence to the non-progressive sentence occurred with non-activities—i.e., either accomplishments or achievements. As it turns out, this entailment/non-entailment pattern is stable across activities, accomplishments, and achievements in the progressive.

What this evidence seems to be suggesting is that the progressive *and* the form of the underlying verb phrase are responsible for the imperfective paradox. Since all of the verbs considered here are in the aspectual classes of activities, achievements, and accomplishments and can be combined with progressive aspect, the difference in entailments seems to arise as a result of a difference in aspectual class. This strongly suggests, at least, that the difference in entailments should be traceable back to the semantics of aspectual class *along with* a semantics for the progressive.

Although this does not completely undermine the support offered for the modal view from the imperfective paradox, it does weaken the case. A proponent of the modal view would need to offer a semantic story for the underlying verb phrases in order to capture their joint effect, which seems to be the real culprit for the imperfective paradox and not the presence of the progressive alone. So taken on its own, the imperfective paradox does not offer adequate support for the modal view.

1.4.2 The Problem of Intensionality for the Progressive

Some of the strongest arguments for the modal view begin by appealing to evidence that the progressive creates an intensional context. A verb phrase creates an intensional context if it is anomalous in at least one of three ways: (i) interchanging expressions in the complement referring to the same entity can change the truth-value of the sentence embedding the verb phrase; (ii) the verb phrase admits of a special

“unspecific” reading if it contains a quantifier, or a certain type of quantifier; and (iii) the normal existential commitments of names and existential quantifiers in the complement are suspended even when the embedding sentence is negation-free.¹³ When an expression creates an intensional context, the resources made available by modal semantics, such as quantification over worlds, becomes useful in accounting for the data. So, if the progressive does create an intensional context, then we have strong evidence for the modal view.

There are three main arguments that follow this path. As I will show here, the evidence provided in each argument falls short of supporting the modal view.

1.4.2.1 Argument #1 via Fred Landman

Consider the following. Take the verb phrase ‘build a birdcage’. This is an example of an accomplishment verb phrase. The sentence ‘Mary built a birdcage’ does entail that there is a birdcage such that Mary built it. But consider the sentence ‘Mary was building a birdcage’. She gets out her building materials and tools, gets some of the base put together, starts on the internal sitting poles, and then gets hungry and decides to stop. (As part of the example, I will also assume she never returns to the building.) Although it can be truthfully said of this situation that Mary was building a birdcage, it is not the case that there was a birdcage such that Mary was building it.¹⁴ Thus, the verb phrase ‘was building a birdcage’ creates an intensional context.

¹³These conditions are given by Graeme Forbes in *Forbes* (2008). However, I have revised them slightly. He introduces the criteria as follows: “A verb is *intensional* if the verb phrase (VP) it forms with its complement is anomalous...” Forbes’s conditions are for determining when a *verb* is intensional as opposed to a verb phrase. But this seems too strong. As will become clear from the discussion, verbs of creation when used in the progressive are intensional according to these conditions. So for a verb of creation such as ‘build’, since ‘build a house’ shows failure of existential commitment in the noun phrase complement when it is combined with the progressive, the verb ‘build’ comes out as intensional. But, ‘build a house’ when not in the progressive does not display failure of existential commitment and suggests that ‘build’ should not be counted as intensional or that perhaps there are two lexical entries for ‘build’. To avoid having to make decisions with regard to these options, I have reformulated the conditions as telling us when a verb phrase is intensional.

¹⁴Tense is irrelevant here since it is also not the case that there *is* a birdcage such that Mary is building it.

Since the verb phrase ‘built a birdcage’ is extensional, the intensionality must be due to the progressive.

This is an instance of the following general argument proposed by Fred Landman. Assume we have an accomplishment verb phrase that is extensional—e.g., *Mary V-ed a P*, for accomplishment *V*, entails *there is a P such that Mary V-ed it*. If the progressive *Mary was V-ing a P* can be true without there being an actual *P* that Mary was *V-ing*, then the context created by *was V-ing* is intensional. Since the verb itself is extensional, the intensionality must be due to the progressive.¹⁵

This argument is initially persuasive, but does not work. Its problem rests in its failure to take into account an important distinction among verbs, one that is separate from the distinction of verb phrases into aspectual classes and relevant when intensionality is at issue. Once this distinction is taken into account the invalidity of Landman’s argument can be seen.

To motivate my case against Landman’s argument, consider the verb phrase ‘eat a sandwich’. This is an example of an accomplishment verb phrase. The sentence ‘Joe ate a sandwich’ does entail that there is a sandwich such that Joe ate it. Now consider the sentence ‘Joe was eating a sandwich’. In contrast to the previous case involving Mary and a birdcage, this sentence does entail that there was a sandwich such that Joe was eating it. In other words, it cannot be the case that Joe was eating a sandwich yet there be no sandwich such that Joe was eating it. So here is an example of a verb phrase that preserves its extensionality when in the progressive.

¹⁵See (*Landman*, 1992, p. 8) for the argument. There is a subtlety to Landman’s argument I am leaving out. Parsons invokes incomplete objects in his ontology to account for cases where (i) we can say ‘John was building a house’ truthfully but (ii) John does not finish so (iii) the house is incomplete. In these kinds of cases Parsons can allow for the extensionality of the position of ‘a house’ in ‘Mary was building a house’ by including incomplete houses in the extension of ‘house’. Landman’s argument for the intensionality of the progressive uses an example where the object clearly does not exist, either completely or incompletely, before its creation. Although I think there is an interesting debate here about semantic ontology and what kinds of objects we can allow in our models, I think this issue is a red herring. The real issue is whether the progressive creates an intensional context and this can be decided without taking a stance on the complete/incomplete object debate. For the example given above, simply assume Mary is so early in her building process that no competent language user would claim what she built so far is a birdcage.

This should raise some red flags about Landman’s argument. In both the building and eating cases, the verb phrase in question is extensional when not in the progressive. In the building case, intensionality arises once the verb phrase is put in the progressive. In the eating case, intensionality does not arise once the verb phrase is put in the progressive. What this suggests to me, at the very least, is that the intensionality is not due to the progressive alone but rather to the specific combination of a certain kind of verb phrase and progressive aspect.

What can be said about the verb phrase ‘build a birdcage’ to strengthen my case against Landman? Verbs like ‘build’ and associated verb phrases like ‘build a birdcage’ are classified as verbs of creation. Intuitively, these verbs are about acts or processes of creation that typically, but not always, involve the bringing about of a new object.¹⁶ This object need not exist before the act of creation. The birdcage being built does not exist before it is built or the building is started. Stories do not exist before they are written down or thought up. And universes do not exist before they are created by mystical gods (in whichever possible worlds such creatures exist). For verbs and verb phrases of this class, it need not be that the object exist before the process of creation is set in motion in order to apply the verb or verb phrase to that process.

This is in stark contrast to other verbs and verb phrases like ‘cross the street’, ‘eat a sandwich’, and ‘climb a mountain’. To cross the street requires the existence of the street. To eat a sandwich requires there to be a sandwich that is being eaten. To climb a mountain requires the existence of a mountain that is being climbed. In these cases, the object being acted on—i.e., climbed, crossed, or eaten—must exist before the acting is set in motion.

Since sentences like *Mary was V-ing a P* do not entail the existence of an actual *P* such that *Mary was V-ing it* for creation verbs but do license the entailment for

¹⁶Sometimes what is brought about is a new configuration of already existing objects.

other verbs like ‘climb a mountain’ and ‘eat a sandwich’, Landman’s conclusion that the intensionality *must* be due to the progressive no longer follows. The invalidity of his argument rests on his failure to take into account the differences in entailment patterns that arise with verbs of creation versus other kinds of verbs. Given this distinction and the data I just presented, a more reasonable conclusion is that the intensionality is due to the combination of kind of verb that is marked with progressive aspect and the progressive. But this weakens the argument’s ability to support the modal view, since if the progressive alone is not responsible for the intensional data then it is unclear why we should assign to it a modal semantics.¹⁷

1.4.2.2 Argument #2 via Fred Landman

The second argument for the progressive’s intensionality offered by Landman connects anaphoric data with the progressive to anaphoric data with other clearly intensional verbs. The data and argument are as follows.

- (5) a. Mary tried to find a unicorn.
 b. No unicorn was found.
 c. She would sell it to Sue.
 d. ?It was found.

In this example, (b) is a perfect continuation of (a), (c) is also a fine continuation of (a), but (d) is not. Similar patterning of anaphora possibilities arises with the progressive as the following shows:

- (6) a. Mary was drawing a circle.
 b. No circle was drawn.

¹⁷A similar line of argument against the progressive’s intensionality is given by Graeme Forbes in *Forbes* (2003) (which has since been absorbed into (*Forbes*, 2006, ch. 7)). However, Forbes is not arguing against Landman and the details of his argument vary from mine. I am indebted to Forbes’s paper and his discussion of creation verbs for leading me to formulate this argument against Landman.

- c. She would give it to John.
- d. ? It was not drawn.

In this example, (b) is a perfect continuation of (a), (c) is also a fine continuation of (a), but (d) is not.¹⁸ Since verbs like ‘try to find’ are clearly intensional, this data suggests that the progressive also creates an intensional context.

But the power of suggestion is quickly diminished when more data is taken into account. Consider the following example:

- (7)
- a. Bill was eating a sandwich.
 - b. No sandwich was eaten.
 - c. He would have given it to John.
 - d. It was eaten/was not eaten.

In this example, (b) is a perfect continuation of (a), (c) is also a fine continuation of (a), *and* (d) is also a fine continuation of (a) on both readings. It is not the case that, in general, the progressive gives rise to the same patterning of anaphoric data that typical intensional transitive verbs do.

In this case, a little poking around gives rise to a response that is similar to the response given for Landman’s first argument. Both (6a) and (7a) have similar surface forms. They both consist of a name followed by a complex verb phrase consisting of a verb, an indefinite noun phrase, and progressive aspect. The crucial difference between the two is that (6a) contains a verb of creation whereas (7a) does not. Indeed, when the data that Landman introduces is looked at in general it is the progressive sentences with verbs of creation that give a patterning of anaphoric data similar to that of the intensional transitive verbs. Progressive sentences without verbs of creation do not behave in the same way. Once again, this suggests, at the

¹⁸This data is presented in (*Landman*, 1992, p. 9). The progressive example is slightly changed, but with the same effect occurring. The acceptability of the continuation of the (c) sentence is an example of modal subordination, a semantic phenomenon investigated extensively by Craig Roberts.

very least, that the source of the intensionality must be the verb of creation *and* the progressive, but not the progressive alone as the modal view would have it for its evidential support.

1.4.2.3 Argument #3 via Andrea Bonomi

The third and final argument from intensional data I will consider comes from Andrea Bonomi. He offers an example of a kind of case designed to show that the progressive creates an intensional context. He calls this kind of case the *Multiple Choice Paradox*.¹⁹ Consider the following story. Bill has just left Cleveland. He has decided that he will spend the night in one of the following cities: Washington, D.C., New York City, or Boston. He has reserved a room in each city, but has not yet decided which one he will go to. He is driving along the main route towards these cities before the route branches off into three different directions, each of which leads to one of the possible destinations. However, before he has made up his mind about which city to go to and before he reaches the branch point on the freeway, his car breaks down. Finally, suppose that Washington, D.C., New York City, and Boston are the only places in the country that are screening a new documentary on Iceland that night.

In light of this case, consider the following sentence:

- (8) Bill is driving to an American city where there is a screening of a new documentary on Iceland.

Bonomi claims that (8) has two readings. On one reading, (8) can be true even if it is not the case that there is a specific city to which Bill is driving. On this reading, (8) is true in the situation described. However, there is another reading that requires there to be a specific city x such that Bill is driving to x and in x there is a screening of a new documentary on Iceland. On this reading, the truth of (8) requires one

¹⁹See *Bonomi (1997)* for the Multiple Choice Paradox and discussion.

of the following to be true in the situation described: Bill is driving to New York, Bill is driving to Washington, D.C., or Bill is driving to Boston. Since none of these sentences are true, there is no specific city x such that Bill is driving to it. Therefore, (8) is false on this second reading.²⁰

To add a little more detail to Bonomi's argument, the crucial points are that the progressive gives rise to two readings and the availability of these distinct readings indicates intensionality.²¹ The two readings that Bonomi suggests are available I will call the *unspecific* reading and the *specific* reading. The unspecific reading is the one that does not require there to be a particular city to which Bill is driving. The specific reading is the one that does. These two readings are indicative of intensionality since they present some of the classic marks of intensionality. For example, on the unspecific reading it is not possible to switch the indefinite noun phrase 'an American city where there is a screening of a new documentary on Iceland' with the noun phrase 'New York City' without altering the truth value of (8). Also, the presence of both an unspecific and a specific reading is typical of sentences with linguistic expressions that induce intensional contexts, such as intensional transitive verbs and verbs expressing propositional attitudes.

To be clear, I do not want to disagree with Bonomi that (8) has both an unspecific and a specific reading. I depart from Bonomi with the claim that the progressive alone is responsible for these two readings. I do not think (8) or similar cases show that the progressive induces an intensional context.

Consider the following sentence:

(9) Jones is eating a sandwich.

On the intuitive side, I do not get dual readings for (9) as I did for (8). One way to force the readings would be to describe a situation in which the unspecific reading is

²⁰This example is adopted from the one presented by Bonomi in *Bonomi* (1997).

²¹See the criteria for intensional contexts at the beginning of this general section on the problem of intensionality for the progressive.

true and the specific reading false. However, I cannot conceive of a situation in which (9) is true on an unspecific reading but false on a specific reading. Any situation in which Jones is eating a sandwich will be one in which there is a particular sandwich such that Jones is eating it.

It might be argued that I am not trying hard enough. Say there is a table of sandwiches at Jones's disposal. Some are roasted pepper sandwiches, some are cheese sandwiches, and some are peanut butter and jelly sandwiches. Jones is hungry and plans on a sandwich but has not yet made a decision. On his way to the table of sandwiches, he trips and falls. Isn't this a situation in which an unspecific reading of (9) is true but a specific reading of (9) is false?

No. The reason is that this is not a situation in which (9) is true at all. Jones is planning on eating a sandwich, but he is not eating a sandwich in this situation. It is definitely not true in this situation, as an unspecific reading would require, that he is eating a sandwich but no particular one. Again, if he is eating a sandwich then there is a specific sandwich such that he is eating it. There just do not seem to be two readings available for this example sentence.

If this case holds, then the situation is that (8) does induce two separate readings whereas (9) does not. This is further evidence that the progressive alone is not responsible for the two readings, since both examples are marked with progressive aspect, and so weakens the case in favor of the modal view.

1.4.2.4 More on Arguments #1–3

My responses to arguments #1–3 leave it open whether the progressive and the underlying verb phrase or the underlying verb phrase alone is responsible for the intensional effects. This is enough to begin to undermine support for the modal view, but it would be better to provide further evidence that suggests the intensionality is due to the underlying verb phrase as opposed to the progressive *and* the underlying

verb phrase. I will provide such evidence here.

Focusing on arguments #1 and #2, it seems that the intensional effects only arise when the progressive combines with a verb of creation. Assuming verbs of creation do not show intensional effects when not in the progressive and given the other data provided in my responses to arguments #1 and #2, it seems that we have a puzzle before us—attribute the intensionality to the combination of progressive and verb of creation without overgenerating intensional effects with either expression when they are not combined.

But it seems that we should attribute the intensionality in these cases to the verb of creation since they seem to generate intensional effects when not in the progressive as well. Consider the case of a poet called ‘Lilith’ writing poems. Lilith does not dare record any of her poems with pen and paper. If she commits them to paper, she may forget them. Perhaps the paper gets lost among her myriad things or burns at the hand of a rival poet. Lilith is plagued by such fears, so she writes poems in her head. She has entire collections of poems she has written, but never recorded, all of which live in her mind.

Now, it seems entirely correct to me to say that Lilith wrote a poem in any context in which she successfully composes one in her head. But here there is no poem that exists such that she wrote it, since the poem was never committed to paper. So we have the truth of ‘Lilith wrote a poem’, but a failure of typical existential commitments in this case.

This suggests that the intensionality is due to the verb of creation and not to the combination of progressive and verb of creation. If this is so, then my responses to arguments #1 and #2 and the data I offered in those sections provide a stronger case against the modal view.

But what about my response to argument #3? The verbs at issue in that context were not verbs of creation, but rather verbs having to do with change of location.

Even if verbs of creation introduce intensionality independently of the progressive, does not the data provided by Bonomi leave open the possibility that the progressive may be responsible, along with the underlying verb phrase, for generating the multiple choice paradox?

First, if this is the only source of support for the modal view, then it is poorly supported indeed. Given my responses to the other arguments, it would seem that there is some way of accounting for the intensionality introduced by the multiple choice paradox without appealing to the progressive alone even if that response is not clear at the moment. Also, the multiple choice paradox provides a complicated data set that is not clearly about the progressive, but about a host of complicated expressions and the intentional stances of the agents in the examples. So this would not be a worrisome data set for the opponent of the modal view of the progressive.

Second, it is important to note the kind of intensional effect introduced by Bonomi's driving example. Whereas the data in argument #1 concerned failure of typical existential commitments, the data in argument #3 concerned unspecific and specific readings. I would suggest here that intensional effects of the unspecific/specific sort are the result of the intentional features of the situation denoted by the verb in question. For instance, it is possible to be driving to a city but no particular one partly because of the indecision of the driver. But note that even in this kind of case, it is not possible to drive to a city, particular or not, if no cities exist at all. With driving examples such as the one offered in the multiple choice paradox, we do not get failure of typical existential commitments, but only specific and unspecific readings that are plausibly traceable to the intentional features of the situation denoted by the verb as opposed to some complicated interaction between the progressive and the underlying verb phrase.

1.4.3 A Popular Proposal Explained Away

So far, I have been primarily concerned with the linguistic data about the progressive and what we can reasonably infer—or not infer—from it. But I want to consider another avenue of support. A very influential and popular proposal for the progressive is a modal account offered by David Dowty.²² If the data falls the way I say it does, so that the imperfective paradox and the problem of intensionality for the progressive do not really support the modal view, then why did Dowty situate his semantics for the progressive within a semantics for modal operators? This is more than a mere historical question since Dowty’s account has had significant influence on the field—and for good reason! But understanding the motivations for Dowty’s proposal will be instructive for undermining whatever support can be had by his account for the modal view.

At first, it should be noted that Dowty does not present an argument from linguistic data for why the progressive’s meaning should be situated within a semantics for modal operators.²³ He offers no cases suggesting intensionality or compelling linguistic data that would best be accommodated by a modal account of the progressive. Given that the progressive does not obviously cry out for a modal semantics, it is perplexing that Dowty would pursue a modal account without any compelling linguistic evidence suggesting it.

What Dowty primarily offers in support of a modal account are theoretical considerations. Dowty constructs an elaborate semantics of aspectual class. For accomplishment verb phrases such as ‘write a sonnet’, he gives them a meaning that is

²²See *Dowty* (1979). Dowty’s account is, roughly speaking, a variant of the proposal for the progressive I gave when introducing the modal account. In other words, according to Dowty, a sentence *Prog* ϕ is true at a world w and time t just in case there is some time t' that is later than t such that for each inertia world w' , ϕ is true in w' at t' . The concept of an *inertia world* is left undefined, but it intuitively picks out all the worlds in which things proceed normally. For the purposes of this section, the details of his specific proposal are not needed as I am here concerned with the linguistic motivations for modal proposals of the progressive in general.

²³I am drawing upon Dowty’s work in *Dowty* (1979) for my discussion. I am not considering other, earlier papers he wrote on the subject.

essentially a causal relation of becoming—in this instance, roughly, the relation that would hold between Keats’s writing and the coming about of a sonnet. His analysis captures this by assigning accomplishments the following representation:

$$(10) \quad [\phi \text{ CAUSE } [\text{BECOME } \psi]]$$

What I want to focus on is the use of the concept CAUSE. Also, although Dowty did not do so, I will speak in terms of events and processes since it makes the issues more intuitive.²⁴ For sentences like ‘Mary drew a circle’ the analysis in (10) predicts that the truth of ‘Mary drew a circle’ requires there to be two events such that one causes the other to occur. So the truth of ‘Mary drew a circle’ entails the occurrence of the effect event, in this case the occurrence of a circle being drawn.²⁵

It is exactly this entailment that does not hold when accomplishment sentences are put in the progressive. ‘Mary was drawing a circle’ can be true even if no circle ever comes into existence as the result of Mary’s drawing. Assuming the analysis in (10), which does predict the occurrence of the effect event, Dowty is unable to explain this feature of accomplishment sentences with progressive aspect.

More carefully put, assuming the progressive is not some form of intensional operator such as a modal operator, then Dowty cannot predict the problematic data using (10). This suggests a solution: treat the progressive as a modal operator. Even if ‘Mary was drawing a circle’ can be true without ‘Mary drew a circle’ being true at the same world of evaluation, it can still be the case that ‘Mary was drawing a circle’ is true in virtue of ‘Mary drew a circle’ being true at other worlds of evaluation. In these other worlds of evaluation—intuitively, the ones where the event of Mary’s drawing continues—the effect event of a circle coming into existence occurs as a result of Mary’s drawing. The causal relation is preserved, just at other worlds. Deploying the tools and techniques of modal semantics allows Dowty to save the analysis in (10),

²⁴This is a departure from Dowty, but not one that affects the explanation I am offering.

²⁵Assuming Dowty is using a singular concept of causation—capturing causation in the individual case—then this also requires some form of *ceteris paribus* clause.

but only by assigning to the progressive a modal semantics in line with the modal view.

