Depictive Secondary Predicates DO Rule Out a Small Clause Analysis of Resultatives: A Response to Hu and Cheng (2024)

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1 Introduction

Consider resultative secondary predicates like the following:

(1) a. Sam hammered the metal flat.
     b. The sheriff shot him dead.
     c. She opened the door wide.

A resultative secondary predicate is an adjective (or possibly a PP) that describes the state that results from the event of the main predicate, described by the main verb. For instance, in *The sheriff shot him dead*, the direct object of the verb (*him*) is understood to be dead as a direct result of being shot by the sheriff.

Many different analyses have been proposed for resultatives. In one class of analysis, the "small clause" analysis (Kayne 1984, Hoekstra 1988, Sybesma 1999, Kratzer 2005, Harley 2005, 2008), the apparent object of the verb is hypothesized not to be the object of the verb; rather, it is solely the subject of the AP. The NP and the AP form a "small clause" together, with the NP as the subject of the predicate in the small clause:

(2) The sheriff shot [him dead].

This is called a "small clause" because it is like a full clause in being of a propositional type (it is thematically complete, with a subject and a predicate), but it lacks the functional structure that characterizes full clauses (e.g., Williams 1974, Stowell 1981, 1983, Safir 1983).

Bruening (2018a) shows that facts of depictive secondary predicates are problematic for the small clause approach to resultatives (and other phenomena, like caused motion constructions, particle verb constructions, and double object constructions). Focusing on resultatives, Hu & Cheng (2024) argue that, on "another set of reasonable assumptions," the facts cited in Bruening (2018a) are not problematic for a small clause analysis. In this paper, I show that those "reasonable assumptions" do not actually solve the problem. Depictive secondary predicates are incompatible with the very premise of the small clause analysis, and therefore rule it out absolutely. The only

way to modify a small clause analysis to make it compatible with the facts is to turn it into a non-small-clause analysis.

Bruening (2018a) also argues that anaphora distinguishes true small clauses from the putative small clause in small clause analyses of resultatives, caused motion constructions, particle verb constructions, and double object constructions. Hu & Cheng (2024) try to account for these facts as well, but I show here that their proposal regarding anaphora also fails. They also try to justify their approach to binding through a claim about *have* causatives, but I show with corpus data that their claim about *have* causatives is incorrect. The actual facts support the conclusion that all embedded constituents that contain a subject and a predicate are opaque domains for anaphora in English. This rules out a small clause analysis of resultatives. In addition, I show that syntactic constituency data and semantic entailment patterns are also incompatible with the small clause analysis of resultatives.

Throughout, I contrast the small clause analysis with four other analyses of resultatives: a PRO analysis, a complex predicate analysis, a ternary analysis, and a hybrid small clause analysis. All of these fare better than the small clause analysis, as they all posit argument sharing. In all of these analyses, the postverbal NP is the argument of the verb as well as the argument of the AP (indirectly in the PRO analysis). The overall conclusion is that the small clause analysis is untenable, while all existing alternatives are better (but the PRO and hybrid analyses also stumble on anaphora).

I will begin in section 2 by describing Hu and Cheng's small clause analysis of resultatives and their assumptions. I also describe the alternative analyses that I contrast with the small clause analysis. Section 3 discusses the problem from depictive secondary predicates and Hu and Cheng's proposed solution to this problem. As I will show, it does not actually solve the problem. Not only that, it is impossible for a small clause analysis to solve the problem without becoming a non-small-clause analysis. Section 4 then discusses anaphora, and Hu and Cheng's proposal for why canonical small clauses always constitute opaque domains for anaphora but the putative small clause in a resultative does not. I show that this proposal also fails, and true small clauses are always opaque domains for anaphora. Section 5 shows that the proposed small clause analysis of resultatives is semantically inadequate. It does not capture entailment patterns. Section 6 shows that there is also syntactic constituency evidence that distinguishes canonical small clauses from the putative small clause in a resultative. This contradicts Hu and Cheng's claim that the two are syntactically identical but semantically distinct. All of this evidence indicates that Hu & Cheng (2024) are incorrect, and a small clause analysis of resultatives is untenable. More generally, depictive secondary predicates *do* rule out small clause analyses of the phenomena discussed by Bruening (2018a), as that paper originally stated.

I should also say at the outset that, like Bruening (2018a) and Hu & Cheng (2024), I will only discuss transitive resultative constructions here.

2 The Small Clause Analysis of Resultatives versus Alternatives

Since this paper is an extensive argument against a small clause analysis of resultatives, it is important to define what a small clause is. A small clause is a constituent of a propositional type, like a full clause, but which lacks functional structure. It typically consists solely of a subject and

a predicate (see, e.g., Williams 1974, Stowell 1981, 1983, Safir 1983). However, there is clear evidence that the entire small clause is the argument of any selecting predicate, and no sub-part of it is. Consider the following pair, where (3a) has a full embedded (non-finite) clause and (3b) has an embedded small clause:

(3) a. I consider [them to be crazy].
     b. I consider [them crazy].

In both cases, the object of *consider* is the proposition 'they are crazy'. The pronoun *them* is the subject of this proposition and is not an argument of *consider* at all. This can be shown by expletive subjects and idiom chunks:
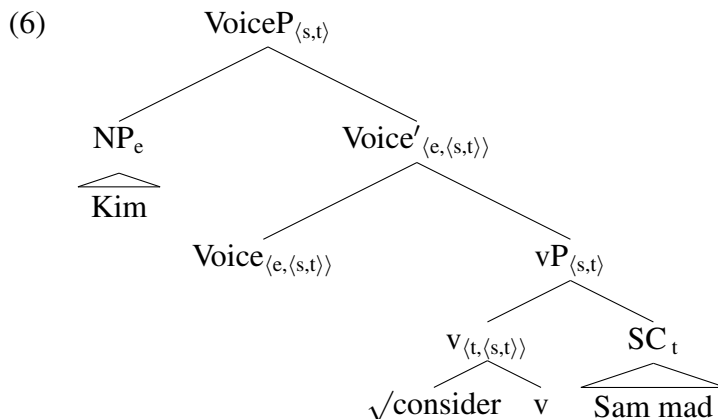
(4) a. I consider [there to be merit to both of these views].
     b. I consider [it extremely unlikely that we will meet emissions targets].
(5) a. I consider [the cat to be out of the bag]. (=the secret is no longer secret)
     b. I consider [the cat out of the bag]. (=the secret is no longer secret)

The expletives *there* and *it* can only be subjects and could not be the semantic argument of *consider*. Neither could *the cat*, since it is only interpreted idiomatically in virtue of being part of the idiom *the cat out of the bag* (by being the subject of the predicate *out of the bag*).

So, in a small clause, the entire small clause is the argument of something else, and no sub-part of it is. If one were to propose a small clause analysis of a resultative construction, then it would have that character, necessarily, or it would not be a small clause analysis. For instance, in *Sam hammered the metal flat*, the constituent *[the metal flat]* would be a small clause; only that constituent would be an argument of any other part of the clause, and no sub-part of it would be. In particular, *the metal* could not be a semantic argument of *hammer*. If it were, then the analysis would not be a small clause analysis.

## 2.1   The Proposal of Hu and Cheng (2024)

With this in mind, let us turn to Hu & Cheng (2024). They propose that small clauses all have the same syntax but can have two different semantics. First, canonical small clauses in examples like *Kim considers Sam mad* are propositions of type t. Such examples have the following structure and semantics (Hu & Cheng 2024: example (9)):

(6)

VoiceP$_{\langle s,t \rangle}$

NP$_e$ — Kim

Voice$'_{\langle e,\langle s,t \rangle \rangle}$

Voice$_{\langle e,\langle s,t \rangle \rangle}$

vP$_{\langle s,t \rangle}$

v$_{\langle t,\langle s,t \rangle \rangle}$

SC$_t$

$\sqrt{}$consider   v

Sam mad

a. ⟦SC⟧= λs.mad(Sam,s)
   The state variable is existentially bound by the epistemic operator introduced in this construction:

b. ⟦SC⟧= ∃s[mad(Sam,s)]

c. ⟦√-v⟧= λp_tλe.consider(e) & BELIEVE(p,e)

d. ⟦vP⟧= λe.consider(e) & BELIEVE(∃s[mad(Sam,s)],e)
   (d) comes from (b) and (c) by Functional Application

e. ⟦Voice⟧= λxλe.AGENT(x,e)

f. ⟦Voice′⟧= λxλe.AGENT(x,e) & consider(e) & BELIEVE(∃s[mad(Sam,s)],e)
   (f) comes from (d) and (e) by Event Identification (Kratzer 1996)

g. ⟦NP⟧= Kim

h. ⟦VoiceP⟧= λe.AGENT(Kim,e) & consider(e) & BELIEVE(∃s[mad(Sam,s)],e)
   (h) comes from (f) and (g) by Functional Application

It is not clear why there is a BELIEVE predicate in addition to *consider*; Hu and Cheng's footnote 4 says that this is "for simplicity's sake." Leaving this complication aside, the important thing here is that the eventuality variable in the small clause (the state *s*) is existentially closed, so that the constituent *[Sam mad]* is a proposition of type t. This proposition serves as the first argument of the verb (which Hu and Cheng assume, following Marantz 2013, consists of a category-less root adjoined to v).

While there are many objectionable aspects of this analysis, the idea that the small clause is a proposition of type t does not seem unreasonable. In contrast, Hu & Cheng (2024) propose that in a transitive resultative construction, the syntax is identical, but the small clause is type ⟨s,t⟩ rather than type t (Hu & Cheng 2024: example (10)):

(7)
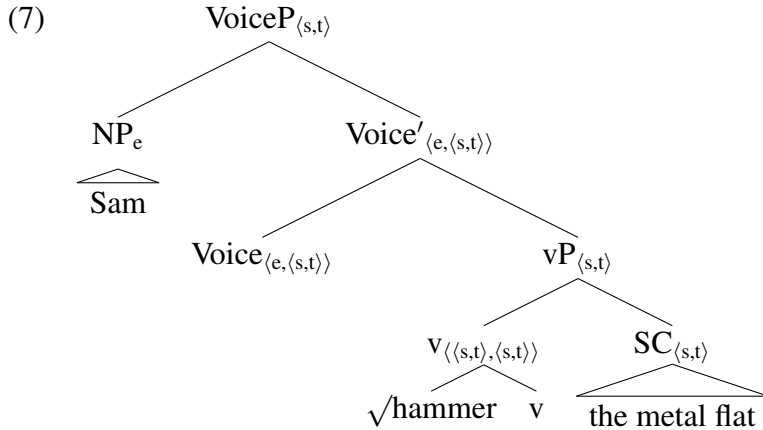
a. ⟦SC⟧= λs.flat(the metal,s)

b. ⟦√-v⟧= λP⟨s,t⟩λe.hammer(e) & ∃s[P(s) & CAUSE(s,e)]

c. ⟦vP⟧= λe.hammer(e) & ∃s[flat(the metal,s) & CAUSE(s,e)]
   (c) comes from (a) and (b) by Functional Application

d. ⟦Voice⟧= λxλe.AGENT(x,e)

e. ⟦Voice′⟧= λxλe.AGENT(x,e) & hammer(e) & ∃s[flat(the metal,s) & CAUSE(s,e)]
   (e) comes from (c) and (d) by Event Identification

  f. ⟦Sam⟧= Sam

  g. ⟦VoiceP⟧= λe.AGENT(Sam,e) & hammer(e) & ∃s[flat(the metal,s) & CAUSE(s,e)]
    (g) comes from (e) and (f) by Functional Application

The difference between the two small clause types is achieved technically by introducing an existential operator in the canonical small clause, but not in the resultative small clause. This existential operator has no syntactic representation; it is present only in the semantics.

  According to Hu & Cheng (2024), the verbal root serves only to modify the event introduced by little v (following Marantz 2013). Hu and Cheng are not explicit about this, but it then follows that in the resultative the head v is what takes a predicate of type ⟨s,t⟩ as its first argument and says that the event it describes causes the state described by its complement (and it existentially quantifies over that state). The root itself is only responsible for the *hammer(e)* part (it is essentially an event modifier). Notice also that, in this analysis (in keeping with the premises of a small clause analysis), the NP *the metal* does not name a participant in the causal event e described as a hammering event. It is only the holder of the state *flat*. As we will see, this causes numerous, irresolvable problems.

2.2 Three and a Half Non-Small-Clause Analyses

As a point of contrast, I will also present three non-small clause analyses of resultatives, and a hybrid small clause analyses. All of them recognize that the postverbal NP has to be simultaneously the semantic argument of the verb, and the semantic argument of the adjective, but they propose different approaches to this argument sharing.

  The three non-small-clause analyses are the PRO analysis, the complex predicate analysis, and the ternary branching analysis. The PRO analysis (Bowers 1993, Collins 1997, Carstens 2002) also has a small clause consisting of a subject and the resultative adjective as the predicate, but the subject of this small clause is PRO, not the direct object of the verb:

(8) (Collins 1997: 493, (98))
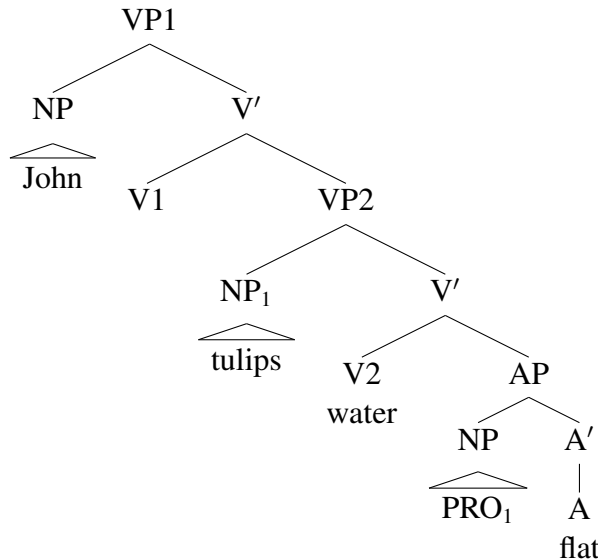
The direct object of the verb is the argument of the verb in this analysis. It controls PRO inside the resultative AP. (V2 moves to V1, making the direct object postverbal.) Since the postverbal NP is

the semantic argument of the verb in this analysis, it names a participant in the verbal event (the event of watering in this example). Since it controls PRO, it also indirectly names the holder of the result state.