Dowty’s decision to go modal for the progressive seems to be the natural outcome of his decision to preserve the analysis in (10) (and similar analyses that make up his theory of aspectual class). However, there is another theoretical option available to Dowty: do not modalize the semantics of the progressive and revise the analysis in (10). The problem, as I see it, stems from the concept CAUSATION. So appropriate revisions to (10) by replacing the concept CAUSATION for some other appropriate concept (or concepts) that captures the content of accomplishment verb phrases should be a viable theoretical option, one that may allow the progressive to remain unmodalized in its semantics while still preserving linguistic adequacy. Since there does not seem to be a viable argument showing the progressive needs to be given a modal semantics, this alternative to Dowty’s account seems at least as good a choice as Dowty’s, if not better on grounds of simplicity.

For example, as I will go on to argue in the next chapter, accomplishment verb phrases should be represented using a notion of characterization. Since accomplishments are telic, adequately representing their content will require a predicate ‘Goal’ denoting some goal state. Since goals need not be reached when accomplishments are marked with progressive aspect, ‘Goal’ will be a relation of characterization—i.e., some event will be characterized as having a proposition as its goal. Treating accomplishments in this way allows us to maintain a non-modal account of the progressive while adequately capturing the content of accomplishment verb phrases.²⁶ Given this alternative (as well as others), Dowty’s account on its own does not provide adequate support for the modal view.²⁷

²⁶This is only meant to be a brief description of what I will argue in chapter 2. I give the details in that chapter.

²⁷In fact, options along these lines have been explored by theorists about the progressive. The kind of concept that needs to replace CAUSATION is one that also brings with it a non-monotonic logic. A very early suggestion along these lines can be found by Marc Moens and Mark Steedman in *Moens and Steedman* (1988). A more recent and worked out account along these lines is by Fritz

1.4.4 Argument from Modal Entailments

There is another argument from modal entailments that might be used to support the modal view. The first version of it can be found in passing in Dowty's work. From the sentence 'Mary was drawing a circle' Dowty claims that one "should be able to conclude that some activity of drawing took place and *that the existence of a circle was a possible but perhaps not actual outcome of the activity.*"²⁸ The reasoning on Dowty's part must be that if the possible outcome can be concluded from the sentence 'Mary was drawing a circle', then there must be some modal component to the meaning of 'Mary was drawing a circle'. Given other theoretical considerations of his discussed in the previous section, he would naturally suggest that the modal component is due to the progressive.

This argument does not provide the support needed for the modal view. Just because some sentence entails a claim about possibility does not mean that the sentence or some expression contained within the sentence must be given a semantics for modal operators. The sentence 'Ivan exists' entails that it is possible for something to exist. Does this mean we have to give either 'Ivan' or 'exists' a semantics fit for modal operators? The sentence 'Shelly ate cake' entails that it is possible for Shelly to eat cake. Does this mean we have to give either 'Shelly', 'ate', 'cake', or 'ate cake' a semantics fit for modal operators? Presumably the answer is no for both cases. So it does not seem obvious that the progressive also demands a semantics fit for modal operators based on similar reasoning.

The second version of this argument is due to Hans Kamp and Uwe Ryle who express a similar intuition to Dowty's in the following passage:

Hamm and Michiel van Lambalgen in *Hamm and van Lambalgen* (2003). I explore an alternative possibility in chapter 2 of my dissertation in which I introduce a predicate to capture the telic content of accomplishments verb phrases that is essentially a relation between an event and an intensional object.

²⁸(Dowty, 1979, p. 136), italics added.

All that ‘Mary is writing a letter’ allows us to conclude is that what is going on at present is the sort of thing that *would* result in a completed letter, if things *were* to continue as planned. But what exactly does this counterfactual—if things *were* to continue/had continued as planned, *then* Mary’s activity would result/have resulted in a finished letter—exactly mean; and, anyway, is such a counterfactual paraphrase of the progressive plausible also in other cases? These questions are still waiting for definite answers, in spite of the many attempts that have been made to deal with them.²⁹

Kamp and Ryle make note of the purported modal entailment regarding the progressive and ask questions regarding what specific modality or counterfactual is at work.

However, once we look to other examples of the progressive, it should become clear that what motivates the modal intuition is the result of the underlying verb phrase and not the progressive. For instance, the modal intuition disappears once we turn to example sentences such as ‘Carl was running’, ‘Lilith was writing’, and ‘Sufjan is singing’. Imagine in each of these cases we simply have someone running, writing, or singing without any goal in mind. There is no sense in which were they to continue running/writing/singing, they would run a specified distance or write/sing anything in particular at all.

The crucial thing to recognize in these examples is that verbs such as ‘run’, ‘write’, and ‘sing’ are classified as activities. These are distinct from verb phrases such as ‘write a letter’, which are classified as accomplishments. The latter are telic insofar as they denote eventualities that have some specified aim or goal, such as the production of a letter.³⁰

It seems that the accomplishment verb phrase that is used in Kamp and Ryle’s example (along with Dowty’s example as well) should be seen as the source of the modal intuition instead of the progressive itself. Taking into account the different

²⁹(*Kamp and Reyle*, 1993, p. 576).

³⁰It is important to note that having the production of a letter as a goal does not require that a letter is produced. I elaborate on this claim and provide a formal account of goals in chapter 2.

intuitions that arise (or fail to arise) with different underlying verb phrases at least opens up the possibility that the data does not clearly favor a modal approach for the progressive, but rather a modal approach to the underlying verb phrase. In either case, the argument from modal entailments does not provide adequate support for the modal view.

1.5 Concluding Remarks for Chapter 1

The modal view, were it supported by evidence, would provide a crucial insight into understanding the metaphysics of coming into existence. On the modal view, coming into existence would reduce to existence at worlds that are normal extensions of our own. Investigating these reducing concepts would be the next task, but the important reduction would be made: coming into existence would be reduced to good old fashioned existence.

But the modal view is not adequately supported. This leaves open the possibility that there is some alternative to understanding the meaning of the progressive and verbs of creation that would then provide another way of understanding what it is for objects to come into existence. Indeed, looking at the data presented throughout my arguments, it seems that a detailed understanding of coming into existence will require, in turn, a detailed understanding of the interactions between the progressive, verbs of creation, and the aspectual class of verbs of creation (i.e., their status as accomplishment verb phrases). Once the meaning of these separate components and their interactions are clarified, it will be possible to provide an adequate metaphysics of that peculiar state that lies in between existence and non-existence.

CHAPTER II

An Intensionalist Account of Verbs of Creation in the Progressive

2.1 Introduction to Chapter 2

The computer I am writing with did not always exist. At some point in time, a process was initiated that ended with the completion of my computer. During the process, my computer was coming into existence, but did not yet exist. Surely, this is a puzzling state to be in—coming into existence, but not yet existing!

In English, we talk about objects in this puzzling state using the progressive and verbs of creation. At some point, workers were building a computer. At the moment, I am writing a chapter on the progressive and verbs of creation. This coming weekend, I will be baking a cake for a friend's birthday. In each of these cases, the verb of creation denotes a process that is aimed at a newly created object, while the progressive denotes that this process is in progress or incomplete. Turning these platitudes into actual proposals for the meaning of verbs of creation and the progressive is the task of this chapter.

In chapter 1 I investigated the problem of intensionality for the progressive and used it to show that the progressive should not be given a modal semantics (as is often assumed). In this chapter, resolving this problem will provide the springboard for

providing substantive proposals for verbs of creation and the progressive. I will argue that the best semantic proposal that resolves the problem of intensionality for the progressive is one that has the progressive contributing a predicate that takes events and times as arguments, while the verb of creation is responsible for contributing whatever mechanisms are necessary for producing the intensional effects. Additionally, I will have the verb of creation affecting the interpretation of an underlying predicate that denotes the goal state of a telic verb.

When we talk about objects coming into existence we use the progressive, verbs of creation, *and* goal states as well, the last of which are implicitly made available by the telic-feature of verbs of creation. Once the work of each is separated out, we can get clear on what it means to come into existence and the status of objects in the process of coming into existence.

2.2 Separating Out Content: Parsons and the Progressive

The investigation at hand concerns the meaning of the progressive and verbs of creation. It will be useful for my purposes to have a baseline formal approach to the meaning of the progressive so that intuitive problems and intuitive proposals can be explicitly tested. To serve these purposes, I will begin with Terence Parsons's semantic account of the progressive.¹

Since Donald Davidson's seminal work on events and the logic of adverb dropping inferences, it is common to treat verbs and adverbs along the lines of more familiar predicates such as 'is red'.² Where 'is red' is standardly treated as saying something about an object, Davidson's proposal is to treat verbs and adverbs as saying something about an event. Furthermore, instead of having a verb phrase such as 'stab in the back' be treated as a single unstructured predicate of events, Davidson introduces

¹Parsons's work on the progressive and on event semantics in general is laid out in *Parsons* (1990).

²The classic reference for this is *Davidson* (2001b). See also related essays in *Davidson* (2001a).

structure: ‘stab’ and ‘in the back’ are treated as separate predicates of events, with a sentence such as ‘Brutus stabbed Caesar in the back’ amounting to there being an event that was a stabbing and that was in the back.

Extending Davidson’s proposal, Parsons treats the progressive as a predicate of events. More precisely, Parsons treats the progressive as a relation between an event and a time, saying that the event holds at some time. On this proposal, a sentence such as ‘Brutus was stabbing Caesar in the back’ will amount to there being an event that was a stabbing and that was in the back *and* that holds at some time.³

Parsons also extends Davidson’s account to include perfective aspect. More precisely, Parsons treats perfective aspect as a relation between an event and a time, saying that the event culminates at some time. On this proposal, a sentence such as ‘Brutus stabbed Caesar in the back’ will amount to there being an event that was a stabbing and that was in the back *and* that culminated at some time.

Tying these intuitive proposals together into a formal proposal, we get the following formulas for the example sentences ‘Agatha was crossing the street’ and ‘Agatha crossed the street’:

- (11) a. Agatha was crossing the street.
 b. $\exists e \exists t (t < \text{Now} \ \& \ \text{crossing}(e) \ \& \ \text{Agent}(e, \text{Agatha}) \ \& \ \text{Theme}(e, \text{the Street}) \ \& \ \text{Hold}(e, t))$
- (12) a. Agatha crossed the street.
 b. $\exists e \exists t (t < \text{Now} \ \& \ \text{crossing}(e) \ \& \ \text{Agent}(e, \text{Agatha}) \ \& \ \text{Theme}(e, \text{the Street}) \ \& \ \text{Cul}(e, t))$

As I explained above, the predicate ‘Hold’ is provided by the progressive and the predicate ‘Cul’ is provided by the perfective.⁴ Additional predicates such as ‘Agent’ and

³The time in question will be the result of the time of utterance and the time denoted by the tense of the sentences. I am suppressing these details for ease of presentation.

⁴These example sentences are adapted from Paul Portner’s work on the progressive and modality. See (*Portner*, 1998, p. 763). They are inadequate as they are formulated. For example, they do not

‘Theme’ are referred to as *thematic roles* and are meant to assign relevant participants to events, such as the person doing the crossing and the thing that is crossed.

The key feature of Parsons’s proposal is that we have separated out the content contributed by the progressive. Admittedly, Parsons’s proposal does not say much at all about the meaning of the predicate ‘Hold’ and so does not say much at all about the meaning of the progressive. But this is not a vice of his theory *and* can be seen as a virtue insofar as we have a baseline proposal from which to proceed. When some linguistic data seems attributable to the progressive, we will know which part of our formal theory to appeal to in accounting for it. When some linguistic data seems attributable to some other expression, then we can leave the progressive alone and investigate other parts of our formal theory. It is precisely this feature of Parsons’s proposal that will help in my investigation into the meaning of the progressive *and* verbs of creation.

2.3 The Problem of Intensionality for the Progressive

A verb phrase creates an intensional context if it is anomalous in at least one of three ways: (i) interchanging expressions in the complement referring to the same entity can change the truth-value of the sentence embedding the verb phrase; (ii) the verb phrase admits of a special “unspecific” reading if it contains a quantifier, or a certain type of quantifier; and (iii) the normal existential commitments of names and existential quantifiers in the complement are suspended even when the embedding sentence is negation-free.⁵ The problem of intensionality for the progressive is that

adequately translate and capture the internal structure of definite noun phrases and the primitive account of tense needs to be revised. However, their inadequacies will not affect the discussion of this section.

⁵These conditions are given by Graeme Forbes in *Forbes* (2008). However, I have revised them slightly. He introduces the criteria as follows: “A verb is *intensional* if the verb phrase (VP) it forms with its complement is anomalous...” Forbes’s conditions are for determining when a *verb* is intensional as opposed to a verb phrase. But this seems too strong. As will become clear from the discussion, verbs of creation when used in the progressive are intensional according to these conditions. So for a verb of creation such as ‘build’, since ‘build a house’ shows failure of existential

some sentences with progressive aspect display one or more of these conditions, but fail to display them when not in the progressive. So it seems that the progressive is responsible for inducing the intensional effects.⁶

As an example of progressive sentences giving rise to intensional phenomena, consider Mary, a contractor and home-builder, who is starting to build her new home. She has purchased all the materials she will need and has started to lay the foundation. After completing the foundation and erecting the walls for the first floor, she receives news from abroad that her mother is not well. She abandons the house for good to return home and care for her mother. In this context, Mary was building a house. But there was no house such that Mary was building it. Once she left the project, all that stood was a foundation and four walls, not anything that typical language users would call ‘a house’. So we have a case where a sentence with progressive aspect displays failure of existential commitment in an expression that would normally license it.

On the other hand, let Mary finish the house. No problems arise, no unexpected family emergencies, and no failure to secure loans resulting from a crumbling economy. In this situation, once Mary has finished the house it is true that Mary built a house. And in this context we do get the entailment that there is a house such that Mary built it. In this context, we are dealing with the same verb phrase and subject, but the sentence is no longer in the progressive.

In addition to failure of existential commitment, we also have progressive sentences with unspecific readings. For example, Barry arrives home from work and has

commitment in the noun phrase complement when it is combined with the progressive, the verb ‘build’ comes out as intensional. But, ‘build a house’ when not in the progressive does not display failure of existential commitment and suggests that ‘build’ should not be counted as intensional or that perhaps there are two lexical entries for ‘build’. To avoid having to make decisions with regard to these options, I have reformulated the conditions so that they apply to verb phrases.

⁶In chapter one, I address this problem and the argument just given more thoroughly and show that it should not be taken to place any restrictions on the semantics of the progressive alone. The intensional effects seem to be the result of both the progressive and the underlying verb phrase, since not all combinations of progressive aspect with verb phrase lead to the intensional effects.

the fixings for multiple meals in his fridge. Undecided about which to prepare, he begins with the soup, which he considers an essential part of any meal, and with the preparation and cooking of vegetables that would go in any number of dishes. In this context, Barry is making a meal, but no particular one. So we have a case where a sentence with progressive aspect displays an unspecific reading, which is evidenced by the additional phrase ‘no particular one’. And, as in the last case, once Barry completes the meal it is true that Barry made a meal and no longer acceptable to add the phrase ‘no particular one’. Removing the progressive removes availability of an unspecific reading.

For the purposes of this chapter, I am going to focus on progressive sentences with verbs of creation. Sentences of this kind display at least failure of typical existential commitment of names and existential quantifiers and sometimes display unspecific or “no-particular-one” readings. It is the first of these two marks of intensionality that is of most interest here since it seems closely connected with the puzzling nature of objects that are coming into existence. By investigating the deeper structure and meaning of progressive sentences with verbs of creation, I should be able to shed light on this puzzle. This also means that for most of the discussion in this paper, I will avoid examples with verbs of motion towards a specified location (e.g., ‘drive to the store’).⁷ These verbs when in the progressive do not display failure of existential commitment, although they do sometimes display unspecific readings. As a result, they do not seem relevant to the aim of getting clear on the puzzling state I am interested in. However, I will return to examples of this kind at the end and explain how they relate to cases with verbs of creation in the progressive.

⁷Examples of this kind are important because they give rise to what Andrea Bonomi calls the *Multiple Choice Paradox* in *Bonomi* (1997). When I return to these examples at the end of this chapter, I will address this paradox.

2.4 Solutions to the Problem

Parsons’s proposal for the progressive can be developed to account for this intensional data. But as it stands, the proposal delivers incorrect results for verbs of creation in the progressive. Consider the first example with Mary and her incomplete attempt to build a house. Since the sentence that is relevant in that context is ‘Mary was building a house’ we will have at least the following in its formal representation: (i) a predicate ‘building’ representing the content of the verb; (ii) a relation ‘Agent’ between the event denoted by the verb and the agent of the event, in this case Mary; (iii) a relation ‘Theme’ between the event denoted by the verb and the denotation of ‘a house’, which is given in the formal representation by an existentially quantified formula; and (iv) a relation ‘Holds’ between the event denoted by the verb and a time, which represents the progressive. The result is as follows:

- (13) a. Mary was building a house.
b. $\exists e \exists t (t < \text{Now} \ \& \ \text{building}(e) \ \& \ \text{Agent}(e, \text{Mary}) \ \& \ \exists x [\text{house}(x) \ \& \ \text{Theme}(e, x)] \ \& \ \text{Hold}(e, t))$

Now (34b), which is the translation of (34a) according to Parsons’s semantic theory, entails $\exists x [\text{house}(x) \ \& \ \text{Theme}(e, x)]$ —i.e., some house exists that was the one Mary was building. This is exactly the entailment we want to avoid given the problem of intensionality for the progressive. So (34b) must be revised.⁸

The problem with (34b) as a representation of (34a) arises from the introduction of the predicate ‘Theme’, the representation of ‘a house’ with an existentially quantified formula, and the entailment they license. This suggests that a solution should come from revisions to these parts of the representation and *not* from the part representing the progressive. The undesirable entailment results from the fact that ‘Theme’ relates

⁸Parsons was aware of this problematic entailment when we published his account. See his response to it in (*Parsons*, 1990, p. 174). I consider and reject his response in Chapter 3. Fred Landman also discusses this issue with Parsons’s account and how it relates to the need for incomplete objects in (*Landman*, 1992, p. 6).

the event of Mary's building to some house that is denotation of 'a house' and that is being affected over the course of Mary's building. Since the context we are dealing with is one in which no such house exists, a plausible way of revising (34b) would be to find a suitable alternative to 'Theme' that blocks the undesirable entailment.

In what follows, I will present and evaluate two proposals for revising (34b) that hew close to the way just suggested. Both are instructive for uncovering insights into the deeper meaning of the progressive and verbs of creation, but both will fall short of providing an overall satisfying explanatory account.

2.4.1 Brief Aside on uses of 'Intensional'

Throughout this discussion, I have been using 'intensional' to talk about natural language expressions (primarily verb phrases) that meet at least one of the three conditions put forward for when an expression creates an intensional context. These conditions are not meant to jointly give a definition of 'intensional', but are a non-exhaustive set of sufficient conditions for when some specific context counts as intensional. Following this usage, intensionality is primarily about natural language expressions that display some peculiar semantic behavior.

In the proceeding discussion, I am going to use 'intensional' in yet another and slightly different way, this time pertaining to the formal machinery introduced to capture and explain the natural language data. For the most part, when I use 'intensional' to describe some formal expression α I mean to say that the interpretation rule for α will invoke possible worlds. It could be that the interpretation rule for α returns a set of pairs of entities, one of which is a possible world, the other of which is some entity or set. Alternatively, it could be that the interpretation rule for α returns true just in case some set of worlds displays a relevant feature such as making some proposition true. I am not aiming for exactness here, just a loose sense in which a formal expression α is intensional. In this loose sense, 'intension' is primarily about

the semantic profile of formal expressions and not about natural language data.

It is important to clarify these two senses of ‘intension’ since it makes explicit the task at hand. I will be exploring various options that introduce intensional formal expressions for capturing intensional natural language linguistic data. In other words, I will be exploring options that introduce formal expressions whose interpretation rules invoke possible worlds in order to account for and explain natural language data that is anomalous in at least one of the three ways specified earlier. As it turns out, intensional formal expressions are very useful in accounting for this kind of data. But it should be kept in mind that proposals that use intensional formal expressions to account for intensional natural language data are just one of various kinds of proposals that might be offered to account for the linguistic data, with other proposals avoiding any use of intensional expressions.

With this said, I will not subscript uses of ‘intensional’, for the most part relying on context to identify the intended meaning. When context is not sufficient for these purposes, I will explicitly state which sense of ‘intensional’ I intend to use.

2.4.2 Proposal #1: Events and Characterization

Drawing upon his work on intensional transitive verbs in general (such as ‘seeks a centaur’ and ‘wants a unicorn’), Graeme Forbes uses a method of characterizing events with properties to account for the failure of existential commitment displayed by progressive sentences with verbs of creation.^{9,10} Forbes does not dispense with ‘Theme’, choosing instead to embed it within the scope of a necessity operator that is used in formulating the interpretation rule for the relation of characterization. So in

⁹As will become clear in the next section, ‘property’ should be interpreted as a feature of first order predicates. Just like a property ‘round’ is a feature of some objects and not others, it is possible to specify features of some predicates and not others and in this sense specify a property of predicates. There is yet another richer sense of property where the intended meaning is a function from worlds to sets of objects or, alternatively, a set of pairs of worlds and sets of objects.

¹⁰Forbes presents his account of characterization and its application to event semantics and verbs of creation in (*Forbes*, 2006, chs. 5–7). My presentation is drawn from those chapters.

a sense, Forbes provides an intensional solution that retains ‘Theme’ indirectly, but introduces a new relation and an alternative way of interpreting ‘a house’ to avoid unnecessary commitment to unwanted houses.

To see what it means to characterize an event with a property, consider some background about paintings and the objects they are about. Say we have a painting of a man, but no particular man. Similarly, say we have a painting of a unicorn, even though no unicorns exist. If we want to describe these paintings as being “of a man” or “of a unicorn” but do not want to be committed to there being a specific man or any unicorn at all of which they are about, then we can use ‘a man’ and ‘a unicorn’ to characterize the paintings. One painting is characterized as an a-man painting, whereas the other painting is characterized as an a-unicorn painting. Since characterizing an entity as of some particular kind does not commit us to the existence of entities of that kind, we can avoid the unwanted existential commitments.

Forbes extends this idea to intensional transitive verbs in general. Consider the sentence ‘Jimmy seeks a unicorn’. There are no unicorns in existence, so it is undesirable to be committed to unicorns in accounting for the truth of this sentence. Perhaps the method of characterization can work here. Following Davidson’s work on event semantics, treat ‘seeks’ as an action verb that denotes some event. Then ‘Jimmy seeks a unicorn’ can be said to characterize this search event as an a-unicorn search event. And as before, characterizing the event this way need not commit us to the existence of unicorns any more than characterizing a painting as an a-man painting commits us to the existence of a particular man or any man at all.

Creation verbs when combined with the progressive display marks of intensionality too. So it seems reasonable to extend this proposal to them as well. This is indeed what Forbes does. Informally, we proceed as follows. Consider the example of Mary’s unfinished house building. In that context, it is true that Mary was building a house, but there was no house such that Mary was building it. Just as with ‘seeks a

unicorn’, let ‘building’ in this context denote some event of building. This event is then classified as an a-house building event and so commitment to unwanted houses is avoided. Treatments of ‘make a meal’ and other creation verbs in the progressive will proceed in a similar fashion.

This is the spirit of Forbes’s approach, but the specific details provide the proposals regarding the progressive and verbs of creation. To formally capture what it means for an event to be characterized, Forbes introduces a relation ‘Char’ that holds between a property and an event when the event is characterized by that property. (A more detailed account of what it means to be characterized by a property is forthcoming.) ‘Char’ will replace ‘Theme’ in formal representations for progressive sentences with verbs of creation. With respect to the progressive, Parsons’s proposal is left untouched: the progressive contributes ‘Hold’ to the formal representations of progressive sentences.

The introduction of ‘Char’ is Forbes’s proposal regarding verbs of creation. But Forbes still has to deal with the quantified noun phrase that is supposed to do the characterizing. Since ‘Char’ relates a property and an event, and in cases such as ‘Mary was building a house’ we want the event to be characterized as an a-house building event, it must be from ‘a house’ that the property part of ‘Char’ is recovered. This leads to Forbes’s second proposal, which is to treat the denotation of ‘a house’ as a property in the sense of a set of first order predicates. Since ‘Char’ relates properties and events, we avoid the commitment to unwanted houses, as desired.¹¹

Formally, Forbes’s approach produces the following result for the sentence ‘Mary was building a house’:

¹¹The logical type of ‘Char’ is $\langle\langle\langle i, t \rangle, t \rangle, \langle i, t \rangle\rangle$. This makes the type of ‘a house’ (or indefinite noun phrases in general) $\langle\langle i, t \rangle, t \rangle$. See (*Forbes*, 2006, p. 83) for details. (Forbes uses e to denote the type of events, a subtype of type i or individuals. I am using i throughout for both events and individuals.) This feature of the logical type of ‘Char’ will become important in my criticisms of Forbes’s account.

$$(14) \quad \exists e \exists t (t < \text{Now} \ \& \ \text{building}(e) \ \& \ \text{Agent}(e, \text{Mary}) \ \& \\ \text{Char}(\text{a-house}, e) \ \& \ \text{Hold}(e, t))$$

Since on Forbes's approach, the denotation of 'a-house' will be a property, we no longer introduce an existential quantifier in the introduction of 'Char' (as we did with 'Theme' on the previous proposal), hence avoiding the commitment to unwanted houses.

The new logical type assigned to 'Char' blocks the entailment to there being a house such that Mary is building it. But so far, Forbes's proposal consists of introducing yet another predicate into the formal representation without offering an account of its meaning. (Remember: 'Hold' is given an intuitive gloss, but is not analyzed in Parsons's proposal, leaving a large portion of the progressive's meaning unexplained.) In this case, it is important to fill out the semantic details for 'Char' since its introduction is a feature of creation verbs. Leaving it undefined leaves a portion of the meaning of creation verbs unaccounted for. To avoid this difficulty and provide an account of 'Char', we must answer the question: what conditions must obtain in order for some building event to be an a-house building event?

Forbes accounts for the meaning of 'Char' in terms of successful outcomes. For the example 'Mary was building a house', we have it that Mary's building event is characterized as an a-house building event. To be characterized as an a-house building event, according to Forbes, it must be that all courses of events that complete the process of Mary's building are ones that result in a house being built. Since Forbes is adapting this account from his work on intensional transitive verbs in general, the kind of possibility being appealed to by 'must' is that of conceivability. So the account says, in particular, that in all conceivable worlds, all courses of events that make the process of Mary's building successful are ones that result in a house being built.

The specific details about what counts as a success and what counts as the outcome of the course of events will depend on the specific creation verb phrase being

interpreted. For ‘build a house’, the course of events will need to make the building process successful and can be represented as *makes successful* or *completes*. The course of events themselves will be a series of events that are or are related to building events. For ‘make a meal’, the course of events will need to successfully complete the making or cooking event and can be represented as *completes* or *finishes*.

This leaves us with the following general account of when the relation ‘Char’ holds between a property and an event. Letting \mathbf{Q} be a variable ranging over quantified noun phrases of the object language, \mathbf{e} be a variable ranging over event variables of the object language, \vec{e} be a variable ranging over courses of events, ‘R’ be a relation between a course of events and an event, and ‘F’ be an event sortal (and other expressions being interpreted as usual), we get:

$$(15) \quad \mathbf{Char}(\mathbf{Q}, \mathbf{e}) \text{ iff } \Box(\text{for any } \vec{e} \text{ such that } R(\vec{e}, \mathbf{e}), Q(\lambda x. \text{there is some } e' \text{ that is part of } \vec{e} \text{ such that } Fe' \text{ and Theme}(e', x)).$$

As stated above, the specific ways of filling in ‘F’, \mathbf{Q} , and ‘R’ will depend on the specific creation verb that introduces ‘Char’ in to the formal representation.¹²

With all of these pieces in place, we can see the particulars of Forbes’s solution clearly. He does not do away with ‘Theme’, choosing to embed it in the account of ‘Char’. ‘Char’ is contributed by the verb of creation when it is accompanied by progressive aspect. The specific verb of creation that contributes ‘Char’ will also specify the additional ways of filling out the schematic letters on the right hand side of (15). The problem of intensionality for the progressive is essentially solved by making ‘Char’ a relation between a property and an event. To do this, however, Forbes is committed to treating the denotation of ‘a house’ and other quantified noun phrases as properties or sets of predicates. The solution accounts for the intensional linguistic data by way of an intensional formal analysis, since (15) invokes a necessity operator on its right hand side. And, finally, the progressive is left alone in this

¹²This analysis of ‘Char’ is given in *Forbes* (2006).

solution, contributing ‘Hold’ as Parsons would have it.

At this point, it is useful to see whether Forbes could have done with less in his accounting for the intensional data and if so, investigate why he added the extra machinery. The essential components needed for blocking the entailment to any unwanted houses is ‘Char’ and letting the denotation of ‘a house’ be a property. When ‘Char’ is introduced in the formal representation as ‘Char(a-house, e)’, we are no longer committed to there being some house, but rather there being some property that characterizes some event. The account of ‘Char’ given by (15) is useful for providing content, but is not needed if all we wish is to block a certain entailment.

Instead of introducing ‘Char’, Forbes could have simply revised ‘Theme’. In Parsons’s original proposal, ‘Theme’ is a relation between some event and some entity that satisfies the predicate ‘House’ introduced by the English quantified noun phrase ‘a house’. Alternatively, introduce another relation ‘Theme*’ that holds between some event and some property when the event affects the property over its occurrence.¹³ (What this means will require more glossing, but since ‘Theme’ is itself left undefined this should not pose any specific problems for ‘Theme*’.)

For the sentence ‘Mary was building a house’, this proposal produces the following representation:

$$(16) \quad \exists e \exists t (t < \text{Now} \ \& \ \text{building}(e) \ \& \ \text{Agent}(e, \text{Mary}) \ \& \ \text{Theme}^*(\text{a-house}, e) \ \& \ \text{Hold}(e, t)).$$

Just as with (14), (16) blocks the entailment to any unwanted houses. The progressive is left alone, with the contribution of ‘Theme*’ arising from the verb of creation.

It should now be clear what the extra machinery is doing for Forbes. The general proposals under consideration seek to leave the progressive alone and account for the intensional data through the verb of creation. But if the account of verbs of creation

¹³Formally, I am suggesting introducing a predicate ‘Theme*’ with logical type $\langle\langle\langle i, t \rangle, t \rangle, \langle i, t \rangle\rangle$. This would also assume that ‘a house’ receives the type $\langle\langle i, t \rangle, t \rangle$ as it does in Forbes’s account.

in the progressive is that they contribute a primitive relation ‘Theme*’ instead of ‘Theme’, then this hardly seems like an account of verbs of creation at all. Instead of illuminating some feature of verbs of creation, we are left with more questions and more primitives since ‘Theme’ will still be needed for other sentences and ‘Hold’ is still left undefined.

Forbes’s proposal, on the other hand, provides a means for blocking the entailment through the logical features of ‘Char’ *and* an attempt at a substantive account of ‘Char’ that sheds light on the meaning of verbs of creation in general. This account is loosely a *modal successful outcome account* insofar as ‘Char’ makes essential use of conceivable courses of events that make some event or process successful. By providing an account of ‘Char’ that attempts to illuminate the meaning of verbs of creation in general, Forbes’s proposal is preferable to adding ‘Theme*’.

However, it might be wondered whether ‘Char’ is the best overall account of the meaning of verbs of creation in general when in the progressive. I think there is much to favor Forbes’s proposal, but the task of providing a more explanatory account of the progressive will suggest ways in which it needs to be revised. Before I turn to that task, it will be instructive to consider another approach to the problem of intensionality for the progressive.

2.4.3 Proposal #2: Events, Properties, and ‘Theme’

In his work on the progressive and accounting for the problem of intensionality for the progressive, Sandro Zucchi proposes that creation verbs contribute a different thematic relation ‘Theme’ that relates an event to an intensional entity—i.e., an entity that is specified by a function from worlds to sets of entities. In response to worries that Parsons’s proposal for the progressive is not adequate, Zucchi also proposes that the progressive should introduce a trinary relation holding between an

event, a time, and a property given by the relevant verb phrase.¹⁴ As will become clear, this double intensional account of verbs of creation and the progressive will lead to some interesting insights about how to proceed, but will pose several evidential and explanatory problems.

When considering Forbes’s proposal and the alternative in terms of ‘Theme*’, it became clear that one way to block the entailment to the unwanted house was to replace ‘Theme’ with a relation between an event and a property (either in the sense of a feature of predicates, as in Forbes’s account, or in some other sense), with the property being provided by the quantified noun phrase. Zucchi takes this approach as well, but introduces another relation ‘Theme’ that holds between an event and the intension of a generalized quantifier. Sentences with verbs of creation will contribute ‘Theme’’, whereas other non-intensional verbs will contribute ‘Theme’ to their formal representations.

Returning to our example sentence ‘Mary was building a house’, since it contains a verb of creation it will be assigned ‘Theme’ in its formal representation. The revised translation is as follows:

$$(17) \quad \exists e \exists t (t < \text{Now} \ \& \ \text{building}(e) \ \& \ \text{Agent}(e, \text{Mary}) \ \& \ \text{Theme}'(e, \wedge \lambda P \exists x [\text{house}(x) \ \& \ P(x)]) \ \& \ \text{Hold}(e, t))$$

Unlike (34b), the truth of (38) does not entail the existence of a house that Mary was building. So with Zucchi’s proposal about the semantic contribution of verbs of creation, it is possible to maintain Parsons’s semantics for the progressive while blocking entailments to unwanted houses.

Zucchi also revises Parsons’s proposal for the progressive. Following the lead of Fred Landman’s modal account of the progressive, Zucchi suggests that ‘Hold’ be a ternary relation holding between an event, a time, and a property given by the verb

¹⁴In Zucchi’s proposal, a property is considered to be a function from worlds to sets of entities. In the context of my presentation of Zucchi’s account, unless specified otherwise, ‘property’ should be interpreted this way.

phrase. The interpretation of progressive verb phrases would generally be as follows: $\lambda t \lambda e [\text{Hold}(e, t, \wedge \text{VP}') \ \& \ \text{VP}'(e)]$. For the sentence ‘Mary was building a house’ we then get the following representation, which includes both the addition of ‘Theme’ and the new proposal for the progressive:

$$(18) \quad \exists e \exists t (t < \text{Now} \ \& \ \text{building}(e) \ \& \ \text{Agent}(e, \text{Mary}) \ \& \ \text{Theme}'(e, \wedge \lambda P \exists x [\text{house}(x) \ \& \ P(x)]) \ \& \ \text{Hold}(e, t, \wedge \lambda e [\text{building}(e) \ \& \ \text{Theme}'(e, \wedge \lambda P \exists x [\text{house}(x) \ \& \ P(x)]])).$$

In (18), it is important to note that both ‘Theme’ and ‘Hold’ include intensional formal expressions since the sentence being translated contains a verb of creation in the progressive that, on Zucchi’s proposal, is the source of ‘Theme’.

Completing his revision, Zucchi follows Landman’s details about the progressive by providing the following interpretation rule for ‘Hold’:

$$(19) \quad \llbracket \text{Hold}(e, t, \wedge P) \rrbracket_{w, g} = 1 \text{ iff } \exists e' \exists w' \exists t' \text{ such that } \langle e', w' \rangle \in \text{CON}(g(e), w, \llbracket \wedge P \rrbracket_{w, g}) \\ \text{and } \llbracket P \rrbracket_{w', g}(e') = 1 \text{ and } \llbracket \text{Cul}(e, t, \wedge P) \rrbracket_{w', g[e/e', t/t']} = 1.$$

According to Zucchi (who is closely following Landman), the notion of continuation branch (formalized by ‘CON’) should be understood along the following lines. Follow the development of e in w . If by doing so you find an event f of which e is a stage that culminates relative to P , stop; otherwise take the maximal event f of which e is a stage in w and go to the closest world where f goes on. Check whether this world is a reasonable option for the event denoted by e in the base world w . If it is, follow the development of f in this world, and so on until you find a culminated event of the right type or you reach a world that is not a reasonable option for the event you started out from in the base world w .¹⁵ Zucchi’s proposal for the progressive says that ‘Hold’ is satisfied by an event-time-property triple just in case there is some event-world pair on the relevant continuation branch whose event is in the extension of P when evaluated with respect to that world and whose event culminates in that

¹⁵(19) and the explanation of it just given are taken directly from (Zucchi, 1999, p. 194).

world with respect to the intension of P .¹⁶

As with Forbes's proposal, it is instructive to ask why Zucchi introduces 'Theme'' as opposed to a relation such as 'Theme*'. 'Theme*' relates an event and a property, where the latter is conceived as a feature of first order predicates. 'Theme'' relates an event to a property, where the latter is conceived as a function from worlds to entities. Since Zucchi defines 'Theme'' as between an event and the intension of a generalized quantifier, the kind of property we get is a function from worlds to sets of first order predicates. Both relations block entailments to unwanted houses when building processes go awry. Why favor Zucchi's proposal over 'Theme*'?

Zucchi does not argue for 'Theme'', but perhaps the following considerations decide in favor of his proposal over 'Theme*'. In both cases, revisions to 'Theme' are due to the verb of creation. So one way argue for 'Theme'' over 'Theme*' is to show that a property in the sense of a function from worlds to entities as opposed to a property in the sense of a feature of first order predicates is needed to distinguish content.

Imagine a world in which all and only wedding gifts will ever be and will have ever been birdhouses. Beth is going to a wedding soon and wants to give the bride and groom a homemade gift. Since wedding gifts come in only one form, she begins constructing a birdhouse. During the process of building, Beth contracts a horrible case of the swine flu and is forced to stay home from the wedding and stop working on the birdhouse.

In this context, both of the following sentences are true: 'Beth is building a birdhouse' and 'Beth is building a wedding present'. If we only let 'a birdhouse' and 'a wedding present' contribute a property in the sense of a feature of first order predicates (i.e., in the sense formalized by 'Theme*'), then the thematic content

¹⁶It should be noted that (19) needs to place some constraints on the relation between t and t' to make the correct predictions. As stated, it simply says there is some time t' at which 'Cul' is evaluated, but really we want this time to be after t , the time with respect to which e holds. It would be odd for e or any event on its continuation branch to culminate before it occurred.

of both sentences will come out the same since both quantified noun phrases will contribute an entity that is a feature of the same first order predicates in the world being envisioned. But this will not allow us to distinguish the intuitive difference in meaning between these two sentences. So some richer content for the thematic relation is needed.

If we let ‘a birdhouse’ and ‘a wedding present’ contribute a property in the sense of a function from worlds to sets of first order predicates, then we are on better footing. Assuming that ‘a birdhouse’ and ‘a wedding present’ are not necessarily co-extensional, then the quantified noun phrases will contribute different properties to their respective thematic relations. This will allow us to capture the intuitive difference in meaning between the two sentences. Since this latter proposal is essentially that of Zucchi’s, we have an argument favoring ‘Theme’ over ‘Theme*’. It also provides an explanation for why verbs of creation contribute thematic relations between events and intensional entities, since there are obvious cases of sentences with verbs of creation with intuitive differences in meaning even though they are, in a sense, about the same building process. (The previous example is a case in point.)

It is important to note that Forbes’s account of creation verbs and the progressive does not face the difficulty of distinguishing the meaning between ‘Beth is building a birdhouse’ and ‘Beth is building a wedding present’. Although ‘Char’ itself is a relation between an event and a property in the sense of a feature of first order predicates, the account of ‘Char’ is an intensional analysis insofar as it makes use of possible worlds and ways courses of events might be successful in those worlds. ‘Char(a-birdhouse,e)’ will be distinguished from ‘Char(a-wedding-present,e)’ because the set of conceivable courses of events that make building a birdhouse successful is distinct from the set of conceivable courses of events that make building a wedding present successful.

Comparing Forbes’s proposal with Zucchi’s is instructive. Both make use of an

intensional solution to solve the problem of intensionality for the progressive. But Forbes does not revise Parsons’s proposal for the progressive. Zucchi on the other hand opts for a Landman style “modal outcome” analysis of ‘Hold’—i.e., ‘Hold’ is analyzed in terms of culminated events that possibly occur in other worlds. Forbes’s proposal is itself a kind of “modal outcome” account, but his account applies to the specific content contributed by the verb of creation. So we have a concrete difference between the two proposals: Zucchi suggests analyzing the progressive in terms of culminations that occur along continuation branches that may extend into other possible worlds whereas Forbes suggests analyzing verbs of creation in terms of sets of conceivable courses of events that lead to successful completions.

And with this concrete difference comes a concrete reason to reject Zucchi’s revision to the progressive. As I argued in chapter 1, it is a common mistake to think the progressive’s meaning invokes outcomes. Typical examples such as ‘Mary was building a house’, ‘Beth was building a birdhouse’, and ‘Barry was making a meal’ suggest that the progressive element roughly means that if the building/making were to continue, a house/birdhouse/meal would be the result. But this neglects the fact that the progressive combines with other verb phrases that suggest no such analysis in terms of successful outcomes. ‘Mary was running’, ‘Sufjan is singing’, and ‘Keats is writing’ do not mean that if the running/singing/writing were to continue some outcome would result. There is such a thing as just running, singing, and writing with no aim or goal in sight. Analyzing the progressive in terms of successful outcomes overlooks this data.¹⁷

Furthermore, taking a closer look at the data gives an alternative means for accounting for the intuition that outcomes are part of the meaning of some progressive sentences, whereas with other progressive sentences they are not. In addition to being intensional when in the the progressive, verbs of creation are also classifiable as ac-

¹⁷Forbes hints at a similar argument against “modal outcome” accounts of the progressive in (*Forbes*, 2006, p. 137).

complishment verb phrases. Accomplishment verb phrases seem to denote event types that include both an activity or process and a goal. When Beth builds a birdhouse, for instance, both a building process and an outcome consisting of a birdhouse that is the result of that building process seem to be involved. This is in direct contrast to activity verb phrases. Consider a case where Mary runs and nothing more. It seems that a process of running is involved when Mary runs, but there is no longer a sense in which any outcomes are involved.

This suggests that in progressive sentences with verbs of creation there are really three components that are at work that will contribute to our overall understanding of what it means when an object is coming into existence. First, there is the progressive element. Second, there is the verb of creation. And third, there is the aspectual class of the verb of creation—i.e., verbs of creation are classifiable as accomplishments rather than activities and so intuitively denote event types that at least consist of processes and outcomes.

Although the data does not support the specific way in which Zucchi revises Parsons's proposal for the progressive, the motivation behind such a revision is worth pursuing. It is clear that some relation between an event and a property is needed and that this relation is most plausibly provided by the verb of creation. Forbes's account of 'Char' provides explanatory depth to his proposals for verbs of creation, thereby illuminating not only their logical structure but their meaning as well. Why not ask for more out of an account of the progressive? Parsons's proposal is a firm start, but is not entirely satisfying insofar as our grip on 'Hold' is left at the level of intuitive gloss. It is preferable, other things held equal, to provide a richer account of the progressive.