In the complex predicate analysis (Larson 1991, Neeleman & van de Koot 2002, Williams 2012, Bruening 2024), the resultative adjective and the verb combine to form a complex predicate. This complex predicate jointly takes the direct object as its argument. I give the structure from Bruening (2024) below:

(9) (based on Bruening 2024: 18, (58))
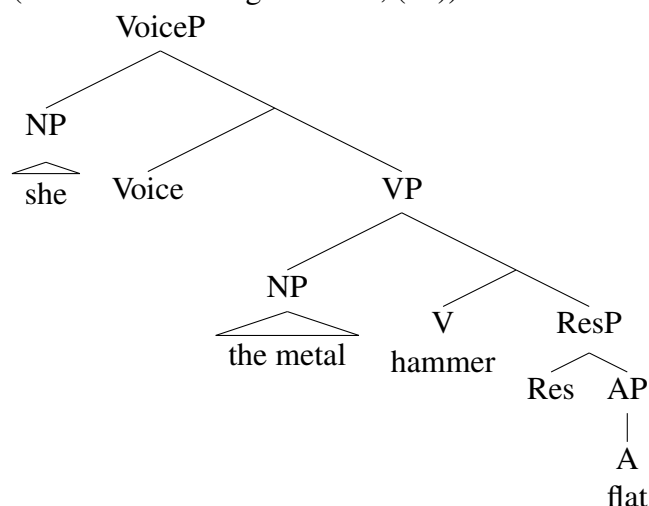
"Res" is a head that combines the resultative adjective with the verb into a complex predicate that takes the NP object as its argument (Williams 2012 calls this head "K"). In this analysis, the postverbal NP is the argument of the verb *and* the argument of the adjective (it ends up postverbal by head movement of V to Voice). It names both a participant in the verbal event (the hammering event) and the holder of the result state (the state of being flat).

The third non-small-clause analysis is the ternary-branching structure of Carrier & Randall (1992):[1]

(10) (Carrier & Randall 1992)
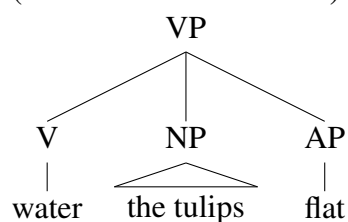
Carrier & Randall (1992) view the AP as a selected argument of the verb.[2] The postverbal NP is

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[1]The analysis of Goldberg & Jackendoff (2004) may also have this character; the only representation of the syntax they give is a linear string, "NP1 V NP2 AP3" (p.538, ex.(14)).

[2]Carrier & Randall (1992) show that there are various semantic restrictions on resultatives, but they give no arguments that it is specifically the verb that imposes these restrictions. Where these restrictions come from is an important question. In the complex predicate analysis, there is an additional head K (Williams 2012) or Res (Bruening 2024) that can impose them. In Ramchand's (2008) hybrid analysis, there is also a head Res that could impose the restrictions. It is not clear what would impose the restrictions in the small clause analysis and the PRO analysis (or the ternary analysis, since it seems unlikely that they come from the verb).

too. It therefore names a participant in the verbal event. It is simultaneously the argument of the AP, and so names the holder of the result state as well. (Carrier and Randall just allow both the V and the A to assign theta roles to the NP.)

Additionally, there is also a hybrid small clause analysis, where the resultative adjective and NP form a small clause but the NP moves out of the small clause to become an argument of a verbal projection in addition (Ramchand 2008: 121–131; see the tree in (55)). This analysis shares with the complex predicate analysis and the ternary analysis the idea that the postverbal NP is both the argument of the verb and the argument of the adjective. It names a participant in the verbal event, as well as the holder of the result state.[3]

In the rest of this paper, I will contrast the small clause proposal of Hu & Cheng (2024) with the control analysis, the complex predicate analysis, the ternary analysis, and the hybrid analysis. All of the alternatives fare better than the small clause analysis, although none of them capture all of the data.

3   Depictive Secondary Predicates

Depictive secondary predicates are predicates that predicate a state of one of the event participants throughout the duration of the event (e.g, Williams 1980, Rothstein 2004). The following is an example:

(11)   Most people drink white wine chilled.

In this example, *chilled* describes the state of the white wine during the drinking event. It does not describe a state that results from the drinking event the way a resultative does. Depictives also contrast with resultatives in that resultatives can add an NP that is not an argument of the main verb (12a), but depictive secondary predicates cannot (12b–12c) (Neeleman & van de Koot 2002, Rothstein 2004):

(12)   a.   The rooster crowed Sam awake.
       b.   John drove Mary drunk. (*'John drove, and throughout this event Mary was drunk'; Rothstein 2004: 70, (41))
       c.   The rooster crowed Sam asleep. (*'The rooster crowed, and throughout this event Sam was asleep.')

As Williams (1980) and Rothstein (2004) note, the NP has to name a participant in the main (verbal) event with a depictive, independently of the appearance of the depictive. Bruening (2018a) uses this property as a diagnostic for whether an NP names a participant in the verbal event. Consider canonical small clauses like the following:

(13)   (Bruening 2018a: 549, (32a,d))
       a.   I want [the soldiers on the parade ground fully dressed]!
       b.   I consider [him beneath contempt drunk].

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[3]Carrier & Randall (1992) call the PRO analysis a "hybrid small clause analysis." I reserve this term for the movement version of it in Ramchand (2008). For other analyses and detailed discussions of resultatives, see McCawley (1971), Dowty (1972), Parsons (1990), Levin & Rappaport Hovav (1995), Li (1995), Rothstein (2004).

As described above, the entire propositional small clause is an argument of the verb; the subject of the small clause is not. The subject of the small clause therefore does not name a participant in the wanting or considering event. We can see this with the depictives: They modify the subject of the small clause only during the state described by the small clause, and not during the eventuality described by the verb. In (13a), the soldiers are probably not fully dressed during the wanting eventuality, but they must be during the state of being on the parade ground; and in (13b), the third person is not necessarily drunk during the considering eventuality, but being beneath contempt and being drunk are necessarily contemporaneous.

Turning to resultatives, if the small clause analysis of them were correct, we would expect a depictive secondary predicate to describe the state of the postverbal NP only during the result state, and not during the verbal event. This is because that NP is not an argument of the verb and does not name a participant in the event described by the verb in the small clause analysis (see Hu and Cheng's semantics in (7)). What Bruening (2018a) showed is that this is not correct: When attached to a resultative, a depictive characterizes the state of the postverbal NP during the event described by the verb (the causing event), and not solely during the resulting state:

(14) (Bruening 2018a: 540, (6a–b))

    a.   It's best to hammer metal flat wet, but it's OK if it has dried by the time it's completely flat.

    b.   # It's best to hammer metal flat dry, but it's OK if it's wet during the hammering.

In (14a), it is acceptable to have the depictive characterize the state of the metal during the hammering but not during the result state. In (14b), it is not possible to have the depictive characterize the metal solely during the result state; if it were, sentence (14b) would not be a contradiction (the metal could be wet during the hammering but dry in the resulting flat state). The following pair makes the same point:

(15) (Bruening 2018a: 541, (7a–b))

    a.   She always blows her hair dry uncombed, and then starts combing it once it's dry.

    b.   She combs her hair first, but it slowly gets tangled up again as she dries it. #So she blows her hair dry uncombed.

In (15b), the second sentence contradicts the first. However, if the depictive *uncombed* could characterize the state of the hair only in the resultant state, it would not be a contradiction. In contrast, in (15a), *uncombed* can characterize the state of the hair during the blowing event but not during (at least part of) the result state.

Hu and Cheng's (2024) proposed solution to this problem is to say that depictives modify NPs during time spans, not during events. Depictives modify temporal variables, not event variables. In their proposed analysis, the resultative small clause has an unsaturated state variable (it is type $\langle s,t \rangle$). This small clause has no temporal information. The verbal event and the resultative state then become part of a single time span, bound by the matrix tense. It is this time span that is modified by the depictive, according to Hu & Cheng (2024). The contrast between resultatives and canonical small clauses in (13) follows because, according to Hu & Cheng (2024), a canonical small clause is a complete proposition, type t, and it "has its own temporal domain." A depictive contained within the small clause will modify this temporal domain.