2.4.4 Towards a New Proposal

Here is where the task at hand stands after considering Forbes's and Zucchi's solutions to the problem of intensionality for the progressive. A solution should come from the meaning of the verb of creation as opposed to the progressive. The primary move will be to treat the denotation of the quantified noun phrase as a property and to revise 'Theme' in favor of some alternative relation that holds between an event and a property of some specified richness. However, some evidence seems to suggest that the kind of property provided by the verb of creation must be some function from worlds to entities. So our solution to the problem of intensionality for the progressive will require an intensional proposal regarding verbs of creation.

Although not necessary for solving the problem of intensionality for the progressive, providing a more explanatory account of the progressive is preferable given my overall project of understanding what it means for an object to be coming into existence. Although Zucchi's specific "modal outcome" proposal will not do, considering his proposal led us to see that verbs of creation are accomplishments in the sense that they denote event types that at least include processes and outcomes. If this intuitive account of accomplishments can be filled out, it would provide more resources within which a richer account of the progressive can be given.

It also suggests, with regard to Forbes, that the successful-outcome part of his proposal and his solution to the problem of intensionality for the progressive might be pulled apart. Perhaps the successful-outcome part is meant to diagnose the particular way in which an event of creation is related to the goal of bringing about a new object. Since 'Char' captures both the solution to the problem of intensionality for the progressive and the account of verbs of creation, perhaps it would be best to factor this predicate that is currently doing double duty into separate predicates, one handling the problem of intensionality for the progressive and one specifying the successful-outcome account, especially since the latter seems more tied to the specific

way in which verbs of creation are accomplishment verb phrases rather than the problem of being committed to unwanted houses.

Balancing these suggestions will take some delicate footwork, but the benefit will be a satisfying solution to the problem of intensionality for the progressive that illuminates the meaning of verbs of creation, the progressive, and that helps clarify the puzzling state of coming into existence.

2.5 Progressive, ‘Hold’, and Explanatory Depth

As I argued in the previous section, ‘Hold’ should not be analyzed in terms of possible culminations along continuation branches. But the motivation to enrich the account of ‘Hold’ is one I share with Zucchi. In this section, I will argue that we can enrich the account of ‘Hold’ in a data and theoretically driven way by revising it to hold between activity eventualities and times.

When sentences such as ‘Mary was building a house’ are compared with sentences such as ‘Sufjan is singing’, the intuitive meaning of the progressive is much better approximated by what Fred Landman calls the *Classical Wisdom*: progressive sentences present an internal perspective on an event, meaning that the event is viewed as incomplete or in progress.¹⁸ According to the classical wisdom, the sentence ‘Mary was building a house’ presents the event of Mary’s house-building from the inside, as an event that is ongoing. Similarly for ‘Sufjan is singing’. This sentence presents Sufjan’s singing as incomplete, as a singing-event that is in progress.

I agree with Landman that the classical wisdom is insufficient as stated for providing an illuminating account of the progressive. The problem is that the meaning of the progressive is now shifted to the meaning of ‘in progress’ or ‘incomplete event’. Without an analysis of these notions, the Classical Wisdom does little more than

¹⁸See (Landman, 1992, p. 1) for Landman’s presentation of what he takes to be the Classical Wisdom.

restate the problem.

In what follows, I will present both data and theoretical considerations that will shed light on how to make sense of the classical wisdom. Three areas will be covered: (i) the possibility of co-locating events, (ii) incompatibility of the progressive when the eventuality denoted by the verb phrase has culminated, and (iii) interaction between the progressive and the aspectual class of the underlying verb phrase

2.5.1 Co-Locating Possibilities

Consider the following. Geoff is a guitar player and practices quite often. Chris, Geoff's roommate, is a teacher and usually comes home in the early evening. Now, consider the following sentences:

- (20) a. Chris came home and Geoff was playing his guitar.
b. Chris came home and Geoff played his guitar
- (21) a. Geoff was playing his guitar when Chris came home.
b. Geoff played his guitar when Chris came home.

What I want to focus on with regard to these pairs of sentences are the co-locating possibilities that each pair opens up or closes off. (20a) suggests that Chris came home while Geoff was playing guitar. If Geoff's playing-guitar event spans the interval I (which might only have a lower bound) and Chris's coming-home event is thought of as occurring at i , then this co-location possibility can be expressed as: $i \in I$. However, this interpretation is not immediately available with (20b). The most natural interpretation of this sentence has Geoff playing guitar after, or upon, Chris's arrival.¹⁹ Assuming Geoff's guitar-playing event occurred at i' and Chris's coming-

¹⁹It is important to read the sentence 'Geoff played guitar' perfectly. It is possible in English for sentences that are not marked with progressive aspect to be given an imperfective interpretation. So in the sentence 'While Mary built her house she stayed in a hotel', the event of Mary's house-building is viewed imperfectively, despite the fact that the sentence is not marked with progressive aspect. In English, imperfectivity goes beyond the progressive.

home event occurred at i , this interpretation can be expressed as: $i' \geq i$ (where ‘ \geq ’ means after or at the same time).

The available and unavailable co-locating possibilities are more dramatic with respect to (21a) and (21b). (21a) suggests, again, that Chris came home during Geoff’s guitar playing. (21b), on the other hand, strongly suggests that Geoff’s guitar playing occurred at or after Chris came home. If Geoff played guitar and finished before Chris came home or if Geoff was playing guitar when Chris came home, then (21b) does not come across as appropriate. So the addition of ‘when’ seems to strongly favor the co-locating possibilities that were also favored with ‘and’.

This data suggests a way to interpret what it means for the progressive to offer an internal perspective on an event as incomplete or in progress. In both examples with progressive sentences, a specific co-locational possibility was made available that was not made available by perfective readings of the other non-progressive sentences. The co-locational possibility was one in which the occurrence of one event e was located *during* the ongoing occurrence of another event e' . In a sense, this co-locational possibility gives an internal perspective on e' as being in progress insofar as it is possible to co-locate other events during the ongoing occurrence of e' , rather than just before or after or simultaneously.

2.5.2 Completed Eventualities

In what follows, I will present a series of examples suggesting that the meaning of the progressive prevents it from being used with a verb phrase that denotes an event that has culminated.

Mary is a builder and is putting together a house. She has been for some time. The project is running smoothly, the walls are up, the inside is finished, and the last thing that is left is the final brick to complete the chimney. She decides to cement in the final brick at noon. Noon comes and goes, the brick gets cemented in, and the

house gets finished without a problem.

When talking about this scenario, we might say that Mary completed her house at noon. If we are talking the day after the completion, we might say that Mary built a house or that Mary finished a house the previous day. When asked about what Mary has been up to, we may respond that she was building a house for some time and is now finished.

But what we cannot do is talk about Mary's completed building event using the progressive. For instance, the sentence 'At noon, Mary was building a house' is false given the circumstances described above. The situation is not alleviated if the sentence 'At noon, Mary was building a house and she finished' is used instead. Or imagine that we are there at noon and watching Mary cement the final brick in. I cannot turn to you and say that Mary is building a house without raising puzzling looks. Either I can say (at noon) that Mary was building a house and is now finished or that Mary has built a house, but none of these contain progressive sentences with a verb phrase that denotes a completed eventuality.

With regard to the last examples, it is important to note where the temporal restriction is coming in. If the sentence explicitly restricts the time to noon by adding a phrase such as 'at noon', then the progressive cannot be used. In the last example, the context is slightly changed so that we imagine I am there at noon and then utter 'Mary was building a house', which is fine in its respective context.

This suggests that when a progressive sentence is used about a situation such as Mary's completed house building, if no temporal restrictions are explicitly added, then the context is shifted to take into view the building process of the event rather than the completed event. If I am talking with a friend at noon and say that Mary was building a house, it is understood straightaway that I am not referring to the current completion of the building but to what Mary was doing prior to the completion. This is not just an effect of the past tense, since at noon I can clearly say that Mary

built a house, thereby taking into account the whole building event, including the completion. So it seems that the progressive shifts focus to the building portion, if the accommodation is not blocked.

In the situation described above, the sentence ‘Mary is finished building a house’ can be used correctly and truthfully. The sentence itself does not have the basic form of a progressive sentence since ‘finished’ is placed in between ‘is’ and the expression ‘building a house’. But perhaps it could be argued that this sentence means something such as Mary is building a house *and* she is finished. If this is the case, then there is a serious problem for claiming the progressive cannot be used when a culminated eventuality is denoted.

But ‘Mary is finished building a house’ does not mean that Mary is building a house and that she is finished. Assuming it means this, we have a problem. In the context in which I am watching Mary at noon, I cannot say that Mary is building a house. But if ‘Mary is finished building a house’ means that Mary is building a house and she is finished, then it entails in this context that Mary is building a house, which is unacceptable. So the acceptability of ‘Mary is finished building a house’ in this context, but the unacceptability of ‘Mary is building a house’ suggests that the latter is not entailed by the former.

What I would suggest for cases such as this is that ‘finished’ is shifting focus to the culmination of the eventuality denoted by ‘is building a house’. I claim the work must be done by ‘finished’, since parallel examples suggest that we do have a true progressive in this context. For example, ‘Mary is carefully building a house’ does entail that Mary is building a house, whereas this entailment does not hold for ‘Mary is finished building a house’. So it seems that ‘finished’ does some work in shifting focus to a portion of the eventuality that no longer makes the progressive applicable. The data above strongly suggests that the focus is shifted to the culmination.

2.5.3 Aktionsarten

In addition to these ways of explicating the classical wisdom (which I will leave informal at the moment), there is another important way to add explanatory depth to Parsons's account of the progressive. The progressive's meaning subtly interacts with the eventuality denoted by the underlying verb phrase. Loosely put, the progressive shifts focus to the activity portion of the eventuality denoted by the underlying verb phrase, if there is one. A few steps are needed, however, to make this claim more precise.

As I discussed in Chapter 1, verbs can be divided into four aspectual classes or Aktionsarten, each of which denotes a distinct type of eventuality. State-verbs (examples: 'love' and 'know') denote state- eventualities. These are non-changing features of the world. Activity-verbs (examples: 'walk' and 'run') denote activity- eventualities. These are roughly temporally extended events, or processes, that are homogenous in the sense that for every sub-event e of a running event, e also counts as a running event (down to some contextually specifiable grain). Accomplishment-verbs (examples: 'write a book' and 'walk to the store') denote accomplishment- eventualities. These are temporally extended events that are not homogenous. It is not the case that every sub-event e of a writing-a-book event is itself a writing-a-book event. Lastly, achievement-verbs (examples: 'reach the summit' and 'win the race') are like accomplishments insofar as they denote eventualities that are not homogenous, but, unlike accomplishments, achievement- eventualities seem to only denote the culmination of an extended eventuality rather than the process and the culmination (as accomplishments seem to do).

Accomplishments differ from activities at least insofar as accomplishments have specifiable culminations.²⁰ A writing-a-book event culminates once a book has been

²⁰In what follows, I will simply say 'activities' when I mean activity-eventuality, unless context requires me to add further specifications.

written. A running-to-the-store event is over once the store has been reached by running. Activities do not have specifiable culminations. A given event e is a running event no matter where the event begins and ends. If it is Carl running, he can start in Boston, Detroit, or Chicago and end in any of those cities. He can go for five minutes or an hour. Despite this, each of these events counts as a running event. But not all of them count as a running-to-Chicago event or a running-for-five-minutes event.

It is important to note that the notion of the culmination for an event is not meant intentionally. A boulder can roll into a truck. This rolling-into-a-truck event is not done intentionally. I can strike the cue ball and send it towards the eight ball, but along the way my cat jumps on the table and knocks it into the corner pocket. A rolling-into-the-corner-pocket occurred by chance, not because the ball was meant to go there in any intentional sense. The notion of a culmination for an event is at least a heuristic device for dividing up the non-stopping flow of events that occurs around us. It also has linguistic relevance insofar as English grammar distinguishes between events with culminations and those without. Without saying more about culminations yet, it should at least be understood as whatever is necessary to get the linguistic data concerning accomplishments (and achievements) right, with a more substantive analysis coming in the subsequent sections.

Despite their differences, accomplishments and activities are similar insofar as accomplishment eventualities seem to be made up of an activity eventuality and a culmination. For example, the sentence ‘Mary built a house’, which includes the accomplishment verb phrase ‘built a house’, seems to denote an eventuality that includes a building process that culminates with a finished house. Similar considerations follow for sentences such as ‘Beth built a birdhouse’/‘Beth was building a birdhouse’ and ‘Barry made dinner’/‘Barry was making dinner’.

With these considerations in hand, it is possible to make the following (albeit rough) generalization: the progressive denotes an in-progress or incomplete (in the

sense of the classical wisdom) activity-event of the eventuality denoted by the underlying verb, if there is one. This generalization captures some basic intuitions about the progressive. When I say ‘Mike is writing his dissertation’ I mean (roughly) that Mike is working on his dissertation at the moment by writing a part of it. I use the progressive to single out a particular portion of the eventuality type that is denoted by ‘write a dissertation’. Similarly for ‘Mary was building a house’. I do not use the progressive in this case to talk about Mary’s house-building in its entirety (since she may not have built a house as a result of this building-process). Rather, I denote the building part of Mary’s building-a-house event. For activity verbs, the progressive singles out an activity event that is both denoted by the verb and that is incomplete (in a sense to be specified). So ‘Mary is walking’ means, roughly, that Mary’s walking event is incomplete or ongoing.

By adding to Parsons’s account the generalization that the progressive denotes an in-progress or incomplete (in the sense of the classical wisdom) activity-event of the eventuality denoted by the underlying verb, if there is one, a more explanatory theory of the progressive becomes available. For instance, this generalization will help explain why progressives with state verbs are infelicitous—e.g., ‘Mary is knowing French’ is not a proper sentence of English (exactly why needs to be determined, whether the problem is semantic or grammatical). Also, the proposed generalization brings out important connections between the progressive, on the one hand, and a theory of eventuality structure and *Aktionsarten*, on the other. These connections deepen our understanding of the progressive, its meaning, and the interactions between the semantics of aspect (imperfectivity/perfectivity) and the semantics of verbal aspectual class.

2.6 The Progressive, Verbs of Creation, and Goals

2.6.1 Piecing Together the Proposals

In this section, I will lay out my proposal, tying together the individual strands I have covered and weaving in a few new ones in the process. The aim for now: use Zucchi's proposal regarding 'Theme' and verbs of creation to account for the problem of intensionality for the progressive, use Forbes's account of 'Char' to capture the sense in which verbs of creation have goals, and implement the generalization regarding the progressive I just presented.

As I have suggested throughout, verbs of creation are accomplishments and so fall under a broad category of telic verb phrases. These are verb phrases that seem to denote eventualities with goals or natural culmination points. For example, consider 'write a sonnet'. Eventualities of writing a sonnet consist of both a writing portion and the aim of a sonnet being produced. If the production of a sonnet is not the aim, then the respective eventuality cannot be properly described using 'write a sonnet'. Similarly for 'run a mile'. If a running occurs and falls far short of a mile because a mile was not the aim, then it cannot be described using 'run a mile'. In these cases it is at least necessary that the eventuality be aimed at a sonnet being produced or a mile being traversed during the run.²¹

This contrasts with activities, which fall under a broad category of atelic verb phrases. Consider the verb phrase 'run in the dark'. This verb phrase does not specify any goal or natural end point that must be reached in order for an event to be described using it. If I go out running at night, I can run a mile, a quarter of a mile, ten miles, or just a few feet. Conceivably, I can go on running forever, if the location is such that it is always dark, never stopping. This is not physically possible, but it is conceptually possible. In this situation there would be an event that can

²¹Necessary, but not sufficient. I will delve into the subtleties with goals and when events can be said to have goals later in this section.

be described with ‘run in the dark’, despite there being no goal or natural end point that is reached.

In the spirit of separating content, let’s introduce a predicate to capture the goal-orientedness of telic verb phrases.^{22,23} Since the examples suggest we are talking about events having goals or natural culmination points, we want a relation between an event and something else. Let’s begin with the assumption that the relation holds between two events just in case one event is the goal or natural end point for the other. Let ‘Goal’ stand for this relation. The result will be logical forms for sentences with telic verb phrases that include a relation of the form ‘Goal(e,e’)’.²⁴

Surely this will not do. Take a sentence with a telic verb phrase that is in the progressive such as ‘Jack is building a car’. On the proposal we are now considering, the telicity of ‘build a car’ will introduce ‘Goal(e,e’)’ into the logical form. Assuming both positions are existentially quantified over, we get the result that there is some event e' that is the goal for e . But in cases where the telic verb phrase is in the progressive, this is exactly a commitment we do not want. Jack can be building a car but never finish. In the specific cases in which he builds but does not finish, we will have some event that is a building with a car as its theme, but we will not have another event that is the goal for this incomplete event. So proposals such as ‘Goal(e,e’)’ will not do.

It is important to note that the problem here applies generally to proposals that existentially quantify over both a building (or activity) event *and* an event that is

²²Since this feature is separate from the verb being a verb of creation and from the progressive, we do not need to tinker with these parts of our overall theory when accounting for telicity.

²³The general strategy for dealing with telicity that I am pursuing here is briefly mentioned by Graeme Forbes in (*Forbes*, 2006, pp. 137–38). He does not pursue the strategy, so much of the details (for better or worse) are my doing. But we share a similar vision of keeping the progressive simple and his work has influenced me in sticking to that simplicity, with his suggestions about telicity a case in point.

²⁴Although no one has given this specific proposal, the key element that I want to move away from (as will become clear in the next paragraph) is the fact that we are dealing with a relation between two events. There are proposals for telic verb phrases that do carry this feature, despite being more theoretically plausible in other respects. I am here thinking of work by Susan Rothstein in *Rothstein* (2004).

supposed to play the part of goal for the building. When telic verbs are in the progressive, the latter events need not occur. Another way of specifying goals is needed.

It might be objected that we could allow quantification over events even when they do not occur. But this is a position I cannot countenance. In order for our semantic theory to be respectable, we not only need to respect the linguistic data but our broad metaphysical intuitions as well. The existence of concrete events at a world that do not occur at that world is close in spirit to the existence of objects at a world that are not actual at that world. Since the latter are arguably undesirable, it seems that the former should be too.

Another issue with countenancing non-occurring existing events is that this only solves the problem temporarily. If the domain of events is populated with events that need not occur, then we must have a way of distinguishing the occurring from the non-occurring events we quantify over in our formalisms. Doing so should be principled and going at the task of deciding this seems no easier than confronting the problem head on by coming up with a way of avoiding quantifying over non-occurring existing events in the first place.

Lastly, and perhaps most importantly, the linguistic data does not seem to force the issue. In other words, I cannot come up with cases that seem to demand quantification over events that do not occur. So we are better off revising the current proposal for ‘Goal’.

At this point, I will borrow extensively from Forbes for good reason. Remember that Forbes’s account of ‘Char’ is a modal outcome account: roughly put, events are characterized by properties just in case certain courses of events end successfully. Forbes claims ‘Char’ is the contribution of the verb of creation, with the problem of intensionality for the progressive as his primary motive for introducing it. But it seems more likely that this is the result of the telicity of verbs of creation. The

fact that verbs of creation in the progressive give rise to the problem of intensionality for the progressive does not require information about modal outcomes since the problem can be resolved by revising the thematic relation (along the lines of Zucchi’s proposal). As I said above, ‘Char’ might be doing too much for what it is supposed to be representing.

When it comes to characterizing events, telic verb phrases and the types of events they denote seem to provide a natural context. Not all events that are describable by telic verb phrases end in their respective goals. But these events can still be characterized as having a certain goal. My running a mile is distinct from my running two miles because the first event can be characterized as having the state of having run a mile as its goal whereas the latter event can be characterized as having the state of having run two miles as its goal *despite the fact that neither goal needs to be reached*.

My initial proposal will follow the details of Forbes’s account of characterization and Zucchi’s account of verbs of creation closely, dealing first with the logical representations. (As will become clear, this proposal will need to be revised.) Verbs of creation will contribute ‘Theme’’. The progressive will contribute ‘Hold’. And the telic verb phrase will contribute ‘Goal’, where this is a relation of characterization between an event and a property. For a sentence such as ‘Mary was building a house’ we get the following logical representation:

$$(22) \quad \exists e \exists t (t < \text{Now} \ \& \ \text{building}(e) \ \& \ \text{Agent}(e, \text{Mary}) \ \& \ \text{Theme}'(e, \wedge \lambda P \exists x [\text{house}(x) \ \& \ P(x)]) \ \& \ \text{Hold}(e, t) \ \& \ \text{Goal}(a\text{-house}, e))$$

(22) has all the benefits of its predecessors and more. It does not entail the existence of any unwanted houses (as the result of the verb of creation contributing ‘Theme’’). The progressive contributes ‘Hold’ which takes as argument the event of building. This provides a plausible way of implementing the general principle that the progressive denotes an in-progress activity event since the building portion of building-a-house

events is the relevant activity. And the telicity of the verb of creation is captured by ‘Goal’ without entailing the existence of any non-occurring events.²⁵

It might be objected that my proposal separates out too much content to different sources. For instance, if Forbes’s predicate ‘Char’ can handle (or be made to handle) both the problem of intensionality for the progressive that verbs of creation give rise to in the progressive *and* the telic feature of verbs of creation, why separate out the content into separate features of the logical representation? Apart from theoretical or personal reasons for wanting to do so, what evidence can be marshaled in favor of my proposal to do so?

To respond to this objection, consider the following. The reason for making ‘Goal’ like Forbes’s ‘Char’ is that telic verbs with progressive aspect do not entail the successful completion of the denoted eventuality. This is a general problem for all telic verbs that combine with progressive aspect *irrespective* of whether the verb is a verb of creation or something else. This motivates the move to think of goals as characterizing events instead of as giving rise to a relation between two concrete events.

But, there is another issue that varies independently of this. When we have a verb of creation in the progressive, we also get failure of typical existential commitments from the quantified noun phrases that are involved. This failure of existential commitment is not present when the verb is not one of creation *even if* it is in the progressive. For example: ‘Mary was building a house’ does not entail that there was a house such that Mary was building it, but ‘John was eating a sandwich’ does entail that there was a sandwich such that John was eating it. Similarly for the sentences ‘Jill was making a birdhouse’, which does not entail the existence of a birdhouse, and

²⁵Since we have a predicate capturing the content of the verb of creation’s telicity, we have implicit information about the building event. In this case, the building event is separate from its goal and is characterized as having some property as its goal. This is why I claimed that ‘Hold’ can be interpreted in this context as denoting an in-progress activity even though the logical representation does not specifically introduce an activity predicate. This implicit information can be made explicit and perhaps there are linguistic reasons for pursuing such a route. Since the data at hand does not force the issue, I will stick with this more conservative representation.

‘Betty was crossing the street’, which does entail the existence of a street. And as I noted above, despite this variance in existential commitment none of these sentences entails the successful completion of the denoted eventuality. In other words, all these sentences can be true despite the fact that Mary need not finish her house, John need not finish eating his sandwich, Jill need not finish her birdhouse, and Betty need not make it across the street.

What this data suggests to me is that we ought to have separate mechanisms accounting for the problem of intensionality for the progressive and the telic content of the verb phrases. This is exactly what I have done with my proposal. For verbs of creation, following Zucchi, the thematic relation is captured with ‘Theme’, which blocks the unwanted entailments. For telic verb phrases, the telic content is captured by ‘Goal’, which is defined in such a way that we do not get unwanted entailments to completions. And in all these cases, the progressive content is captured by ‘Hold’ without modification or revision.

2.6.2 On the Interpretation of ‘Goal’

The considerations just presented capture the logical details with regard to licensing and blocking entailments, but now there is the issue of how to interpret ‘Goal’. In my remarks above, I simply took on board Forbes’s account of ‘Char’ when introducing ‘Goal’. But does this mean ‘Goal’ will be defined as (15)? Surely some revisions may need to be made since (15) was formulated with respect to search verbs and other paradigmatic intensional transitive verbs. Also, if the aim is to define ‘Goal’ to capture the telic content of some verb phrases, there is always Landman’s account of the progressive that Zucchi uses to revise ‘Hold’. This is another modal outcome account that can be used in the service of capturing what it means for an event to be characterized as having a particular goal. The aim of this section will be to argue for a Landman (and Zucchi) inspired account of ‘Goal’ over one that follows Forbes’s

account of ‘Char’.

Before proceeding, there are two relevant issues from the surrounding literature on the progressive and telicity that ought to be highlighted. First, when considering whether a particular event is characterized as having some goal, it is primarily features of the event as opposed to the surrounding circumstances that play a role. Consider a case where Jimmy is crossing the street. There is some event—Jimmy’s crossing—that we want to say is characterized by having as its goal Jimmy’s getting to the other side of the street. We take as evidence that it has this goal truthful utterances of ‘Jimmy is crossing the street’ or ‘Jimmy was crossing the street’. Now there are a range of cases where these sentences come out true, despite it seeming like there is no way for Jimmy to make it across. Assume Jimmy starts walking but gets hit by a bus. It is true that Jimmy was crossing the street. Assume Jimmy starts walking, gets hit by a bus, and there is a team of busses at varying lengths away from Jimmy, each of which is ready to take him down if the other fails. It is still true in this situation that Jimmy was crossing the street. Cases such as these suggest that, when determining the goal for some event such as Jimmy’s street crossing, it is the event of Jimmy’s crossing and factors internal to it as opposed to the surrounding external circumstances that are primarily relevant.²⁶

Second, when presenting and evaluating cases regarding telic verb phrases and characterizing goals, it is important to pay close attention to the prepositions used in the relevant verb phrase. For example, the verb phrase ‘crossing the street’ is telic. One test for this is to check for a failed entailment from the progressive to the non-progressive form of a sentence containing the verb phrase. Since ‘Jimmy was crossing the street’ does not entail ‘Jimmy crossed the street’, we have it that ‘cross the street’

²⁶Considerations of event locality is primarily discussed by Fred Landman in *Landman* (1992). Although the Landman’s discussion concerns the semantics of the progressive, I think these considerations are primarily relevant to determining the content of ‘Goal’ and so I introduce them here in this context. For more on event locality with respect to the semantics of the progressive, see also *Asher* (1992) and *Portner* (1998).

is telic. But ‘crossing towards the corner’ does not count as telic since ‘Jimmy was crossing towards the corner’ does entail ‘Jimmy crossed towards the corner’. The preposition ‘towards’ indicates a direction and not a goal in these cases. Similarly for swimming examples. If a person falls overboard and the ship is only a few hundred feet from the shore, then the person can be said to be swimming to the shore. If the boat is hundreds of miles from shore in the middle of the ocean, then the person can at best be said to be swimming *towards* the shore but not *to* the shore. Paying close attention to which preposition is acceptable in a particular context tells us about the telicity of the verb phrase.²⁷

Cases that motivate the above two considerations suggest that what determines when an event is characterized by a particular goal will depend on what would happen were the event to continue uninterrupted by external factors. For example, Jimmy is crossing the street irrespective of the number of buses that seem to be headed straight toward him. The swimmer that is only a few hundred feet from shore will probably make it. Assume he gets pulled under by a nearby shark. We would still accept that he was swimming to the shore when the shark pulled him under since, had the shark not been there, he would have made it. But this is not the case for the swimmer that falls overboard several hundred miles from the shore. Were that swimmer to continue swimming, he may not make it and so, it seems, the best we can do here is say that he is swimming *towards* the shore rather than *to* it.

I am not suggesting that we should analyze telicity, or ‘Goal’, in terms of these counterfactuals. But there does seem to be a tight connection between when an event can be characterized by a certain goal and a true counterfactual about what would occur were the event left to unfold uninterrupted by external factors. This kind of connection has been taken to underly the meaning of the progressive by various au-

²⁷This point is made by Graeme Forbes in (*Forbes*, 2006, p. 137). The swimming examples are due to Forbes.

thors.²⁸ What seems to be the case is that this intuition is best seen as underlying the telic content of certain verb phrases rather than the progressive. Whatever account of ‘Goal’ is offered should provide some explanation for this intuition.

Now to the accounts of ‘Goal’. Since I introduced ‘Goal’ in the context of Forbes’s account of ‘Char’, I will start with his account. It should be easy to see that (15) will not do since it provides, at best, a circular account of goal characterization. On the right hand side of (15) is the relation ‘R’ that holds between a course of events and an event just in case the event is made successful by that course of events. Since (15) is a schema that needs to be completed by verb specific information, ‘R’ will sometimes be the makes-successful relation, sometimes the meets relation, sometimes the discharges relation, or perhaps even the completes relation in the case of verbs of creation such as ‘build a house’. But on all of these specifications for ‘R’ we are using notions that presuppose an account of telicity. What does it mean for a course of events to make some event successful if not that the course of events brings about what the event was aiming at? Similarly for the completes relation: what does it mean for a course of events to complete some other event if not that the course of events brings about what the other event had as its goal? It is difficult for me to see how to specify ‘R’ in a way that will not presuppose some account of telicity, which is exactly what we want ‘R’, as part of (15), to explain.

Another reason to reject (15) as an account of ‘Goal’ is that \Box is interpreted as conceivability as opposed to possibility. Forbes’s preferred account of conceivability is:

- (23) $\Diamond P$ iff P is logically possible and there is no evident conflict between P and what we know *a priori*.

There are two main issues I have with this when providing an account of ‘Goal’. First, the relevant issues for determining when an event is characterized by some particular

²⁸Most notably, see *Dowty* (1979), *Kamp and Reyle* (1993), *Landman* (1992), and *Portner* (1998).

goal seem to depend on causal, dispositional, and structural features of the event itself and the world it is embedded in. These features, among others, seem to be the relevant factors for determining which worlds we ought to look to in allowing the event to unfold unincumbered by external factors. But then appeal to the *a priori* seems out of place. Additionally, it makes the determination of goal characterization epistemic in a way that the data does not clearly motivate.

Second, and more importantly, appeal to conceivability generates problems when using something like (15) to account for ‘Goal’. Consider the example sentence ‘Mary was building a house’. (15) says that Mary’s building is characterized by the property given by ‘a house’ just in case all conceivable courses of events that make the her building successful have events as parts with houses as their theme.²⁹ But consider the telic verb phrase ‘building a birdhouse’ and the example sentence ‘Beth is building a birdhouse’. Clearly the event of Beth’s building has as goal a finished birdhouse. But not all conceivable courses of events that make Beth’s building successful will have a birdhouse as theme for their event parts. For there will be some conceivable courses of events where Beth is building a doghouse the whole time but when she goes to put on the final piece of wood the molecules rearrange themselves to produce a birdhouse. Surely this course of events makes successful Beth’s building (since a birdhouse is produced) but does not have event parts with a birdhouse as their theme (since this conceivable course of events has a doghouse as theme throughout). So conceivability does not seem to be the desired sense of ‘possibility’ needed in specifying the content of ‘Goal’.³⁰

²⁹This is a rough translation of (15) since it is given using the resources of type theory. It is not exactly that houses will be the theme, but that a property f can be formed by taking objects satisfying the subevents’ relation ‘Theme’ that will then satisfy the higher order property given by ‘a house’.

³⁰Although this argument is meant to show that conceivability is not the appropriate modality to use when defining ‘Goal’, it also works as an argument against Forbes’s original proposal in which he uses conceivability as the relevant modality for defining ‘Char’. Since Forbes uses ‘Char’ to capture the content of verbs of creation, his account will also face difficulty in capturing the content of ‘Mary was building a birdhouse’ given the admittedly far-fetched but conceivable case I introduced above.

All of this seems to strongly suggest that (15) or close revisions to it will not do as an analysis of ‘Goal’. The predicates used in specifying the account seem to presuppose an account of telicity and interpreting \Box as conceivability generates the wrong results. Another way of interpreting ‘Goal’ is needed in order to capture when an event can be said to be characterized by a particular goal.

I suggest that we use Landman’s analysis of the progressive to account for the content of ‘Goal’, much like Zucchi used it to attempt an analysis of ‘Hold’. Whereas Zucchi was mistaken to attribute a modal outcome account to the progressive, it does seem that a modal outcome account is needed to capture the telic content of some verb phrases.

To pursue this account, we need to revise the logical form of ‘Goal’ before providing a Landman inspired interpretation. As it stands, ‘Goal’, like ‘Char’, is a relation between an event and a property in the sense of a feature of first order predicates. Let ‘Goal’ now be a relation between an event and a proposition **P**.³¹ The proposition in question will be one describing the successful culmination of the event it is characterizing.³² The logical representation for ‘Mary was building a house’ will then come out as:

$$(24) \quad \exists e \exists t (t < \text{Now} \ \& \ \text{building}(e) \ \& \ \text{Agent}(e, \text{Mary}) \ \& \ \text{Theme}'(e, \wedge \lambda P \exists x [\text{house}(x) \ \& \ P(x)]) \ \& \ \text{Hold}(e, t) \ \& \ \text{Goal}(e, \wedge \exists x, e, t (\text{house}(x) \ \& \ \text{Agent}(e, \text{Mary}) \ \& \ \text{Theme}(e, x) \ \& \ \text{Cul}(e, t)))$$

As with the first attempt to define ‘Goal’, (24) does not entail the existence of any unwanted houses or culminations.

To capture the content of ‘Goal’ on this formulation, we appeal to a suitable revision of Landman’s analysis of the progressive. I am here taking off from Zucchi’s

³¹Capital letters in bold face will be variables for propositions.

³²In type theoretic language, we are changing ‘Goal’ from a predicate of type $\langle\langle i, t \rangle, t \rangle, \langle i, t \rangle$ (which is how Forbe’s types ‘Char’) to a predicate of type $\langle i, \langle\langle s, t \rangle, t \rangle \rangle$. This revised type makes ‘Goal’ a relation between events and propositions (where propositions are treated as functions from worlds to truth values).

adaptation of it for the progressive and reformulating it so it applies to the telic content of some verb phrases treated as relations between events and propositions:

$$(25) \quad \llbracket \text{Goal}(e, \mathbf{P}) \rrbracket_{w,g} = 1 \text{ iff } \exists e', w', t' \text{ such that } \langle e', w' \rangle \in \text{CON}(g(e), w) \text{ and} \\ \llbracket \mathbf{P} \rrbracket_{w',g} = 1 \text{ and } \llbracket \text{Cul}(e, t) \rrbracket_{w',g[e/e', t/t']} = 1.$$

This analysis of ‘Goal’ makes use of the notion of a continuation branch. This notion should now be understood along the following lines.³³ Follow the development of e in w . If by doing so you find an event f of which e is a stage that culminates, stop; otherwise take the maximal event f of which e is a stage in w and go to the closest world where f goes on. Check whether this world is a reasonable option for e in the base world w . If it is, follow the development of f in this world until it culminates. If it does, stop. If it does not culminate, take the maximal event g of which f is a stage and go to the closest world where g unfolds. If that world is a reasonable option for e in w , then see if g culminates and so on. Proceed with this process until you reach a culminated event or you reach a world that is not a reasonable option for e in the base world w .³⁴ My proposal for ‘Goal’ says that it is satisfied by an event and a proposition just in case there is some event-world pair on the relevant continuation branch in which the proposition is true and whose event culminates in that world.³⁵

Defining ‘Goal’ in this way answers the problems that arose with subsuming Forbes’s account of ‘Char’ and the issues I started this section off with. On the sense of possibility involved: (25) does not use conceivability, so we do not run into the same problems that arose when using (15). An important feature of (25) is the construction of the continuation branch and the notion of “reasonable option” that

³³Note that when Zucchi defines what a continuation branch is, he does it relative to a property that is given by the verb phrase. I do not see a need to relativize the notion of a continuation branch in this way. So what follows is now closer to Landman’s original account of continuation branch than Zucchi’s adaptation of it.

³⁴(19) and the explanation of it just given are taken directly from (*Zucchi*, 1999, p. 194).

³⁵It should be noted that (25) needs to place some constraints on the relation between t and t' to make the correct predictions. As stated, it simply says there is some time t' at which ‘Cul’ is evaluated, but really we want this time to be given by the event e' on the continuation branch for e with respect to w .

plays a central role in this construction. When constructing the continuation branch for some event, we follow it until it is interrupted. We then find a world that is a reasonable option for that event. Although undefined in Landman's account, we can gloss it as allowing worlds that are expected, normal, or probable given features internal to the event in the world in which it began. Returning to the man-overboard example: when he falls off the boat a few hundred feet from shore, it is a reasonable option to look to worlds in which his swimming continues until he makes it to the shore, whereas when he falls off several hundred miles from the shore, it is not a reasonable option to consider worlds in which his swimming continues to the shore or very far at all. These cases can be dealt with using (25).

Given the way in which the continuation branch is constructed, the connection between telicity and some subjunctive conditionals is made clear. For some telic verb phrases, it seemed that there was a tight connection with conditionals of the form *if the event had not been interrupted, then it would have resulted in a successful completion*. But the continuation branch just is a formal way of spelling out what it means for an event to successfully complete itself when it is not interrupted. So we get the connection with subjunctive conditionals as a result of (25) and not as a result of the progressive.

2.7 Concluding Remarks for Chapter 2

When we talk about objects coming into existence, we typically use progressive sentences with verbs of creation, the latter of which are classified as telic. This gives us insight into that puzzling state of coming into existence.

For example, consider Mary's house building project. At any time before she is done, it is true that Mary is building a house. On my proposal, this comes down to the following. There is some event that is a building event. This event's goal is a state in which a complete house exists that is a result of Mary's building. This is

captured in my proposal by characterizing Mary's building event by a proposition. So the "coming into" part of the houses's coming into existence reduces to there being an incomplete building event that is characterized as having a goal in which a house exists.

During the building process, there is no house. There may be walls, floors, and other parts of the soon-to-be completed house, but there is no house. My proposal captures this by allowing the verb of creation to introduce a special thematic relation that relates Mary's building event to a property, here the property of being a house. This provides a deflationary perspective on the status of the house during the creation process: the way we talk about houses coming into existence does not commit us to the existence of incomplete houses or subsisting houses, just events of building and properties. The "coming into existence" part is captured by the progressive and the telicity of the verb of creation, whereas the status of the house is captured by the special thematic relation introduced by the verb of creation.

So what seems like a puzzling state of affairs, need not be so puzzling once a closer look is taken at the linguistic expressions used to talk about it. Of course, one puzzling state of affairs is traded for others. In the process of giving my proposal, I appealed to notions such as *event*, *internal* and *external factors*, *reasonable options*, and so on. But all of these were motivated by linguistic data and semantic considerations. And, I believe, we have a decent enough grasp on these notions to ward off any attempts to refute my analysis as heaping confusion upon confusion. We can not always expect utmost clarity, but what we can demand are linguistically and semantically adequate proposals that aim to clarify the expressions and puzzles at issue even when introducing notions that are left unaccounted for.

2.8 Appendix to Chapter 2: Perfective Sentences, Culminations, and Goals

I have primarily focused on progressive sentences with verbs of creation in developing my account. But I left out of view some potentially significant data for developing an account about the progressive, verbs of creation, and telicity: perfective sentences with verbs of creation. In this section, I raise various issues from perfective sentences with verbs of creation and argue that none are serious enough to revise the account I have offered here.

What is the problem? Take ‘Mary was building a house’. As the data shows, this sentence does not entail the existence of a house such that Mary was building it. The case seems to be markedly different for ‘Mary built a house’. This sentence *does* entail the existence of a house such that Mary built it. Also, ‘Mary built a house’ entails that a house came into existence as the result of Mary’s building—i.e., that the goal was reached. But on my account both the thematic relation introduced by verbs of creation and the goal relation introduced by telic verb phrases block such entailments. This seems problematic.

What is problematic to me about this objection is that it assumes that the entailments hold as a matter of meaning. If this is so, then there is a problem for my account insofar as I have made general claims about the contribution to content of the progressive, verbs of creation, and telic verb phrases. But I think there is reason to deny that these entailments hold as a matter of meaning.

Consider the case of a poet called ‘Lilith’ writing poems. Lilith does not dare record any of her poems with pen and paper. If she commits them to paper, she may forget them. Perhaps the paper gets lost among her myriad things or burns at the hand of a rival poet. Lilith is plagued by such fears, so she writes poems in her head. She has entire collections of poems she has written, but never recorded, all of which

live in her mind.

Now, it seems entirely correct to me to say that Lilith wrote a poem in any context in which she successfully composes one in her head. But here there is no poem in existence such that she wrote it, since the poem was never committed to paper. So we have the truth of ‘Lilith wrote a poem’, but the entailment to there being a poem she wrote seems to fail in this case.³⁶

So it is fine, as a matter of meaning, to have the verb of creation and the predicate for goals continue to relate events to intensional entities such as properties and propositions. So far, the data from perfective sentences does not seem to pose a problem.

But what about the specific cases in which the entailments do go through? How are they to be accounted for? They can be accounted for via meaning postulates for the specific verbs that license them. Let’s assume ‘build a house’ is one of them. The suspected entailments occur for perfective sentences. Following the theme of using Parsons’s account of the progressive, we will also assume his account of non-progressive sentences. Instead of using ‘Hold’, these sentences will have ‘Cul’ in their logical form, which loosely says that the event has culminated at some time.

Zucchi has already provided the solution with regard to the thematic relation via the building principle.³⁷ It proceeds as follows. Let ‘Theme*’ abbreviate $\lambda e \lambda x [\text{Theme}'(e, \lambda X.X(x))]$. The entailment to the existence of a house carried by the sentence ‘Mary built a house’ can be accounted for by the following principle, called *Building Principle*:

$$(26) \quad \forall e \forall t \forall x \forall Q [[\text{building}(e) \ \& \ \text{Agent}(e,x) \ \& \ \text{Cul}(e,t)] \rightarrow \\ [\text{Theme}'(e,Q) \leftrightarrow \exists Q \lambda y (\text{Theme}^*(e,y))]]$$

Since a sentence like ‘Mary built a house’ will predicate of the building event that

³⁶See (Zucchi, 1999, p. 190, fn. 4) for a brief discussion about this issue. For more examples concerning the failed entailment with the perfective, see (Szabó, 2008, p. 518).

³⁷See (Zucchi, 1999, p. 189).

it culminated, the *Building Principle* will apply and the existence entailment will go through.³⁸

Following this style of meaning postulate, I will introduce another called *Culminated Building Principle*:

$$(27) \quad \forall e \forall t \forall x \forall \mathbf{P} [[\text{building}(e) \ \& \ \text{Agent}(e,x) \ \& \ \text{Cul}(e,t)] \rightarrow [\text{Goal}(e,\mathbf{P}) \leftrightarrow \mathbf{P}]]$$

This principle says that if there is a culminated building event, then it is characterized as having a proposition \mathbf{P} as its goal just in case the proposition is true at the world in which the event occurs. This will get the entailment to a goal in cases where such entailments are demanded by the data.