Hu and Cheng's proposed solution for resultatives does not actually solve the problem. In a resultative, the state has to come about as a result of the causing event. It cannot be contemporaneous with it, but has to temporally abut it (as in all causatives). Having the caused eventuality be part of a single undifferentiated temporal domain along with the causing eventuality is an untenable semantics for causation. Worse, the proposal fails to account for the asymmetry in (14), repeated below as (16):

(16) (Bruening 2018a: 540, (6a–b))
    a.   It's best to hammer metal flat wet, but it's OK if it has dried by the time it's completely flat.
    b.   # It's best to hammer metal flat dry, but it's OK if it's wet during the hammering.

As these examples show, the depictive can characterize the state of the metal throughout (most of) the hammering event but not during the resulting flat state; but it cannot characterize the state of the metal just during the resulting flat state and not during the hammering event. If there were just a single undifferentiated temporal span, as Hu and Cheng's analysis seems to require, then this asymmetry cannot be accounted for. The expectation of the analysis is that the depictive can only characterize the state of the NP throughout the entire time span, from beginning to end, including both the causing part and the resulting part. This is not correct: A depictive can characterize the state of the NP just during the causing event. In Hu and Cheng's analysis, we would have to say that, even though the depictive modifies the entire time span, it can pick out just a sub-part of it. But if the depictive can pick out just a sub-part of the single undifferentiated temporal span, as it would have to in order to modify just the causing eventuality and not the resultant state, then there is no reason it could not pick out the end part of the span as well as the beginning, and thereby modify just the resultant state. Hu and Cheng's proposed solution therefore does not actually account for the facts presented by Bruening (2018a). It is not a solution at all.

Consider now the alternative analyses. I will describe how depictives might work with them using the analysis of depictives endorsed by Bruening (2018a), based on Geuder (2000), Pylkkänen (2008), but this is only for exposition and this particular analysis is not crucial. In this analysis, a depictive characterizes the state of an individual throughout the run time of an event. A depictive takes two arguments, an individual and an eventuality. It needs to adjoin to a projection where an event argument and an individual argument are accessible to it. In the PRO analysis, the postverbal NP is the syntactic and semantic argument of the verb, but it controls the PRO argument of the resultative. In the tree in (8), a depictive can adjoin to a projection of VP2 and characterize the state of the postverbal NP during the event described by the verb. The PRO analysis therefore explains why a depictive can characterize the postverbal NP during the causing event. It cannot explain why a depictive cannot characterize that NP solely during the result state: In (8), a projection of AP ought to be a suitable adjunction site for a depictive, where it would characterize the state of PRO during the state described by the adjective. Something would have to block this adjunction site in the PRO analysis. Note that it cannot be grammatical category: A depictive can modify a canonical small clause involving an AP predicate, as in *I consider [her unbearable drunk]*.[4]

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[4]Harley & Jung (2015) argue that depictive secondary predicates cannot modify stative predicates and can only modify eventive predicates. If this were true, it could explain why a depictive cannot modify just the AP in a resultative. However, in the canonical small clause examples in (13), the predicate allows a depictive but seems to be stative. It cannot be in the progressive in a full clause, for instance: *The soldiers are being on the parade ground. There could

The complex predicate analysis also correctly allows a depictive to modify the postverbal NP during the causing event. In the tree in (9), a depictive can adjoin to a projection of V and characterize the postverbal NP during the event described by the verb. Like the PRO analysis, the complex predicate analysis incorrectly predicts that a depictive should be able to adjoin to a projection of A and thereby characterize the NP solely during the result state. As in the PRO analysis, something would have to block this adjunction site.

The ternary analysis fares the same: It correctly allows a depictive to adjoin to VP and characterize the state of the postverbal NP during the verbal event. It also would incorrectly allow a depictive to adjoin to the resultative AP.

The hybrid analysis is essentially the same as the PRO analysis, except that in place of PRO it has the trace of the moved NP. The hybrid analysis therefore succeeds and fails in the same way as the PRO analysis: A depictive is correctly predicted to be able to modify the postverbal NP during the causing event, but it is also incorrectly predicted to be able to modify it solely during the resulting state.

So, all four alternatives to the small clause analysis fare better than it does. All five make the same incorrect prediction that a depictive could modify the postverbal NP only during the result state, but the small clause analysis also makes the incorrect prediction that a depictive can *not* modify the postverbal NP solely during the causing event. All of the alternative analyses do allow this, correctly.

I conclude that Hu and Cheng's (2024) proposal has not solved the problem for the small clause analysis. Not only that, it is impossible to solve the problem for the small clause analysis. What depictive secondary predicates show us is that the NP characterized by the resultative AP must name a participant in the causing event. But any small clause analysis that is modified to have this property is no longer a small clause analysis. As explained above, in a small clause analysis, no sub-part of the small clause can be a semantic argument of any higher predicate. Only the small clause itself can be an argument of any other predicate. The facts are therefore incompatible with the very premise of the small clause analysis, and they rule out a small clause analysis completely. This was the point of Bruening (2018a), and Hu & Cheng (2024) have not shown that it is incorrect. (Note that analyses that include small clauses within them, but also include argument sharing, like the hybrid analysis and the PRO analysis, *are* compatible with the facts. A pure small clause analysis is not.)

4   Anaphora

As shown in the previous section, depictive secondary predicates are incompatible with the very premise of the small clause analysis, and therefore rule it out completely. However, Bruening (2018a) added facts from anaphora that support that conclusion. Hu & Cheng (2024) also try to account for these facts within a small clause analysis, but they do not succeed, as I will show in this section.

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still be something to this idea, though, since non-PP examples of canonical small clauses seem to only allow depictives if they can be eventive and allow the progressive: *She is being unbearable* and *She is being a bear* (*I consider her a bear drunk*) versus **This metal is being flat* (**I consider this metal flat wet*). I will have to leave this issue to future research, but note that if there is a principled reason that a depictive could not adjoin just to the resultative AP, then all of the non-small-clause alternatives fare even better in comparison with the small clause analysis.

Canonical small clauses constitute opaque domains for anaphora (Stowell 1991, Pesetsky 1995, Bruening 2010), meaning that an anaphor commanded by the subject of the small clause cannot be bound from outside the small clause:

(17) (Bruening 2018a: 554, (41a–e))

    a.   * Maxwell$_1$ considers her proud of himself$_1$.

    b.   * Maxwell$_1$ said that, with Sally angry at himself$_1$, he won't be able to retrieve his kayak from her house.

    c.   * The general$_1$ wants them away from himself$_1$!

    d.   * Maxwell$_1$ said that, with Sally beside himself$_1$, he could do anything.

    e.   * That giant$_1$ believes a dwarf beside himself$_1$ to be an amusing sight.

In contrast, the putative small clause in a resultative does not constitute an opaque domain for anaphora:

(18) (Bruening 2018a: 555, (43a–b))

    a.   The gingerbread man$_1$ pounded the dough flatter than himself$_1$.

    b.   Mr. Freeze froze the bank teller colder than himself$_1$.

Bruening (2018a) argues that this difference also rules out a small clause analysis of resultatives, as all small clause constituents necessarily constitute a binding domain. Bruening (2018a) suggests that this is because the presence of a subject delimits the binding domain for any NPs it commands (see Bruening 2021 for recent discussion). Since true small clauses all have subjects, we expect true small clauses to constitute opaque domains for anaphora.[5]

Hu and Cheng's (2024) response is to say that the binding domain is defined semantically, not syntactically. They decline to formalize the binding domain, so it is not entirely clear what they mean. What they say is that "a saturated category" constitutes a binding domain. At the same time, they also appear to endorse a phase-based approach to the binding domain (Lee-Schoenfeld 2004, Safir 2014, Charnavel & Sportiche 2016), but these are not the same, as I will show momentarily. As far as their analysis of small clauses is concerned, they clearly intend that a small clause that is a proposition of type t is a binding domain (canonical small clauses), but a small clause that is type ⟨s,t⟩ is not (resultatives). The difference is apparently whether there is an open s variable or not.