It seems to me that the data from perfective sentences with verbs of creation does not pose a problem for the account I have offered here. One of the primary motivations for my account is the progressive case of verbs of creation, which do block the entailments in question. My account intended to capture and shed light on these cases. Entailments can then be licensed with principles like the *Building Principle* and the *Culminated Building Principle* when needed. But the presence of those entailments should not be taken as the starting point, since the data from the progressive is typically seen as the more problematic to explain and so should be dealt with prior to the easier cases.

³⁸It is important that perfective sentences predicate ‘Cul’ of the event in question. Since the verbs we are dealing with here are telic, the predicate ‘Cul’ will also appear in the characterizing proposition. However, since ‘Cul’ appears in the specification of the proposition, it does not predicate that the event denoted by the verb phrase has culminated. Only when such a predication occurs will the meaning postulate be triggered.

CHAPTER III

Against an Extensionalist Account of Verbs of Creation in the Progressive

3.1 Introduction to Chapter 3

Among those objects that currently exist, such as the Eiffel Tower and the Taj Mahal, there was a time at which they did not exist. In between then and now, they came into existence by some process of creation. But they were the lucky ones! Sometimes processes of creation go awry. I might be making a birdhouse and not produce one.

At least, I might not produce one according to the assumed view on this matter, which I will here call the *Non-commitment View*. Consider the way we talk about processes of creation. We use the progressive (i.e., the *is VERB-ing* construction in ‘Mary is building a house’) with some verb of creation (e.g., ‘build a house’).¹ It is a fact about a sentence such as ‘Mary is building a house’ that it can be true without Mary completing her project. Let Mary begin to build, but housing loans dry up and she cannot afford to continue beyond laying the foundation. Just before she abandons the project, it is true that she is building a house despite the fact that she will not

¹More precisely, some *verb phrase of creation*, but for the most part I will call them ‘verbs of creation’.

finish. And in these cases, according to non-commitment view, no house is produced.²

Recently, some have rejected this view. They either point to cases in which typical speakers would call the unfinished house a ‘house’ or they introduce other cases that provide evidence for an entailment to a *thing* being produced.³ On either account, the non-commitment view is wrong. Even if Mary does not finish, she did make something, either a house or an object-in-progress.⁴

There is something to be learned from both the non-commitment view and those that reject it. Some cases do show that it is appropriate to call an unfinished house a ‘house’. I propose that contextual variation in standards of applying ‘house’ accounts for these data. But there are also examples of true progressive sentences with verbs of creation, such as ‘Mary was building a house’, where we do not infer the existence of a house. In these cases we need to account for the meaning of ‘a house’, given that a plausible constraint on its interpretation (i.e., that it denotes the existence of a house) is violated. Some of those that reject the non-commitment view claim that in these latter cases we do infer the existence of some *thing* and that this entailment motivates a commitment to objects-in-progress that cannot be described as ‘houses’. As a result, they claim that ‘a house’ should be treated extensionally and given an appropriate extensional semantics. I will argue against accepting this entailment and in favor

²For the classic argument, see Fred Landman’s formulation in (*Landman*, 1992, p. 8). This view is also assumed, although implicitly, by *Dowty* (1979), *Portner* (1998), and others who advance a modal semantic account of progressive aspect. The non-commitment view is typically paired with a modal semantics for the progressive. On these modal accounts, ‘Mary was building a house’ comes to mean, roughly, that Mary will eventually build a house in all worlds in which her building proceeds normally (which may not include the actual world). When the non-commitment view is paired with modal accounts of the progressive, they are committed not only to the failed existential commitment of ‘a house’ in ‘Mary was building a house’, but to the failed existential commitment of the object position following ‘Mary was building’. I will leave this detail out of the main text until later.

³The emphasis on ‘thing’ is intentional. It is meant to indicate that some object is produced. As Zoltán Gendler Szabó points out, using ‘something’ instead of emphasizing ‘thing’ is misleading. I can say that Francis was looking for something when he was looking for a unicorn, even though there is no *thing* he was looking for (since, alas, unicorns do not exist). See (*Szabó*, 2008, p. 500).

⁴Terence Parsons is responsible for the first rebuttal in which an unfinished house is appropriately called ‘a house’. See (*Parsons*, 1990, p. 174). Szabó is responsible for the second rebuttal in which there is some *thing* being built—an object-in-progress—even if this *thing* cannot be described with ‘house’. See *Szabó* (2008).

of what I call *the property account*. Following work by Graeme Forbes and Sandro Zucchi, I propose that ‘a house’, when in the object position of a progressive sentence with verb of creation, should be treated intensionally by denoting the property of being a-house.⁵ By taking this property view, I will be in a position to shed light on processes of creation in the unfortunate cases when they go awry.

3.2 The Non-Commitment View

The Non-Commitment view denies that ‘a house’ denotes a house when it occurs in sentences such as ‘Mary was building a house’. To see the motivation for this view, I will first describe a plausible constraint on the interpretation of ‘a house’ and then provide some cases regarding the violation of this constraint.

Typically, indefinite noun phrases such as ‘a house’ are taken to have existential commitment. When I say that I am taking a picture of a house, it follows that there is a house that I am taking a picture of. For similar reasons, I cannot take a picture of a unicorn, since (alas) they do not exist. When I eat a sandwich, I am eating some *thing*. I cannot eat a unicorn sandwich in part because there are no unicorns to make sandwiches out of. The sandwich I am eating and the house I am taking a picture of, in some sense, serve as the denotation of the indefinite expressions ‘a sandwich’ and ‘a house’ respectively. These examples are typical and other examples can easily be provided for other indefinite expressions such as ‘a cat’, ‘a wheelbarrow’, and ‘an airplane’. Roughly and generally speaking, the following seems to be a plausible constraint on the interpretation of indefinite noun phrases: a given indefinite expression *a Q*, when used in a sentence in a typical and non-deviant way, entails the existence of some object that is appropriately describable as a Q.⁶

⁵For Graeme Forbes’s work in this area, see *Forbes* (2006); for Sandro Zucchi’s work in this area, see *Zucchi* (1999).

⁶For ease of discussion, I am focusing on phrases such as ‘a house’ and ‘a cat’, but I intend the discussion to hold for other indefinite noun phrases such as ‘two houses’, ‘three cats’, ‘a dozen airplanes’, and so on.

This typical existential commitment quickly runs up against a curious context. Some verbs are about processes of creation: the verb phrase ‘make a cake’ is intuitively about a process in which a cake is produced. Call these verbs *Verbs of Creation*. Verbs in English occur with a particular aspectual profile. The progressive and the difference between perfective and imperfective aspect is one example. When I am talking about Mary and her house-building, I have a choice about how to present the situation. I can say ‘Mary has built a house’ or I can say ‘Mary was building a house’. The former sentence, which is an example of perfective aspect in English, presents Mary’s house-building as a whole unit, complete and finished. The latter sentence, which is an example of progressive marking and imperfective aspect in English, presents Mary’s house-building as incomplete, in progress, and from within.⁷ These two types of expression—the progressive and verbs of creation—are typically used when talking about processes of creation, as in the sentence ‘Mary was building a house’.

When indefinite expressions occur in the object position of a verb of creation with progressive aspect they lose their typical existential commitment. Consider the example sentence ‘Mary was building a house’.⁸ Let’s say that Mary is a contractor and home-builder who is starting to build her new home. After taking time to carefully draft the plans for her project, she has purchased all the materials she will need and has started to lay the foundation. After completing the foundation, she receives news from abroad that her mother is not well. She abandons her project for good to return home. In this context, Mary was building a house. But the result of her unfinished building project is not a house. All that is left is the foundation, not anything that typical language users would call a ‘house’. So we have a case where an indefinite expression occurs in the object position of a verb of creation with progressive aspect

⁷These loose comments about the meaning of the progressive present the classical wisdom about progressive aspect, at least as described by Fred Landman. See (*Landman*, 1992, p. 1). I will not be giving a detailed account here about how to turn the classical wisdom into a more precise proposal about the meaning of the progressive. In forthcoming work, I engage this issue in more detail.

⁸When illustrating these points with concrete examples, it is much easier to work with past tense examples. Nothing hinges upon this in terms of the arguments of this paper.

and loses its typical existential commitment.

The non-commitment view takes cases such as these seriously. It is typically accompanied by attempts to analyze the progressive so that the failed entailment to the existence of a house is accounted for while maintaining commitment to the plausible constraint on indefinite expressions.⁹ An alternative way to account for these data is to interpret ‘a house’ differently when in the object position of verbs of creation with progressive aspect, while maintaining its existential commitment elsewhere.¹⁰ No matter the strategy, the non-commitment view is that indefinite noun phrases do lose their typical existential commitment in cases where we are talking about processes and objects of creation.

3.3 (Incomplete) Houses and the Contextual Nature of ‘House’

Terence Parsons responds by providing cases in which we do infer the existence of a house *and* there is a true progressive sentence with verb of creation. For example, consider Mary’s case again, where she has started construction on her home. This time the foundation is set and a couple of walls are up before she has to take a break from building.¹¹ In this situation, according to Parsons, there is a house that Mary is building. Which house? In Parsons’s words: “...the incomplete or unfinished

⁹This is typically carried out by analyzing a sentence such as ‘Mary was building a house’ as ‘Mary built a house’ in all worlds in which Mary’s house-building continues normally. Since her house-building need not continue normally in the actual world, it is not required that an actual house is produced. But since the worlds in which her house-building finishes are worlds in which a house is produced, ‘a house’ is given its typical existential commitment in *those* worlds. I call this view *the modal view* of the Progressive and argue in chapter 1 that it should not be accepted. For proponents of the modal view, see *Dowty* (1979), *Landman* (1992), and *Portner* (1998). It should also be noted that the modal view of the progressive blocks all existential commitment of the object position following ‘Mary was building’ in ‘Mary was building house’. This is important to see, since Szabó argues that ‘Mary was building a house’ entails the existence of some *thing* even though it is not describable with ‘house’.

¹⁰I will pursue such a strategy at the end of this paper. The main proponents of this strategy are *Forbes* (2006) and *Zucchi* (1999).

¹¹In this case, we imagine Mary is taking a break, but not a permanent one. This difference is to make the follow-up responses fit the situation and does not affect Parsons’s argument or my response.

one. This will no doubt raise some eyebrows, but, given the linguistic conventions of English, the object before us is properly described as a ‘house’.”¹² Assuming, as Parsons does, that unfinished houses are in the extension of ‘house’, then the entailment to the existence of a house given the truth of ‘Mary is building a house’ goes through.

Parsons’s response might seem a little forced, but it is easy to back up with natural examples. In this situation, imagine we are standing in front of the building site. Someone asks of the unfinished structure in front of us, “What is it?” It would be natural to respond, “That’s Mary’s house.” Or walking around the neighborhood with potential buyers who are inquiring about Mary’s projects, it would be natural to respond, “Here is a house that Mary is building. It will be finished within the year.” In both cases, the house that is talked about is not finished. It is just a foundation and some walls. Nonetheless, it is natural to call such incomplete structures ‘houses’ in some contexts.

These cases show that the non-commitment view cannot be entirely correct as stated. Indefinite noun phrases such as ‘a house’ when in a sentence such as ‘Mary was building a house’ do not always fail to denote the existence of a house. But, they do not always denote the existence of a house either.

Consider the following.¹³ Mary is constructing her new home in a neighborhood where all the other homes are complete. She is building right in the middle of two complete homes. Then, as the project moves underway, she is transferred to a new job overseas and so must stop building. All that is left, again, is the foundation and a couple of walls. Imagine someone coming up and looking at her lot and saying,

¹²See (*Parsons*, 1990, p. 174). The example I presented here is like Parsons’s example in that Mary stops her project when only a quarter of the house is built. In this situation, Parsons claims that the nominal ‘house’ applies to the object left behind when Mary stops building.

¹³Keep in mind that I already gave an example illustrating the current point—not all contexts in which ‘Mary was building a house’ is true are such that the resulting structure is called a ‘house’—when I introduced the non-commitment view. However, the current example will illustrate an important feature about the contextual nature of nominals.

“Here are three houses all next to each other.” Surely, they have mistakenly counted, since although there are two houses flanking her property, there is no house on it. Or imagine someone walking down the sidewalk counting off the houses as follows, “Here is a house. Here is a house.” When in front of Mary’s lot, surely this person would not say, “Here is a house.” Given the other complete houses around the unfinished structure in front of him, it comes across as anything but a house.¹⁴ In this case, although it is true that she was building a house, the leftover structure is not properly called a ‘house’.¹⁵

Examples such as these are easy to produce. John loves to draw circles. Imagine a situation in which John is drawing a circle, is about three quarters of the way done, but then runs downstairs to eat dinner. When commenting on his drawing, it would be quite natural to say, “Here is another one of John’s circles.” Or if one of John’s parents asks the other what John drew, it would be natural to say, “He drew a circle, but didn’t finish it.” Here the unfinished circle is naturally called a ‘circle’ in these contexts.

Now change the example so that we are comparing examples of John’s drawings. One is from a situation in which John was drawing a circle, but only got about halfway done before running downstairs for dinner. The other two are of complete circles. Putting these pictures side by side, it seems clear that we have two pictures of circles and one of a half-circle. When presenting them to someone, it would be a mistake to say we have three pictures of circles. And counting them off one by one,

¹⁴Szabó introduces similar examples to argue that “incomplete houses are not houses” (although he does go on to say that in some cases “we might count ones that are close enough to completion”). (*Szabó*, 2008, p. 511) I do not completely agree with Szabó, since, as I will go on to suggest, I think counting examples such as the ones just given, when considered in light of Parsons’s cases, show that ‘house’ is contextually sensitive.

¹⁵This provides a counterexample to Parsons’s response to the question, “How much of a house needs to be built before it is correctly describable as a house?” He responds, “If we were willing to say that Mary was building a house, and to maintain this in the face of ordinary sorts of criticism, then that would be enough.” (*Parsons*, 1990, p. 174) In the example I have just given, there is no doubt that Mary is building a house despite the structure that is left over not properly being called ‘a house’. The example I gave in the previous section (on the non-commitment view) provides another counterexample.

it seems like a mistake to say, “Here’s a circle,” when the last one is only a half circle compared to the other two examples. So again, in some contexts, ‘John was drawing a circle’ can be true without anything resulting from that drawing that is describable with ‘circle’, whereas in other contexts John can be drawing a circle, not finish, and we would still call the result a ‘circle’.

What this suggests is that English nominal phrases like ‘house’ and ‘circle’ are contextually sensitive. Some contexts allow incomplete objects in the extension of a nominal phrase. Other contexts, with supposedly higher standards or with more exemplars that are contextually salient, do not.¹⁶

So the non-commitment view and its supporters can learn from Parsons’s examples. It is not the case that indefinite noun phrases always lose their typical existential commitment when they occur in sentences with progressive aspect and verbs of creation. But, Parsons has not completely put to rest the non-commitment view, since when the standards are high, an indefinite noun phrase such as ‘a house’ will lose its typical existential entailment even though a progressive sentence such as ‘Mary is building a house’ is true in the same high standards situation. So a residual problem remains that is close in spirit to the non-commitment view.

3.4 A Solution-in-Progress

Szabó agrees with the non-commitment view that ‘a house’ in ‘Mary was building a house’ lacks its typical existential commitment. But, he argues that there is still commitment to a *thing*, albeit an object-in-progress. To account for both the failed commitment to houses and the positive commitment to houses-in-progress, he proposes that indefinite expressions in the object position of a verb of creation with

¹⁶The cases clearly suggest something along these lines, although I will not pursue a detailed account here. For my current purposes, this is sufficient to show that Parsons’s reaction to the non-commitment view is not entirely correct. I will leave a detailed treatment of the contextual nature of nominals for a later time.

progressive aspect typically denote an object-in-progress by way of a special predicate modifier ‘IP’. ‘IP’ modifies a predicate such as ‘house’ to form the complex predicate ‘IP(house)’ that is satisfied by houses-in-progress in particular and objects-in-progress in general. Objects-in-progress are *things* just like tables, chairs, and iguanas, and so can be demonstratively and anaphorically referred to (using ‘that’ and ‘it’ respectively) as well as existentially quantified over. But even though ‘IP(house)’ denotes a house-in-progress, Szabó goes on to suggest that ‘IP’ blocks exporting the predicate ‘house’ to describe the house-in-progress, thereby blocking entailments to the existence of a house in contexts where ‘Mary was building a house’ is true.

I will first present the cases Szabó takes to support his proposal. Next, I will provide the details for how his proposal accounts for these cases as well as the failed existential commitment of ‘a house’ in ‘Mary was building a house’. Lastly, I will put pressure on both the data and his proposal, suggesting that an alternative account where ‘a house’ denotes a property is preferable.

3.4.1 Examples in Support of a Solution-in-Progress

To start with, there is the intuition working for him that the truth of ‘Mary is building a house’ does entail that there is some *thing* she is building. It may not be describable with ‘a house’, but there surely seems to be something that she is building. Consider the denial of this: ‘Mary is building a house but there is no *thing*/nothing she is building.’ This seems to be very hard to interpret, if not simply incomprehensible. So Szabó has these intuitions working in his favor.

He does present two other kinds of cases to support this entailment. First, there seems to be a distinct contrast in the intelligibility of follow-up questions of location between sentences with progressive aspect and verbs of creation, on the one hand, and sentences with typical intensional transitive verbs such as ‘seek a unicorn’, on

the other.¹⁷ For example, consider the following pairs:

- (28) a. —I am seeking a house.
b. ??—Oh yeah? Where is it?
- (29) a. —I am building a house.
b. —Oh yeah? Where is it?

Assuming progressive sentences with verbs of creation block entailments to the existence of some object, then we should expect indefinite expressions to behave similarly in them, as is seen with indefinite expressions in typical intensional transitive verbs.¹⁸ However, whereas the follow-up question seems decidedly odd in (28), it is not at all odd in (29).¹⁹ The problem seems to arise from the misuse of ‘it’ in a follow-up question to a sentence with an intensional transitive verb. Since one can be seeking a house but no particular one, it does not make sense to use ‘it’ to refer to the house one is seeking. The lack of this problem in (29) suggests that ‘I am building a house’ does provide an object that ‘it’ can refer to in a follow-up question. As I indicated above, Szabó is not claiming that ‘I am building a house’ entails the existence of a house, but only that it entails the existence of some *thing* that can be the reference of ‘it’ in contexts such as (29).²⁰

Second, there seems to be a distinct contrast in the availability of demonstrative reference between progressive sentences with verbs of creation and sentences with

¹⁷Szabó presents these data in (*Szabó*, 2008, p. 508). For more on intensional transitive verbs, see *Forbes* (2008).

¹⁸By ‘similar behavior’ I mean similar semantic behavior of the indefinite expression itself as well as similar semantic effects on surrounding expressions. I am assuming this is what Szabó has in mind when he presents his argument.

¹⁹It is important for this example as well as similar examples using intensional transitive verbs to focus on the non-specific, *no particular one* reading. On this reading, the follow-up question in (28) is decidedly odd.

²⁰There are some cases where ‘it’ follow-ups are fine. John is engaged in a general house search. The following seems fine: *John is looking for a house. It must be two stories.* This is an example of what is called *modal subordination*. But this is an appropriate use of ‘it’. Szabó’s examples are not cases of modal subordination, but separate cases where a non-specific use of an intensional transitive verb is followed by a use of ‘it’ asking for a specific object. These ones seem to be marked for oddity, as Szabó claims.

typical intensional transitive verbs.²¹ As Szabó claims, if I successfully complete a general search for a house I began last October, I cannot point at it and say (30), but if I successfully complete the building of a house I began last October, I can point at it and say (31):

(30) ?? *This* is what I was seeking since last October.

(31) *This* is what I was building since last October.

Assuming progressive sentences with verbs of creation block entailments to the existence of some object, then we should expect indefinite noun phrases to behave similarly in those kinds of sentences, as is seen with indefinite expressions in typical intensional transitive verbs.²² However, whereas the use of a demonstrative seems decidedly odd in (30), it is not at all odd in (31). The problem seems to arise from the fact that a person can be seeking a house without any particular house being sought. In these cases, there is no house to play the referent of ‘this’ that is also the thing being sought for since last October. The lack of oddity in (31) suggests that there is a *thing* to play the referent of ‘this’ that is the thing being built since last October, whether or not it is appropriately describable as a house.

3.4.2 Event Semantics and the Progressive

Szabó presents his proposal within the general framework of Parsons’s event semantics. Before presenting Szabó’s proposal in detail, I will first start by laying out Parsons’s framework, focusing on the specific component where the unwanted entailment to houses arise, and then show how ‘IP’ and objects-in-progress fit in.

Since Donald Davidson’s seminal work on events and the logic of adverb dropping inferences, it is common to treat verbs and adverbs along the lines of more familiar predicates such as ‘is red’.²³ Where ‘is red’ is standardly treated as saying something

²¹The presentation here follows Szabó’s presentation of the same data. See (*Szabó*, 2008, p. 508).

²²For what I mean by ‘similar behavior’, see footnote 18.

²³The classic reference for this is *Davidson* (2001b). See also related essays in *Davidson* (2001a).

about an object, Davidson’s proposal is to treat verbs and adverbs as saying something about an event. Furthermore, instead of having a verb phrase such as ‘stab in the back’ be treated as a single unstructured predicate of events, Davidson introduces structure: ‘stab’ and ‘in the back’ are treated as separate predicates of events, with a sentence such as ‘Brutus stabbed Caesar in the back’ amounting to there being an event that is a stabbing and that is in the back.