The first thing to note is that the phase is not co-extensive with saturated categories. In most versions of phase theory, the maximal projection of the head that projects the external argument (VoiceP, for Hu and Cheng) is a phase. But VoiceP is not completely saturated: it still has an open eventuality argument (it is type ⟨s,t⟩ in Hu and Cheng's analysis; see the trees in (6) and (7)). The eventuality argument is not closed until VoiceP combines with Aspect or Tense (see von Stechow & Beck 2015, for instance).

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[5]Defining "subject" is technically problematic. "Spec-TP" is not sufficient, precisely because of small clauses. "Selected specifier" is not correct, because in double object constructions, the first NP is likely to be a selected specifier, but the binding domain is the whole clause. Trying to work out a definition would probably require a whole paper by itself, so I will leave the notion of "subject" vague here. The point in this paper is an empirical one: All embedded constituents in English that consist of a subject and a predicate constitute binding domains.

Nevertheless, VoiceP is arguably a binding domain. As was noted by Huang (1993), an anaphor inside a fronted predicate is obligatorily bound by the semantic external argument of that predicate (see Adger et al. 2017, Bruening & Al Khalaf 2019 for experimental confirmation of these judgments):

(19) a. Contradict herself though I know he thinks she has,…

b. * Contradict himself though I know he thinks she has,…

(20) a. How angry at herself does he believe Samantha to be?

b. * How angry at himself does he believe Samantha to be?

In particular, the binding domain for the anaphor does not expand to include a higher subject, although there ought to be a representation for (19b) where the predicate has stopped in an intermediate Spec-CP:

(21) …[he thinks [$_{CP}$ [$_{VoiceP}$ contradict himself] she has …]]

If the fronted VoiceP is type $\langle s,t \rangle$, then in Hu and Cheng's system we might expect the binding domain for the anaphor to be able to expand from Spec-CP to include the higher subject *he*.

Huang's (1993) approach to this is to say that the fronted category includes a representation of the external argument. In current terms, it is a VoiceP, with the trace of the subject in Spec-VoiceP. If VoiceP is a binding domain, it will remain a binding domain when it moves, and movement can never change the binding possibilities for NPs within it.

This is arguable, of course, but the point is that VoiceP phases are not semantically saturated phrases. Phase-based approaches to binding do take VoiceP (or its equivalent, often called vP) to be the binding domain for anaphors and pronouns inside VP (Lee-Schoenfeld 2004, Safir 2014, Charnavel & Sportiche 2016). It is therefore inconsistent of Hu & Cheng (2024) to approve of phase-based approaches to binding while simultaneously saying that predicates of type $\langle s,t \rangle$ are not binding domains.

Let us leave that aside, however, and evaluate the suggestion that phrases of type $\langle s,t \rangle$ are not binding domains while propositions of type t are, since this is what is important to distinguish between the two putative types of small clauses. The claim is that only propositions of type t are binding domains, and any semantically unsaturated phrase is not a binding domain. Moreover, it is clear from Hu and Cheng's (2024) discussion of *have* causatives that they view temporal dependence as evidence that a phrase is unsaturated and is type $\langle s,t \rangle$. According to them, the complement of a *have* causative is temporally dependent and is transparent to binding (it is type $\langle s,t \rangle$), while the complement of a *make* causative is temporally independent and opaque to binding (it is type t). They give the following contrast in binding between a *make* causative and a *have* causative:

(22) (Hu & Cheng 2024: (29a–b), their judgments)

a. John$_2$ made Sam$_1$ criticize himself$_{1/*2}$.

b. John$_2$ had Sam$_1$ criticize himself$_{1/2}$.

However, Hu & Cheng (2024) give only this one example and cite "space limitations" as a reason they have not verified these judgments. They also say nothing about the source of these judgments, although they do not appear to be native speakers of English. Not only is what they have done

irresponsible treatment of data, the judgments are wrong. In my judgment as a native speaker of English, there is no difference between *make* causatives and *have* causatives in binding. The judgment is very sharp if the two potential antecedents differ in gender:

(23)   John had Mary criticize herself/*himself.

This is confirmed by google searches, which turn up many examples of a pronoun referring to the higher subject, but no examples of an anaphor in the same context. For example, searching for "she had him drive her" (on 8/29/2024) turns up many relevant hits. A few are shown here (but there are many others):

(24)   search string: "she had him drive her"
   a.   She had him drive her to an old rundown park that was once full of grass and trees,. . . (https://kropseniorhigh.org/ourpages/auto/2023/6/13/49851604/INK)
   b.   Sam refuses to leave her at the shady hotel she had him drive her to and . . . (https://www.goodreads.com/book/show/201577854-accidental-marriage-with-the-grumpy-doctor)
   c.   Still tired and groggy, she had him drive her to her apartment complex. (https://unsolvedmysteries.fandom.com/wiki/Dr._Kenneth_Frank)

Searching for "she had him kiss her" (on 8/29/2024) also turns up many relevant hits, a few of which are shown below:

(25)   search string: "she had him kiss her"
   a.   She had him kiss her to get rid of the other guy before she left the club,. . . (https://90210.fandom.com/wiki/Tammy_Hansen)
   b.   . . . she had him kiss her at the right moment to distract the guys that were looking for them. (https://www.reddit.com/r/dndnext/comments/2jdjua/alternate_method_for_group_stealth_checks/)
   c.   Laura was using Willie to make another boy jealous, she had him kiss her on the cheek. (https://filmboards.com/board/p/13260396/permalink/)

In contrast, searches for "she had him drive herself" and "she had him kiss herself" turn up no hits at all, not even irrelevant ones (searches performed 8/30/2024). As a point of comparison, there is a well-recognized case of non-complementarity between anaphors and pronouns, inside certain PPs (Hestvik 1991, Reinhart & Reuland 1993, Lee-Schoenfeld 2004). For instance, in, "She pulled the blanket over herself/her," both an anaphor and a pronoun are allowed, coreferential with the subject. Internet searches for strings like these turn up many relevant instances of both the anaphor and the pronoun (searches performed 9/6/2024).[6] If a reflexive were allowed in the complement of a *have* causative referring to the matrix subject, then we would expect to see that reflected in attested data. We do not. Only pronouns occur. I conclude that the complement of a *have* causative is a binding domain, contra Hu & Cheng (2024).

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[6]For an analysis of non-complementarity in PPs that takes the binding domain to be delimited by a subject, see Bruening (2014a, 2021).

In fact, in every case of an embedded phrase that consists of a subject and a predicate, that phrase is an opaque domain for anaphora. Temporal (in)dependence has nothing to do with binding. Consider perception verbs. The complement of a perception verb is clearly temporally dependent on the matrix tense (e.g., Barwise & Perry 1983, Higginbotham 1983, Safir 1993, Felser 1998). It cannot have a conflicting adverbial, nor can an adverb in the perception complement fail to match the matrix tense:[7]

(26)   a.   He saw her rob the ATM.

       b.   * Yesterday he saw her rob the ATM tomorrow.

       c.   * He saw her rob the ATM tomorrow.

       d.   * He sees her robbing the ATM tomorrow.

(27)   a.   I smell cookies baking.

       b.   * Today I smell cookies baking yesterday.

       c.   * I smelled cookies baking tomorrow.

A temporal adverbial necessarily sets the time of both the event of perception and the perceived event (Safir 1993):

(28)   At three o'clock we felt tremors occur.

It would make sense in Hu and Cheng's analysis for perception complements to be type $\langle s,t \rangle$, given their temporal dependence on the matrix clause. We would then expect them to not be opaque domains for anaphora. They are, however:

(29)   a.   She saw him email himself/*him.

       b.   She saw him email her/*herself.

(30)   a.   She heard him badmouth her/*herself.

       b.   She heard him badmouth himself/*him.

(31)   a.   She smelled the skunks spray her/*herself.

       b.   She smelled the skunks spray each other/*them.

We can also look at non-finite clauses. Wurmbrand (2014) argues that there are three different types of infinitives in English. One is temporally independent (her "future" infinitives). The other two are both temporally dependent. She calls these "simultaneous propositional attitudes" and "tenseless simultaneous infinitives." Both are interpreted as simultaneous with the matrix tense, as their names imply. See Wurmbrand (2014) for the evidence that they are simultaneous. Simultaneous propositional attitudes can have an embedded subject that is distinct from the matrix subject, and so we can easily test whether they constitute an opaque domain for anaphora. They do:

(32)   a.   She believes him to have insulted himself/*him.

       b.   She believes him to have insulted her/*herself.

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[7]Michael Wilson (p.c.) points out that in a video context, it is possible to say something like *Today he saw her rob the ATM yesterday*, where he is watching a video today that was recorded yesterday. However, the unfolding of the event still has to be contemporaneous with the watching, it is just that the representation of this unfolding was created earlier. I think we can safely discount this kind of context. See footnote 15 of Safir (1993) for the same conclusion.

Wurmbrand's tenseless simultaneous infinitives all involve subject control or raising to subject, so it is harder to tell whether the infinitive is a binding domain. However, we can test whether an internal argument of the higher verb is inside or outside the binding domain of the lower clause. It is outside:

(33) a.   He seemed to her to be insulting himself/*herself.
      b.   * He seemed to her₁ to be insulting Mary₁.

The disjoint reference effect in (33b) shows that the issue in (33a) is not command; the object of the P does command into the lower clause, as we can see from Condition C in (33b). The object of the P can only fail to bind an anaphor in the embedded clause in (33a) because the embedded non-finite clause constitutes a binding domain. However, it is tenseless and simultaneous with the matrix clause (see Wurmbrand 2014), so by Hu and Cheng's reasoning it should not constitute a binding domain. The binding domain should be the entire sentence in (33a), and *herself* should be grammatical.

As we can see, there is no support for Hu and Cheng's contention that binding domains are co-extensive with saturated propositions. In every case where there is an embedded constituent that clearly includes a subject and a predicate, that constituent constitutes a binding domain, regardless of its temporal properties. This is true of *have*-causatives as well as every other type of embedded subject-predicate constituent. Their prediction that there should be subject-predicate constituents that do not constitute binding domains appears to be false, in English at least, and their proposal for distinguishing canonical small clauses from the proposed small clause in resultatives fails.[8]

I conclude that true small clauses constitute opaque domains for anaphora. If some NP-predicate sequence in the syntax is not an opaque domain for anaphora, then it is not a small clause. In particular, resultatives should not be analyzed as small clauses.[9]

Let us now compare the alternative, non-small-clause analyses of resultatives. The PRO analysis and the hybrid analysis both include a small clause within them, namely the phrase that includes the resultative predicate plus its subject. This subject is PRO in the PRO analysis and the trace of the postverbal NP in the hybrid analysis. Both of these analyses therefore also predict that the embedded phrase should be an opaque domain for anaphora, and that the subject of the verb should be outside of that domain. Resultatives should behave exactly like control clauses and raising-to-object clauses in these two analyses. This is not correct:

(34) a.   I convinced the judge [PRO to be lenient toward me/*myself]. (control)

_____

[8]Hu and Cheng's (2024) discussion of binding into NPs is also off the mark. NPs are not transparent to binding, they only appear to be because they are contexts for exempt anaphors (Pollard & Sag 1992, Reinhart & Reuland 1993). Anaphors inside NPs do not require a syntactic binder. This can be shown with examples like the following, where the anaphor does not even have an antecedent in the same sentence:

(i)   Mary₁ was extremely upset. That picture of herself₁ on the front page of the Times would circulate all over the world. (Pollard & Sag 1992: 268, (24b))

I will not discuss NPs in detail here; they raise many issues for binding, but as far as I can tell they do not bear directly on Hu and Cheng's (2024) claim that temporal independence is what is required for a phrase to constitute a binding domain.

[9]Harley & Jung (2015) suggest that some small clauses are phases and others are not, and that the binding domain is the phase (see references above). However, without some independent way of deciding which small clauses are phases and which are not, this proposal does nothing more than restate the facts.

b.   I believe her [*t* to be proud of me/*myself]. (raising to object)

c.   The gingerbread man₁ pounded the dough flatter than himself₁. (resultative; Bruening 2018a: 555, (43a))

The complex predicate analysis and the ternary analysis are the only ones that are compatible with binding. In the complex predicate analysis, the resultative AP forms a complex predicate with the verb, and they jointly take the postverbal NP as their argument. The subject of the complex predicate is the external argument of the verb. There is no reason in this analysis that the binding domain would be any smaller than the whole clause. In the ternary analysis, the postverbal NP and the resultative AP are both sisters to the verb. The subject is again the external argument. There is also no reason that the binding domain would be any smaller than the whole clause.

5   The Small Clause Analysis is Semantically Inadequate

Previous sections have addressed depictive secondary predicates and anaphora, which were the phenomena focused on by Bruening (2018a) and Hu & Cheng (2024). In this section, I will point out an additional problem for the small clause analysis of resultatives. The problem is that it is semantically inadequate.

Below I repeat the denotation of VoiceP in Hu and Cheng's analysis (their example 10g):

(35)   ⟦VoiceP⟧= λe.AGENT(Sam,e) & hammer(e) & ∃s[flat(the metal,s) & CAUSE(s,e)]

As already pointed out, in this analysis, the NP *the metal* does not name a participant in the causal event e described as a hammering event. It is only the holder of the state *flat*. What the VoiceP means is that Sam is the agent of a hammering event, and this hammering event is the cause of a state of flatness where the metal is flat.

This analysis therefore fails to capture the entailment that the metal is necessarily hammered:

(36)   Sam hammered the metal flat #but he did not hammer the metal.

In Hu and Cheng's analysis, Sam could have hammered something else (or nothing at all), and so long as the metal being flat is the direct result of this hammering, the sentence would be true. This does not match the observed facts (see especially Carrier & Randall 1992 and Williams 2015: chapter 13).

Consider also a verb that alternates between taking an NP complement and a small clause complement like *consider*. The clause with the small clause complement does not entail the clause with the NP complement:

(37)   I considered the problem solved and so I never considered the problem.

Once again, resultatives pattern very differently from canonical small clauses.

Notice also that there *are* resultative constructions where the subject of the resultative secondary predicate is not a selected argument of the verb, and in these examples there is no entailment that the subject of the resultative is a participant in the causing event:

(38)   a.   The dog barked Sam awake.

b.   * The dog barked Sam.