Extending Davidson’s proposal, Parsons treats the progressive as a predicate of events. More precisely, he treats the progressive as a relation between an event and a time, saying that the event holds at some time. On this proposal, a sentence such as ‘Brutus was stabbing Caesar in the back’ will amount to there being an event that is a stabbing, that is performed by Brutus, that is directed at Caesar, that is in the back, *and* that holds at some time.²⁴

Parsons also extends Davidson’s account to include perfective aspect. More precisely, he treats perfective aspect as a relation between an event and a time, saying that the event culminates at some time. On this proposal, a sentence such as ‘Brutus stabbed Caesar in the back’ will amount to there being an event that is a stabbing, that is performed by Brutus, that is directed at Caesar, that is in the back, *and* that culminated at some time.

Tying these intuitive proposals together into a formal proposal, we get the following formulas for the example sentences ‘Agatha was crossing the street’ and ‘Agatha crossed the street’:

- (32) a. Agatha was crossing the street.
 b. $\exists e \exists t (t < \text{Now} \ \& \ \text{crossing}(e) \ \& \ \text{Agent}(e, \text{Agatha}) \ \& \ \text{Theme}(e, \text{the Street}) \ \& \ \text{Hold}(e, t))$
- (33) a. Agatha crossed the street.

²⁴The time in question will be the result of the time of utterance and the tense profile of the sentence in question. I am suppressing these details for ease of presentation.

- b. $\exists e \exists t (t < \text{Now} \ \& \ \text{crossing}(e) \ \& \ \text{Agent}(e, \text{Agatha}) \ \& \ \text{Theme}(e, \text{the Street})$
 $\ \& \ \text{Cul}(e, t)$

As I explained above, the predicate ‘Hold’ is provided by the progressive and the predicate ‘Cul’ is provided by the perfective.²⁵ Additional predicates such as ‘Agent’ and ‘Theme’ are referred to as *thematic roles* and are meant to assign relevant participants to events, such as the person doing the crossing and the thing that is crossed.²⁶

Parsons’s proposal quickly generates the problematic entailment at issue. Consider our recurring example of Mary and her incomplete attempt to build a house. Since the sentence that is relevant in that context is ‘Mary was building a house’ we will have at least the following in its formal representation: (i) a predicate ‘building’ representing the content of the verb; (ii) a relation ‘Agent’ between the event denoted by the verb and the agent of the event, in this case Mary; (iii) a relation ‘Theme’ between the event denoted by the verb and the denotation of ‘a house’, which is given in the formal representation by an existentially quantified formula; and (iv) a relation ‘Holds’ between the event denoted by the verb and a time, which represents the progressive. The result is as follows:

- (34) a. Mary was building a house.
 b. $\exists e \exists t (I < \text{Now} \ \& \ \text{building}(e) \ \& \ \text{Agent}(e, \text{Mary}) \ \&$
 $\ \exists x [\text{house}(x) \ \& \ \text{Theme}(e, x)] \ \& \ \text{Hold}(e, t)$

Now (34b), which is the translation of (34a) according to Parsons’s semantic theory, entails $\exists x [\text{house}(x) \ \& \ \text{Theme}(e, x)]$ —i.e., some house exists that was the one Mary

²⁵These example sentences are adapted from Paul Portner’s work on the progressive and modality. See (*Portner*, 1998, p. 763). They are inadequate as they are formulated. For example, they do not adequately translate and capture the internal structure of definite noun phrases and the primitive account of tense needs to be revised. However, their inadequacies will not affect the discussion of this section.

²⁶Thematic roles are not a necessary component of the event semantic framework. But given recent syntactic work on verbs and their arguments that investigate intuitive relations among sentences such as ‘Brutus stabbed Caesar with the knife’ and ‘Caesar was stabbed by Brutus with the knife’, thematic roles seem explanatorily desirable. For a brief introduction to the way thematic roles function in event semantics, see (*Parsons*, 1990, ch. 5). For a more thorough discussion of thematic roles, see *Dowty* (1991).

was building. This is the entailment we do not want to license in all contexts. So (34b) must be revised.

The problem with (34b) as a representation of (34a) arises from the introduction of the predicate ‘Theme’, the representation of ‘a house’ with an existentially quantified formula, and the entailment they license. This suggests that a solution should come from revisions to these parts of the representation and *not* from the part representing the progressive. The problematic entailment results from ‘Theme’ relating the event of Mary’s building to a house that is the denotation of ‘house’ and that is being affected over the course of Mary’s building. This is where Szabó’s predicate modifier proposal comes in.

3.4.3 ‘IP’ and Houses-in-Progress

Building on Parsons’s event semantics, Szabó proposes that we introduce a predicate modifier ‘IP’ that takes predicates such as ‘house’ and returns a complex predicate ‘IP(house)’. A *thing* satisfies the formula ‘IP(house)(x)’ just in case it is a house-in-progress. As a further constraint on ‘IP’, the predicate it modifies (e.g., ‘house’ in ‘IP(house)’) cannot be exported. In other words, it cannot be used to describe the thing it applies to.²⁷

‘IP’ is introduced as part of the meaning of indefinite noun phrases when in the object position of progressive sentences with verbs of creation. When ‘a house’ occurs in ‘Mary was building a house’ it will be assigned ‘IP’ in the following way:

$$(35) \quad \exists e \exists t (t < \text{Now} \ \& \ \text{building}(e) \ \& \ \text{Agent}(e, \text{Mary}) \ \& \\ \exists x [\text{IP}(\text{house})(x) \ \& \ \text{Theme}(e, x)] \ \& \ \text{Hold}(e, t))^{28}$$

²⁷More formally put: $\exists x (\text{IP}(\text{house})(x) \ \& \ \text{blue}(x)) \vdash \exists x (\text{blue}(x))$ but $\exists x (\text{IP}(\text{house})(x) \ \& \ \text{blue}(x)) \not\vdash \exists x (\text{house}(x))$.

²⁸This is slightly different than Szabó’s presentation. He does not represent tense and he leaves the indefinite expression *in situ* as follows: $\exists e \exists t (t < \text{Now} \ \& \ \text{building}(e) \ \& \ \text{Agent}(e, \text{Mary}) \ \& \ \text{Theme}(e, \text{a IP}(\text{house})) \ \& \ \text{Hold}(e, t))$. Given the typical existential commitment of indefinites, my introduction of an existential quantifier does not significantly alter Szabó’s presentation of his proposal.

Given the constraints on ‘IP’, (35) entails that Mary is building some *thing* while blocking the entailment to the existence of a house that she is building. So far, so good for Szabó’s proposal.

Before moving on, it should be noted that Szabó does not claim that ‘IP’ is obligatory whenever an indefinite expression occurs in the object position of a progressive sentence with verb of creation. The sentence ‘Ned was carving a large block of stone’ seems to entail the existence of a large block of stone that Ned was carving and so we do not want ‘IP’ to show up in the meaning of ‘a large block of stone’ in this particular sentence. Additionally, Szabó believes there are cases where ‘Mary was crossing the street’ does not entail the existence of a street that she was crossing. (Imagine a crew of thugs dismantling the street as she is crossing.) If such a reading is possible, it can be accounted for using ‘IP’ even though ‘crossing the street’ is not a verb of creation.²⁹

But I am interested in how we talk about coming into existence and it is precisely the role of ‘IP’ in progressive sentences with verbs of creation along with the examples Szabó uses to motivate ‘IP’ that I take issue with.

3.4.4 Against a Solution-in-Progress

If Szabó is correct, then whenever we are engaged in the process of bringing something into existence a *thing* exists right from the get go that is the nascent form of the complete object it will become. The *thing* that exists from the start is definitely an incomplete thing insofar as it is an object-in-progress, as Szabó calls it, but it is no less a thing than my computer, the Taj Mahal, or an iguana.

I want to criticize Szabó from two angles. First, I will put pressure on some of the cases used to motivate Szabó’s solution-in-progress. I will then introduce a general worry about the style of cases Szabó is using. Following this, I will introduce

²⁹See (*Szabó*, 2008, p. 517) for more examples and details. The examples presented above are due to Szabó.

a case from the literature meant to show that processes of creation do not require the existence of the thing being created, not even in a nascent in-progress form. Lastly, I will suggest that an account in terms of properties is preferable.

3.4.4.1 Unacceptable ‘It’ Follow-Ups

With regard to follow-up questions of location using ‘it’, I am concerned with how well the point holds up in different contexts. Consider the following case. ‘Homestar’ is the name of a company that builds and sells prefab housing. Since they are a large company, they farm out their labor across the states: the walls, the appliances, the foundation, and the other parts are constructed and readied for shipment from different locations. John puts in an order with Homestar. He wants to live in one of their new neighborhoods that they are constructing. Since he is one of the first buyers and there are no other homes in the neighborhood, Homestar gives him the opportunity to decide where the house will go once all the pieces have arrived and are ready for assembling.

Now imagine someone talking with John a little after he has put in his order with Homestar and the process of construction is underway, but before he has decided where his home will eventually be located. The conversation goes as follows:

- (36) a. —Homestar is building my house.
b. ?? —Oh yeah? Where is it?

In this situation, the follow-up question in (36) seems odd. The problem here seems to be that there is no clear way to answer the question since the major pieces of the house are in different locations. In most typical cases, the building of a house happens on site where the house will end up and the ‘it’ can be taken to refer to that specific location. But building a house on site is not essential to building a house. Once that is removed, follow-up questions such as *Where is it?* no longer seem acceptable. I take this to show that Szabó’s examples in (28) and (29) need further testing against

a range of situations before we can decide what these kinds of follow-up questions reveal about processes and objects of creation.³⁰

3.4.4.2 A Problem with ‘This’

In Szabó’s second example, he claims that it is acceptable to say ‘*This* is what I was building since last October’ but not ‘*This* is what I was searching for since last October’ (assuming the latter search is a general one for nothing in particular). I am worried about how much we can infer from this contrast with regard to existential entailments of indefinite expressions in the object position of progressive sentences with verbs of creation.

Consider another example that pairs a demonstrative expression with the intensional transitive verb ‘look’. This verb displays at least one mark of an intensional transitive verb insofar as it gives rise to notional readings: I can be looking for a member of the philosophy department but no particular one.³¹ Imagine that John is engaged in a general pumpkin search for his Halloween pumpkin carving party. He has been looking for several days to no avail. He finally goes to his local pumpkin patch to look for one, without any particular one in mind. Once he picks one out, he remarks to a friend: *this* is what I have been looking for. In this context, I do not hear any oddity in John’s response, despite the use of a demonstrative combined with an intensional transitive verb as in (30). Szabó’s evidence does not decisively show a disanalogy between intensional transitive verbs and progressive sentences with verbs of creation.

A response to this case is that ‘*this*’ in my example is referring to a type of pumpkin and not to the pumpkin itself.³² If John is actually engaged in a general pumpkin search—i.e., a search for no pumpkin in particular—then at most he can

³⁰Rich Thomason first gave me the idea of an example that is similar in all essential respects to the one I just presented.

³¹For marks of intensionality and more on intensional transitive verbs, see *Forbes* (2008).

³²Szabó suggested this response to me. (p.c.)

say he had a kind of pumpkin in mind, the kind that he used ‘*this*’ to refer to, but not a particular instance of that kind. If we interpret ‘*this*’ to refer to a particular instance, then its use is inappropriate. Interpreting it as referring to a particular kind makes it sound just fine.

We can use ‘*this*’ (and ‘*that*’) to refer to kinds and properties. If I am baking a cake by following a picture and recipe of a cake I have hanging on my refrigerator, I can say to a friend, “I am baking *that*.” Surely, I am not baking the picture itself or baking something that will eventually become the picture itself. I am baking what the picture represents. So ‘*that*’ in this context cannot refer to an object. It either refers to a kind of object or a property.³³ Although it is tempting to say that ‘*that*’ refers to an object indirectly by way of the picture of the cake, this will not do. Imagine the picture on my wall was a drawing of a cake that does not exist. I can still be baking *that*, even though the picture is of nothing real at all.

Another issue that arises here is that sometimes the instance of a property is demonstratively pointed at, but the uninstantiated property is what is intended as the referent of ‘*this*’. Assume that you want to paint your room brown. Saying this to me while I am distracted I ask you to repeat yourself. You see a brown piece of cloth and point at it and say, “*This* is how I want to paint my room.” You clearly intend ‘*this*’ to refer to the color brown (a property) and not the instance of brown you are pointing at.³⁴

The problem this raises for Szabó’s second example is that without further testing, it is no longer clear that ‘*this*’ in ‘*This* is what I was building since last October’ refers to an object. It could refer to either a property or a kind of object. But Szabó clearly needs ‘*this*’ to refer to an object, a particular concrete object, so that he can justify

³³What property could be relevant here? The picture is of a cake. I might be demonstratively picking out the property of being a picture of a cake with the aim of indirectly referring to the cake the picture is about.

³⁴I came across an example like this one while reading an article on related issues. But I cannot remember who provided the example. So I note here that I owe someone credit without being able to supply their name.

his claim that ‘Mary was building a house’ entails the existence of some *thing*, albeit an object-in-progress. Without further examples to help his case, appealing to ‘this’ does not help.

3.4.4.3 Incremental vs. Sudden Processes of Creation

Szabó’s cases primarily focus on the process of building a house, which is a pretty typical example in the literature (and in this paper, I should add). But it is not typical of processes of creation in general. Once we broaden the perspective to include sudden processes of creation, as opposed to just incremental processes of creation, it no longer seems to follow that once a process of creation is underway then the thing being created exists as an object-in-progress.

Consider the process of building a house. In a typical case, the materials are gathered, some parts are assembled, the foundation is poured, and then the structure is built incrementally. The flooring is put down, walls are raised from the flooring, the roof structure is put on, and then finishing touches are added throughout. Even if we consider other cases (such as the case of Homestar related earlier), each later stage of the building processes is added on to some earlier stage, irrespective of whether the foundation is put down first. This is an example of an incremental process of creation.

Other examples are easy to point out. Writing a paper is an incremental process. Later stages of the paper are written on top of earlier stages, adding to them, amending them, sometimes making the earlier parts obsolete. Building machines or buildings in general are typically incremental. When I build a birdhouse, it does not just appear in one go. I have to start with some pieces, then add on, and then finish the entire structure off with finishing touches such as paint and pine cone decor.

Contrast this with sudden processes of creation. Say I want to make a square. I first cut two triangles of equal size out of a piece of paper. I then move the triangles

into position so that the hypotenuse of each triangle lines up with the other one. Before I close the gap between either hypotenuse, I have two triangles. But once I close that gap, I have made a square. Up until the time at which the gap between the two triangles is closed, I am prepping conditions to make a square come into existence. However, unlike incremental processes of creation where the object to be created is brought about by adding to a preexisting (incomplete) object, moving the two triangles together does not add anything to such a preexisting object. There are two triangles throughout the process moved about to bring a square into existence. Once the gap is closed, a square has come into existence in a way that seems altogether different (hence why I call these processes ‘sudden’) than the creation of a house.³⁵

Now suppose that Rich is making a square in the fashion just indicated when he is called away by a phone call. When he stops, there is only a part of the first triangle cut out from a piece of paper. It seems correct in this situation to say that Rich was making a square when he stopped to answer the phone. On Szabó’s analysis, this is true only if there is some square-in-progress in this situation.³⁶ But this seems to misdiagnose the case. What is the relevant object meeting the description ‘square-in-progress’? Is it the part of a triangle that is still being cut out of the paper? Is it, as Szabó suggests, some *thing*, perhaps the part of the triangle being cut out, that is individuated by the process in which it is embedded?³⁷ Both of these seem to be a misdiagnosis of the kind of process of creation under consideration, using concepts more at home with incremental processes to describe sudden ones.

There is a case in the literature that highlights this distinction between kinds of creation processes and the issues it poses for interpreting indefinite expressions in the

³⁵Thanks to Rich Thomason for suggesting this as a possible example of a sudden process of creation (although he may not agree that it is an actual example of one) by demonstrating it before me during one of our weekly meetings.

³⁶I would say ‘object-in-progress’ so as not to prejudice the case, but it cannot be merely an object-in-progress since there are many of these in every situation. Specifically, it seems that the truth of ‘Rich is making a square’ requires there to be some square-in-progress.

³⁷See (Szabó, 2008, pp. 515–516) for more on this suggestion of how to individuate objects-in-progress.

object position of progressive sentences with verbs of creation. The example is due to Fred Landman. Imagine that God is creating things *ex nihilo*. In this particular case, he has in mind a unicorn. However, while engaged in the act of creating a unicorn out of nothing, God changes his mind and stops the process. In this context, it is true that God was creating a unicorn when he changed his mind, despite there being no object that is the result of any stage of that process of creation. In Landman's words, "It is perfectly conceivable that a certain process of creation requires several stages that are necessary for the process (like saying magic formulas, and lots of smoke) but during which no object whatsoever exists, while at the end of the process the object comes into existence in a flash."³⁸ And if this case is accepted, then the presence of objects-in-progress seem beside the point when it comes to progressives with verbs of creation and the objects, if any, that result from creation processes gone awry.

It is important to note that all Landman's case requires is the possible truth of 'God was creating a unicorn, when he changed his mind'. More precisely, it requires the truth of this sentence in a possible context in which there is creation *ex nihilo*. Insofar as possibilities go, I am fairly liberal. There doesn't seem anything conceptually incoherent about creation *ex nihilo* and so nothing conceptually incoherent about God creating a unicorn *ex nihilo*.³⁹ If this is the case, then an account of indefinite noun phrases in progressive sentences with verbs of creation will need to account for the truth of Landman's sentence in these kinds of possible contexts. Introducing objects-in-progress does not help here. In fact, it makes the wrong prediction in this example.

³⁸The quote and the example can be found in (*Landman*, 1992, p. 8). Clearly, he has in mind sudden processes of creation.

³⁹This is not the place to defend this claim. But for those that doubt this possibility, consider the following. It is surely accepted as a possibility that matter, when combined with the appropriate anti-matter, would annihilate itself. This is a case of nothing coming out of something, to put it loosely. Now, if it is possible for something to combine with something to produce nothing (the case of annihilation), what prohibits the possibility of something coming out of nothing (the case of annihilation in reverse)? Despite the case being far fetched, I see nothing conceptually incoherent with this reversal of the annihilation process. Thanks to Andy Egan for suggesting this possibility. I discuss these issues in more detail in work under preparation.

Szabó doubts the acceptability of Landman's data.⁴⁰ Considering the example sentence 'God was creating a unicorn, when he changed his mind', Szabó introduces the following three continuations:

- (37) a. ... and so there is no unicorn he was creating.
b. ... and so there is no entity he ended up creating.
c. ?? ... and so there is no entity he was creating.

Whereas (37a) and (37b) seem to be fine continuations of Landman's example sentence, (37c) does not. Szabó takes this to add further evidence that progressives with verbs of creation do introduce some object, even if this object is not describable by the relevant nominal phrase (whether it be 'unicorn' in this case or 'house' in the other cases).

I find it hard to accept Szabó's rebuttal because I do not hear the data as he does. Either I do not hear that (37c) is marked for oddity or I hear that all continuations are. This leads me to believe that Szabó's case is not sufficient for raising problems against Landman's case. However, I also admit (as the result of long conversations with other informants) that the intuitions regarding Landman's case are not clear, most likely because it combines the following tasks: gathering intuitions about the truth of 'God was creating a unicorn' while requiring acceptance of the controversial assumption that creation *ex nihilo* is possible. I take the intuition behind the possible truth of 'God was creating a unicorn, when he changed his mind' to outweigh these concerns. However, I will leave Landman's cases and Szabó's response for further investigation.

Landman's case does raise the following issue: how we talk about processes of creation encompasses much more than incremental processes of creation. Even if we do not grant that creation *ex nihilo* is possible, sudden processes of creation are. And in these cases, it no longer makes sense to talk about some object-in-progress from

⁴⁰Szabó's doubts and data can be found in (Szabó, 2008, p. 509).

the beginning of the creation process. The object that comes into existence as the result of a sudden process of creation does so at the end of the process. Saying that it existed as an object-in-progress from the start of the creation process seems to seriously misdiagnose the metaphysical characteristics of sudden creation processes in particular and processes of creation in general. For this reason and the ones given in the preceding subsections, I suggest we turn away from ‘IP’ and objects-in-progress and towards the property account.

3.5 Processes of Creation and Properties

The task at hand is to account for ‘Mary was building a house’ without licensing an entailment to the existence of a house as the result of any stage of her building process. (On the contextual nature of ‘house’ and how we sometimes infer there is a house, I will have more to say at the end of this section.) Contra Szabó, I also think we should account for the interpretation of ‘a house’ and other indefinite expressions in the object position of progressives with verbs of creation without committing ourselves to any concrete *thing*, whether it is complete or in-progress. As for Szabó’s examples, I think there is enough concern about them that once our semantic story captures the failed existential entailment to houses and houses-in-progress, we can see if there is room to capture ‘it’ and ‘this’ follow-ups.

Following Szabó, I will present my proposal in the context of Parsons’s event semantics.⁴¹ But where Szabó proposes that ‘a house’ denotes the complex predicate ‘IP(house)’ when in the object position of a progressive sentence with verb of creation, I propose that ‘a house’ denotes a kind of property when in that position. Let’s label this property ‘a-house’, making sure to include ‘a’ in the labeling since the property denoted by ‘a house’ will need to be different than that denoted by ‘two houses’

⁴¹My response does not hang upon Parsons’s event semantics. But his proposal provides a simple and elegant logical framework within which to account for the failed existential entailment at issue. For a complete presentation of Parsons’s event semantics, see *Parsons* (1990).