In fact it is not possible to have the subject of the resultative be the object of the verb. Hu and Cheng's proposed semantics is a reasonable one for non-selected objects in resultatives ("the dog was the agent of a barking event, and this barking event caused the state of Sam being awake"). But then it is *not* a reasonable analysis of selected objects, as in *Sam hammered the metal flat*.
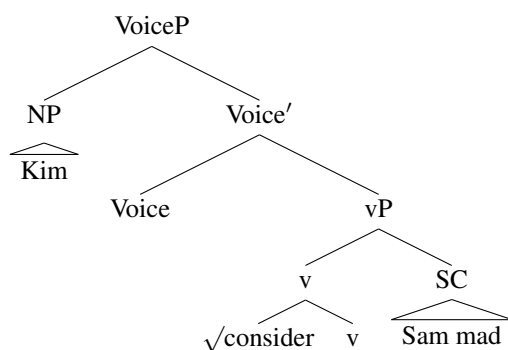
I conclude that the small clause analysis fails to make the right semantic entailments, and it is therefore an inadequate analysis. Notice that it fails here for the same reason that it failed on depictive secondary predicates: The NP object does not name a participant in the causing event. Semantic entailments and depictive secondary predicates are both showing us that a selected NP object must name a participant in the causing event, as well as the holder of the resultant state. Small clause analyses do not have this property, and they are therefore inadequate.

As for the other analyses, they all get this right. In the PRO analysis, the postverbal NP is the selected argument of the verb. In the hybrid analysis, the NP moves to become the argument of the verb. In the complex predicate analysis, the postverbal NP is the argument of a complex predicate constructed from the verb and the resultative AP. In the ternary analysis, the postverbal NP is the selected argument of the verb (as well as the adjective). All of these analyses correctly capture the semantic entailment.[10]
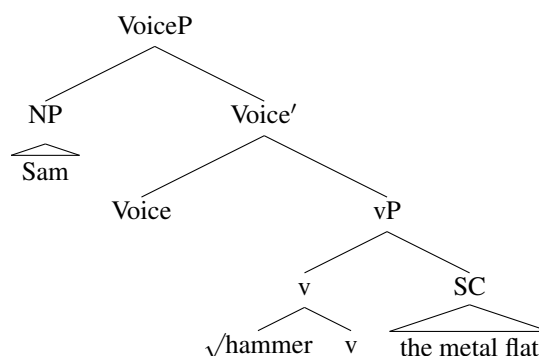
6 Syntax: Constituency

As described in section 2.1, in Hu and Cheng's (2024) analysis, canonical small clauses and resultatives have the same syntax, but different semantics. I repeat the syntactic structures that Hu and Cheng propose for canonical small clauses and resultative small clauses below:

(39)   a. canonical small clause   b. resultative small clause

As can be seen, both of these have an [NP AP] constituent (labeled "SC" in the trees). In this section, I show that this structure for resultatives is not supported by the syntactic evidence. There is constituency data that distinguish canonical small clauses from resultatives.

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[10]Carrier & Randall (1992) give three related arguments that the postverbal NP is the semantic argument of the verb. According to Carrier & Randall (1992), middle formation, adjectival passive formation, and nominalization all work only with a selected object of a verb. Since they can all be formed from resultatives, Carrier & Randall (1992) conclude that the postverbal NP in a resultative is the semantic argument of the verb. However, the argument only goes through with middles. They are the only one of the three that actually requires a semantic argument of the verb. See Bruening (2024). Bruening (2014b) shows that the NP does not need to be a selected argument of the verb in an adjectival passive, and Bruening (2018b) shows the same for nominalizations.

Canonical small clauses can be dislocated, in pseudoclefting for instance (Farrell 2005), but the NP plus resultative AP cannot be:

(40) a. John hopping mad is what I like to see.
b. Her assistant available night and day is what she needs.
c. Those interlopers off my ship is what I want!
d. * The metal flat is what I hope to hammer.
e. * The sheriff dead is what/who I hope to shoot.

Canonical small clauses can be passivized and undergo tough movement (Farrell 2005), but the putative small clause of a resultative cannot:

(41) a. Him in a kimono could only be imagined by someone like you. (Farrell 2005: 111, (34d))
b. * The metal flat could only be hammered by someone like you.
c. * Him dead could only be shot by the sheriff.

(42) a. Him in a kimono is difficult to imagine. (Farrell 2005: 111, (34b))
b. * This metal flat is difficult to hammer.
c. * Him dead is going to be difficult for the sheriff to shoot.

Canonical small clauses can form question-answer pairs, but the putative small clause in a resultative cannot (Neeleman & van de Koot 2002):

(43) a. Q: What are you imagining right now? A: Him in a kimono.
b. * Q: What/How are you hammering right now? A: The metal flat.

Canonical small clauses can also be separated from the selecting verb by a PP (Farrell 2005), but the putative small clause in a resultative cannot be:

(44) a. Try to picture in your mind's eye the mayor in a kimono. (Farrell 2005: 111, (39a))
b. * Try to hammer in your smithy this metal flat.
c. * Try to shoot in the street the outlaw dead.

Conversely, an adverb can come between the direct object and the AP in a resultative, but not in a canonical small clause (Rothstein 2017):

(45) (Rothstein 2017: (22a,c))
a. He brewed coffee repeatedly too strong.
b. * He considered John repeatedly foolish.

All of this constituency evidence indicates that canonical small clauses and resultatives do *not* have the same syntax.[11] Of course, Hu & Cheng (2024) could argue that only small clauses that

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[11]Farrell (2005) uses constituency data to argue against a small clause analysis of verb-particle constructions. These are also argued in Bruening (2018a) to not be small clauses. The constituency facts converge with those of depictive secondary predicates and anaphora in the case of verb-particle constructions as well. The reader can verify that constituency data are also inconsistent with small clause analyses of caused motion constructions and double object constructions.

are type t can undergo syntactic processes as a constituent, while those that are type ⟨s,t⟩ cannot. Leaving aside the fact that this would violate Hu and Cheng's claim that syntax and semantics are autonomous, it does not seem to be correct that only propositions of type t can undergo dislocation processes. I already noted above that perception verb complements are temporally dependent and require temporal overlap with the matrix tense. By Hu and Cheng's reasoning, they should then be type ⟨s,t⟩, not type t. Yet perception verb complements can undergo dislocation processes (e.g., Akmajian 1977):

(46) a. The suspect breaking open the ATM was what she saw on the night in question.

b. Pavarotti singing *Nessun Dorma* is what she really wants to hear.

c. What you feel is the tube entering your trachea.

Open predicates (not combined with a subject) can often front, for instance in pseudoclefting:

(47) a. Mostly raw is how she likes her meat.

b. Black is how she takes her coffee.

The predicate of a canonical small clause can also dislocate by itself, but it is clearly not type t (since it is missing its subject); it should be type ⟨e,⟨s,t⟩⟩ in Hu and Cheng's analysis, since its state variable will not have been closed yet, either:

(48) a. In a kimono is how I imagine him.

b. Off my ship is where I want them.

VP-fronting and *though*-preposing also front predicates without their subjects. Of course, they could have the trace of the subject in Spec-VoiceP, as described above. Nevertheless, the event variable should not have been bound by aspect or tense yet, so even if the subject is included, the fronted phrase should still be type ⟨s,t⟩:

(49) a. She said she would feed the cat, and [feed the cat] she did.

b. [Intelligent] though your cat is, it still can't find its way out of a paper bag.

I conclude that there could not be any general constraint on dislocation limiting it to "semantically complete" phrases.

It is true that not all canonical small clauses can undergo dislocation processes. Consider the following:

(50) a. * Her intelligent is what I consider.

b. * Her intelligent could only be considered by someone like you.

c. * Her naive is difficult to find.

d. * Sue considers on her sober days James intelligent.