(which would be the property of being two-houses on this account).⁴²

To implement my proposal, we need to revise the thematic relation ‘Theme’, which in a sense relates an event to the thing affected by the progress of that event. Whereas ‘Theme’ in Parsons’s original framework (and in Szabó’s revision as well) relates an event and a concrete object, I propose that the verb of creation contributes an alternative thematic relation ‘Theme!’ that relates an event and a property, with the latter being contributed by the indefinite noun phrase when in the object position of progressive sentences with verb of creation.⁴³ Since the indefinite noun phrase will contribute a property in these constructions, it will not carry its typical existential commitment, thereby preventing the undesirable entailment to the existence of a house in true occurrences of sentences such as ‘Mary was building a house’.

More formally put, since our example sentence ‘Mary was building a house’ contains a verb of creation it will be assigned ‘Theme!’ in its formal representation. The property denoted by ‘a house’ will be that of being a-house. The revised translation is as follows:

⁴²There is long logical history to this proposal. The details would unnecessarily complicate the main argument, so I will save them for footnotes. First, treating indefinite expressions as properties is fully developed by Richard Montague in what has come to be known as Montague Grammar. For details see relevant articles in *Montague* (1974) and the especially helpful introduction to Montague Grammar in *Gamut* (1991). Second, the sense of property I am talking about takes on a very precise logical meaning. I am proposing (following Montague) that ‘a house’ denotes a set of properties, namely the set of properties true of some object that is also a house. To illustrate this sense of the meaning of ‘a house’ consider the sentence ‘A house is hard to clean’. Since ‘a house’ denotes a set of properties such that there is a house that has those properties, this sentence will be true just in case ‘is hard to clean’ denotes a property that applies to an object that is a house. It will be important to keep this sense of the meaning of ‘a house’ in mind as it occurs in ‘Mary was building a house’, where ‘a house’ occurs in the object position of a transitive verb.

⁴³The details of the solution I will propose are closely related to, and inspired by, Sandro Zucchi’s work on this subject matter (see (Zucchi, 1999, p. 188) for details). However, Zucchi and I differ on the kind of property we take ‘a house’ to denote when in the object position of a progressive sentence with verb of creation. (Details can be found in the appendix.) Also, he does not account for contextual variation in nominal phrases. My proposal can be seen as a revision to his account in light of contextual data and additional considerations I will introduce in later footnotes. Also, although Zucchi’s proposal is sufficient for resolving the problem at issue here, it is not a complete proposal on its own. Insofar as it is a proposal partly about the content of verbs of creation, it does not attend to the telic content of verbs of creation—i.e., the fact that ‘build a house’ seems to denote events that naturally culminate in the production of a house. Also, with regard to progressive sentences with verbs of creation, it would be preferable to say more about the progressive than Parsons’s undefined relation ‘Hold’. I discuss these issues in more detail in work under preparation.

$$(38) \quad \exists e \exists t (t < \text{Now} \ \& \ \text{building}(e) \ \& \ \text{Agent}(e, \text{Mary}) \ \& \ \text{Theme!}(e, \text{a-house}) \ \& \ \text{Hold}(e, t))$$

Unlike (34b), the truth of (38) does not entail the existence of a house that Mary was building since being related to a property does not entail being related to an instantiation of that property. It also follows, on my proposal, that ‘Mary was building a house’ can be true without the existence of an object-in-progress from the very beginning of the creation process.⁴⁴

It might be argued that this proposal is too strong, since as Parsons shows (and I accept), there are cases where ‘Mary is building a house’ is true, she does not complete her building project, *and* we call the incomplete object that remains a ‘house’. If my account of the interpretation of ‘a house’ in these contexts is right, then it seems that we cannot account for these facts. According to my proposal, all that ‘a house’ contributes is a property, not an object, and a property is not enough to explain why we call the incomplete object a ‘house’.

Although I feel the pull of this objection, it does not pose any serious threat. The objector claims that in some cases we do infer the existence of a house. I agree with this. But the first question I am interested in is whether the existence of a house is entailed by the truth of ‘Mary was building a house’. Since in some contexts we do not infer the existence of a house from the truth of ‘Mary was building a house’, there is no such entailment. My proposal is designed to account for this failure of existential commitment.

⁴⁴I have suppressed some logical details in (38). As I have it, ‘Theme!’ relates an event and the property of being a-house, the latter of which is denoted by the indefinite ‘a house’. For a more explicit representation of the kind of property denoted by indefinite noun phrases in progressive sentences with verbs of creation, I turn to Montague grammar. Since ‘a house’ denotes a set of properties, namely the set of properties true of some object that is also a house, its formal representation will be as follows: $\lambda P \exists x [\text{house}(x) \ \& \ \forall P(x)]$. In English: this formula denotes the set of properties that are had by something that is a house. Given this representation for ‘a house’, ‘Theme!’ ought to be represented as: ‘Theme!(e, $\lambda P \exists x [\text{house}(x) \ \& \ \forall P(x)]$)’. As noted before, this representation differs from that offered by Zucchi in *Zucchi* (1999) and should not be confused with it. Since my argument can be completed without introducing these extra logical details into the main text, I will keep the shorthand ‘a-house’ to refer to the property denoted by ‘a house’.

When it comes to contexts in which ‘Mary was building a house’ is true, she is not completed with her project, and we do call the resulting structure a ‘house’, this is because the standards in that context permit application of ‘house’. Although my account of the interpretation of ‘a house’ in such sentences blocks entailment to the existence of a house, the contextual nature of ‘house’ provides the resources to account for when we do and do not apply it. Of course, this is just the beginning of an account of these particular situations (when we do infer the existence of a house but Mary’s project is not complete). But I do not see any theoretical or in principle reason it cannot be given, especially in a way that is compatible with my proposal for ‘a house’.

What about Szabó’s ‘it’ and ‘this’ follow-up examples? As I argued earlier, I do not think these examples make a compelling case for positing objects-in-progress. In fact, both ‘it’ and ‘this’ can sometimes refer to properties. I presented a case earlier with ‘this’ and the property of being brown. Similar examples can be produced for ‘it’. For instance, in the following discourse ‘it’ seems to be anaphoric on ‘brown’, which is best interpreted as denoting the property of being brown as opposed to an instance of brownness:

(39) Brown is such a boring color. It puts me to sleep.

My suggestion for Szabó’s ‘it’ and ‘this’ follow-up examples is that we interpret these expressions in his examples as referring to properties and not objects-in-progress. It is at least incumbent on Szabó, given this alternative interpretative possibility, to provide a stronger argument for reference to objects-in-progress as opposed to properties in these examples.

The proposal I am suggesting has vastly different implications for how we view coming into existence than Szabó’s account. On the ‘IP’ proposal, once a creation process is underway, the object being created already exists in nascent form as an object-in-progress. I argued that this is an inadequate account of creation in general,

since it takes features of incremental creation processes and generalizes from them, completely ignoring sudden processes of creation. In these latter cases, it does not make sense to talk about an object-in-progress from the very beginning. Rather, the process focuses more on setting up conditions and materials just right so the object being created can come into existence.

On the property proposal, processes of creation are related to properties rather than objects. Mary's building a house is the process of bringing a house into existence because the building event affects the property of being a-house while it is occurring. How does it affect it? This requires a much more detailed treatment of the metaphysics of coming into existence. My guess is that there is a metaphysical relation of *realization* or *becoming* that is fundamental to understanding how a process of building can effect the property of being a-house over time. The claim I do want to make here is that this is exactly where we should be looking when it comes to understanding the metaphysics of coming into existence. The reason we should be looking here and not only to objects-in-progress (if at all) is that the semantics of progressive sentences with verbs of creation points us in this direction.⁴⁵

With this proposal, it is possible to maintain Parsons's semantics for the progressive while blocking entailments to unwanted houses. This latter part is important, since we now have an explanation for why we cannot always infer the existence of a house from the truth of 'Mary was building a house'. Indefinite noun phrases in progressive sentences with verbs of creation lose their typical existential commitments because they no longer denote the existence of some object (in this case, a house), but rather denote properties that are related to events via 'Theme!'.

⁴⁵Why did I say "not only objects-in-progress"? Didn't I just argue against them? I did, but I do think we have a concept about objects-in-progress that should be investigated as part of a broader investigation into processes and objects of creation. I just don't think objects-in-progress play a role in the semantics of indefinite expressions when they occur in the object position of progressive sentences with verbs of creation.

3.6 Concluding Remarks for Chapter 3

For much of this investigation, I have been looking at responses to the problem that indefinite noun phrases lose their typical existential commitments in progressive sentences with verbs of creation. The cases introduced by Parsons and Szabó are important, but misleading. Looking at a broader range of cases, as well as considering differences between incremental and sudden processes of creation, the property account I presented here provides a much more adequate explanation. It also presents us with a view of processes and objects of creation that is metaphysically satisfying, but in need of more work. The semantic story I have presented here is a necessary component to our general understanding of the metaphysics of coming into existence, but it cannot tell the whole story.

3.7 Appendix to Chapter 3: An Argument in Favor of Sets of First Order Properties

When I introduced the property account of indefinite noun phrases in progressive sentences with verbs of creation, I decided that the kind of property denoted by ‘a house’ would be a set of first order properties. A closely related proposal in the literature due to Sandro Zucchi proposes that ‘a house’ denotes a second order property (i.e., a set of sets of first order properties).⁴⁶ In this appendix, I will provide a brief argument for my proposal over Zucchi’s.⁴⁷

Consider the following sentences:

(40) Mary is making a coffee cup.

(41) All and only coffee cups that have been or will be made are pencil holders.

⁴⁶See *Zucchi* (1999) for this variant proposal.

⁴⁷Appendix sections live in a nebulous world, somewhere between elevated footnote and downgraded (but important) main text. Because of this, I will put aside my policy in the main text of keeping technical details to footnotes.

(42) Mary is making a pencil holder.

It seems to me that (42) is entailed by (40) and (41). Any account of the interpretation of indefinite noun phrases in progressive sentences with verbs of creation ought to predict this entailment.⁴⁸

Zucchi's proposal is similar to mine, except that his account treats 'a house' as denoting a second order property. To get a second order property from the property I introduced in my proposal, we need the operator ' \wedge '. In intensional type theory, this operator takes an expression of some arbitrary type a and returns a function of type $\langle s, a \rangle$ —i.e., a function from worlds to expressions of type a . Whereas ' $\lambda P \exists x[\text{house}(x) \ \& \ \forall P(x)]$ ' is an expression of type $\langle \langle s, \langle e, t \rangle \rangle, t \rangle$ (i.e., a set of first order properties), the expression ' $\wedge \lambda P \exists x[\text{house}(x) \ \& \ \forall P(x)]$ ' is of type $\langle s, \langle \langle s, \langle e, t \rangle \rangle, t \rangle \rangle$ (i.e., a set of sets of first order properties, or a second order property). On Zucchi's proposal, 'a house' in the object position of a progressive sentence with verb of creation is represented by this latter formula.

The problem with this proposal is that it fails to predict the above entailment. In a world in which (41) is true, coffee cups and pencil holders will share all of their first order properties. But objects that share all of their first order properties can differ on their second order properties. For example, even though in some world all the pencil holders are coffee cups, it might be that in other worlds coffee cups are also used to hold coffee whereas pencil holders are not. Assuming 'a coffee cup' denotes a second order property, then 'a coffee cup' and 'a pencil holder' will denote different second order properties. So even though they may share all their first order properties in a world in which (41) is true, it will not follow that Mary is making a pencil holder, if she is making a coffee cup.

On my proposal, 'a house' denotes a set of first order properties, thereby avoiding the problem faced by second order property accounts. So in a world in which (41)

⁴⁸Thanks to Rich Thomason for helping me find the right formulation of (41).

is true, ‘a coffee cup’ will denote the same set of first order properties that ‘a pencil holder’ does. As a result, my proposal predicts that (40) and (41) entails (42). It is for this reason that I decided to propose that indefinite noun phrases in the object position of progressive sentences with verbs of creation denote a set of first order properties.

It is possible for Zucchi to account for the entailment by using meaning postulates. If this is so, then there would be reason to take up the second order property account over mine. Looking just at the data concerning indefinite expressions in progressive sentences with verbs of creation, I think the extra complication that meaning postulates introduce give some reason to favor my account in terms of first order properties. But adjudicating this debate goes well beyond the scope of this appendix.

CHAPTER IV

Concluding Remarks/Future Directions

4.1 Introduction

Since I am primarily concerned with how we talk about processes and objects of creation in this dissertation, I pursue a detailed study of the progressive and aspectual classes of verb phrases (i.e., the division of verb phrases into accomplishments, activities, achievements, and states). This study of the language, however, is but one part of a larger project into semantics and metaphysics of processes and objects of creation. In these concluding remarks I first outline the main points of this dissertation with respect to the progressive and verbs of creation. I finish by briefly discussing future prospects for the metaphysics of processes and objects of creation with respect to the notion of an incomplete object.

4.2 Summary of Main Points

I begin the dissertation by considering a standard view about the progressive, which I call *the modal view*. The modal view of the progressive is the following: for any sentence ϕ , *Prog* ϕ is true at some world w and at some time t just in case for all normal extensions w' of w at t , ϕ is true in w' at some time t' (where t' is later than t). Taken with respect to a progressive sentence with verb of creation, such as ‘Mary was

building a house’, the modal view claims (roughly speaking) that ‘Mary was building a house’ is true just in case Mary eventually builds a house in all normal extensions of her building process. This is significant for understanding talk about coming into existence because it treats coming into existence as existence in all normal extension worlds. I argue that the modal view should not be accepted on linguistic grounds—i.e., there is not sufficient evidence suggesting a modal treatment of the progressive, while there is evidence suggesting the modal view is mistaken.

I then go on to defend a revised version of Parsons’s event semantics for the progressive. Parsons’s view faces challenges from the interaction between the progressive and verbs of creation. The issue: ‘Mary was building a house’ does not entail the existence of a house that Mary built. His view also suffers from charges of being non-explanatory with respect to the progressive. For my purposes, answering these challenges are important because it will shed light on how we talk about processes and objects of creation. I revise his account by first taking up Graeme Forbes’s and Sandro Zucchi’s suggestion to introduce a new thematic relation that holds between events and properties. This helps solve the immediate non-entailment issue. But the progressive is also used to express that an event is incomplete or in-progress. I add depth to these remarks by introducing a predicate ‘Goal’ that is meant to capture the telic content of verbs of creation, in particular, and accomplishment verb phrases, in general. Combining these proposals, a sentences such as ‘Mary was building a house’ is true just in case there is a building event with Mary as agent and that is thematically related to the property of being a house and that is aimed at making true the proposition that Mary built a house.

Whereas the modal view put the intensionality in the progressive, I advocate treating the progressive extensionally while putting the intensionality in the underlying verb phrase. Recent work on the progressive and verbs of creation by Zoltán Gendler Szabó suggests that intensionality does not play a role in either the progressive or

the underlying verb of creation. Szabó suggests that sentences such as ‘Mary was building a house’ do entail the existence of some *thing* that Mary is building even though we cannot describe it with the nominal ‘house’. I argue at length in chapter 3 that Szabó is wrong and that intensionality should play a role in the semantics of verbs of creation (and accomplishments, more generally).

4.3 Towards an Account of Incomplete Objects

One way to pursue the study of processes and objects of creation further is to look towards an account of incomplete objects. Why look in this direction at all? Even though, as I argued in chapter 3, progressive sentences with verbs of creation do not commit us to incomplete objects (or objects-in-progress), we still have a concept of incomplete objects that ought to be analyzed. Consider a poet who writes and writes strings of verses. Some of those strings count as incomplete poems; others as just more rubbish for the bin. What is it that separates the strings of verses that are incomplete poems from those that are just strings of verses?

My investigation into the problem of intensionality has revealed resources that can be put to task in an analysis of incomplete objects, even if they should not be put to task in an analysis of the progressive. Consider the following two cases. I am in the process of putting peanut butter on one slice of bread and jelly on the other, but stop in the middle because of a phone call. The result clearly seems to be an incomplete peanut butter and jelly sandwich. On the other hand, take two people, one putting peanut butter on a slice of bread for his enjoyment, the other putting jelly on her slice of bread for her enjoyment. They both stop in the middle of what they are doing to answer separate phone calls. The two half slabbed pieces of bread do not make an incomplete peanut butter and jelly sandwich, but two pieces of half slabbed pieces of bread.¹ The difference between the two cases seems to be that in

¹They do individually make an incomplete piece of bread covered in peanut butter and an in-

my case, I was engaged in a process that had a peanut butter and jelly sandwich as its natural culmination, whereas the others were engaged in a process that did not have a peanut butter and jelly sandwich as its natural culmination. If this intuition accurately reflects what makes something an incomplete object, then the resources that were introduced by the modal view will be of use.

Before introducing my own analysis of incomplete objects, let us look at a recently proposed account by Antony Galton.² Galton proposes “to define an incomplete X as the outcome of an incomplete occurrence of an event type whose completed occurrences results in the coming into existence of a complete X .” Galton, like myself, is motivated by the connection between incomplete objects and the incomplete processes that seem to be at issue in contexts in which ‘Mary was building a house’ is true but Mary does not finish. However, Galton’s analysis, as stated, cannot be correct.

To see this, consider a situation that resembles the actual world except that no one has yet built a shuttle to take them to outer space. In fact, in this possible situation, many people are engaged in building space-shuttles, but never finish because of a global economic meltdown. Since this situation is like ours, it is surely possible to build a space-shuttle. However, no one ever completes their building process. It seems that we have many incomplete space shuttles in this world despite their never being a completed occurrence of an event type that results in a completed space-shuttle. We need an analysis that corrects for this problem.

Galton begins to correct for this problem when he adds the following to his account: “This would imply that to say that some object X is coming into existence is to say that there is an object Y whose existence is the outcome of certain processes which, if they continue in accordance with some notion of ‘natural continuation’, will

complete piece of bread covered in jelly, but this is far from being an incomplete peanut butter and jelly sandwich.

²See (*Galton*, 2006, p. 308).

result in Y 's becoming X .”³ Assuming the account is given in terms of possibilities, we can avoid the problem of there being incomplete space-shuttles at a world even though there are no complete space-shuttles at that world. However, I cannot see that this is implied by his account. The notions of *event types*, *incomplete occurrences of event types*, and *complete occurrences of event types* all seem to be understandable without the notion of *natural continuation*. What we need is an account of incomplete objects directly in terms of possibilities and natural continuations of processes.

In light of these reflections, I propose the following analysis. An object x is an incomplete F just in case x is the outcome of a process Pr that naturally culminates in x being F . A process Pr naturally culminates in x being F just in case all normal extensions of Pr result in x being F . As defined earlier, normal extensions of some process need not include the actual extension of that process.

This analysis provides an explanation for why some pieces of bread with peanut butter and jelly on them are incomplete peanut butter and jelly sandwiches, while others are not. The key difference being the kind of process the object is embedded in. If the process naturally culminates in the object being a peanut butter and jelly sandwich, then it counts as an incomplete peanut butter and jelly sandwich. Similar considerations apply to the converse claim as well. It also corrects Galton's analysis by not being overly restricted to what happens at a world in determining what the incomplete objects are at that world. Resorting to the resources made available by the modal view allows for this improvement on Galton's account.⁴

One issue with the analysis I am offering is that it makes implicit use of the notion of an *incomplete process*. Since x need only be the outcome of a process that naturally culminates in its being F , the process need not actually culminate in x 's being F .

³(Galton, 2006, p. 308).

⁴In fact, I think the motivation for the modal view about the progressive is a misplaced intuition about incomplete objects and the processes they are embedded in. Since an incomplete object is naturally the result of an incomplete process, it makes sense why the progressive seems relevant. But see my arguments in chapters 1 and 2 regarding treating the progressive as a modal and the relationship between progressive sentences and incomplete activities.

So there will be incomplete processes that produce incomplete objects. Although this figures in an analysis of incomplete objects, there is no problem here. I am not analyzing what it is for something to be *incomplete*, but only what it is for something to be an incomplete *object*. My analysis does assume the notion of an incomplete *process*, but this does not affect it as an analysis of incomplete *objects*.

Furthermore, I am not sure we need to reduce the notion of an incomplete process any further. My favored analysis of the progressive makes use of a primitive predicate ‘Hold’ that relates an event to a time. This predicate holds of an event just in case the event is in progress or incomplete at a given time. Can something more be said here about the notion of an event that holds at a given time? The semantic account of the progressive or of creating contexts does not demand it. So I see no reason for pursuing the reduction any further.⁵

I will leave it as an open problem here that my response is inadequate. I have chosen to leave the notion of an incomplete process unreduced. I could have chosen to leave the notion of an incomplete object unreduced and defined the notion of an incomplete process in terms of it. Let’s say that a process that culminates in a house being produced is a house-making process. Some house-making processes will be incomplete. To say that a process Pr is an incomplete house-making process is just to say that there is some incomplete house x that is the result of Pr and that is a complete house in all normal extensions of Pr . Why favor my analysis of incomplete objects in terms of incomplete processes over this alternative analysis of incomplete processes in terms of incomplete objects?

This is where the semantics does have metaphysical payoff insofar as it provides some reason for taking incomplete processes as opposed to incomplete objects as primitive—e.g., the primitive predicate ‘Hold’ suggesting some primitive notion of

⁵At least, not in this context. It has been common to assume that events are supervenient creatures, reducing to object-property-time triples or regions of space time. (See *Kim* (1993) for the object-property-time view.) I believe that reflection on processes of creation shows that some events are not supervenient and so not reducible. Arguing for this is beyond the scope of this dissertation.

incomplete events and the lack of any explicit commitment to incomplete objects. But this is far from a sufficient response. I will leave this issue open for further research.

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