Hu & Cheng (2024) could propose that the putative small clause in a resultative shares whatever property these unextractable canonical small clauses have that makes them unextractable. However, an initial inspection indicates that what matters is whether the predicate in the small clause is stage-level versus individual-level. Small clauses that include individual-level predicates are immobile, while those that include stage-level predicates can be moved:

(51) a. * Her intelligent is what I found.

b. Helen sitting on the floor is what I found when I came into the room.

The restriction against moving something with an individual-level predicate extends to full clauses, too (so it is not just small clauses):

(52) a. * Her to be very intelligent is what I found.

b. Her assistant to be available night and day is what she needs.

Since resultative APs are necessarily stage-level, we would then expect that the putative small clause in a resultative would be able to undergo movement processes, contrary to fact. More generally, there is no property that Hu & Cheng (2024) can appeal to to distinguish canonical small clauses from the putative small clause in a resultative.

Constituency data therefore clearly distinguish the syntactic behavior of canonical small clauses from that of the putative small clause in a resultative. The conclusion must be that they have a different syntax, contra Hu & Cheng (2024). In particular, canonical small clauses behave as a constituent, while it does not appear to be correct to analyze *the metal flat* as a constituent in *Sam hammered the metal flat*.
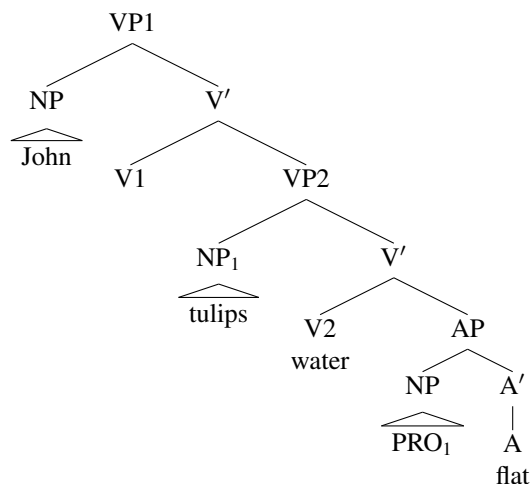
Of the non-small-clause analyses considered here, only the ternary analysis accounts for the constituency data without additional restrictions or stipulations. In this analysis, the postverbal NP and the resultative AP do not form a constituent at any level of analysis. I repeat the ternary structure below from Carrier & Randall (1992):

(53)

VP
V — NP — AP
water | the tulips | flat
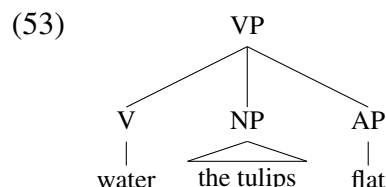
This analysis correctly predicts that the NP and the AP cannot undergo dislocation together to the exclusion of other material.

The other non-small clause analyses all have the means to account for the constituency data, although they must add an additional restriction. I repeat the structures for the PRO and complex predicate analyses below.

(54) a. PRO analysis

VP1
NP (John) — V'
V1 — VP2
NP₁ (tulips) — V'
V2 (water) — AP
NP (PRO₁) — A'
A (flat)

b. complex predicate analysis

VoiceP
NP (she) — Voice — VP
NP (the metal) — V (hammer) — ResP
Res — AP
A
flat

20
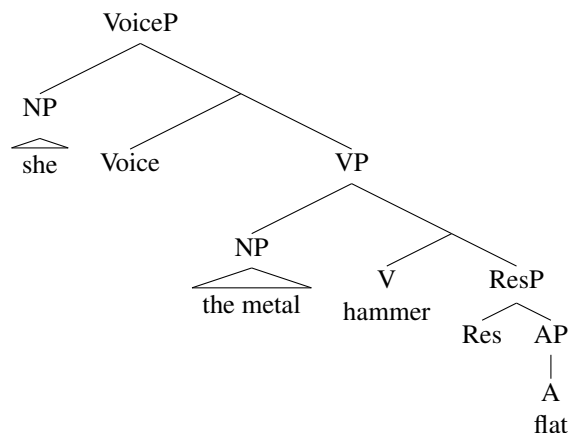
In both of these analyses, the postverbal NP and the resultative AP do not form a constituent underlyingly. However, once the verb moves to the head that projects the external argument (V1 and Voice, respectively), they do. These are the nodes l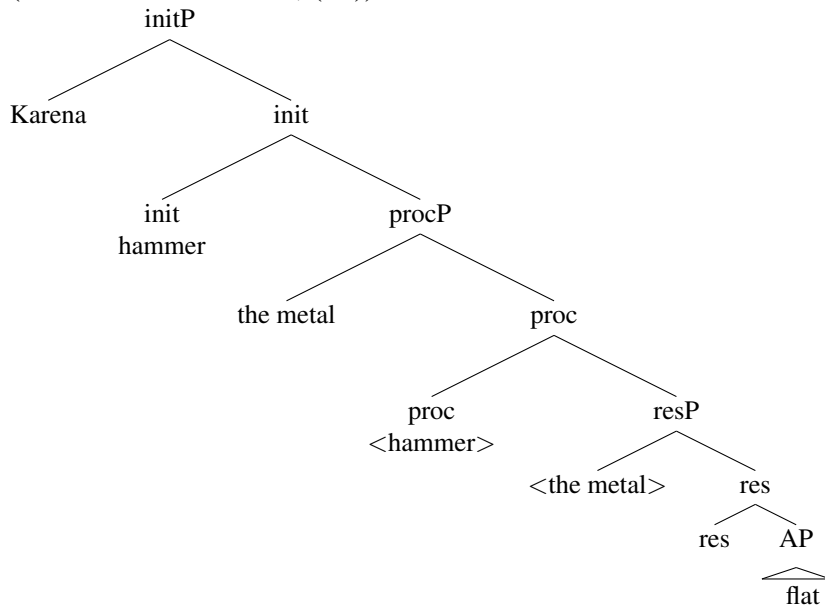abeled VP2 in the PRO analysis and VP in the complex predicate analysis. These two analyses would have to stipulate that the constituent that includes the trace of the verb cannot undergo syntactic movement. Since remnant VPs that dislocate without the verb are unattested in English, this is not an unreasonable stipulation.

In the hybrid analysis, the postverbal NP starts as a constituent with the resultative AP (as in Hu and Cheng's small clause analysis), labeled "resP" in the tree below, but then it moves to a higher projection to become the argument of another projection (Spec-procP):

(55)   (Ramchand 2008: 127, (38))

```
                     initP
                    /    \
              Karena      init
                         /    \
                      init     procP
                     hammer   /     \
                      the metal      proc
                                    /    \
                                 proc     resP
                               <hammer>  /    \
                                 <the metal>   res
                                              /   \
                                           res     AP
                                                   /\
                                                 flat
```

However, the verb then moves across the NP (to the head labeled "init"), creating a new constituent consisting of the postverbal NP and the resultative (the node labeled "procP" in the tree). This puts the hybrid analysis on the same footing as the two just described. It would also have to add a restriction banning movement of a remnant VP.

To summarize, only the ternary analysis captures the constituency data without additional stipulations/restrictions. However, the other analyses have the means to add a reasonable restriction. The small clause analysis does not, and expects the putative small clause in a resultative to act just like a canonical small clause.

7   Conclusion

The point of Bruening (2018a) was that the facts of depictive secondary predicates are incompatible with the premise of the small clause analysis of resultatives (and verb-particle constructions, caused motion constructions, and double object constructions). Hu & Cheng (2024) try to defuse this argument, but, as I have shown here, they do not succeed. Depictive secondary predicates show that no small clause analysis of resultatives can work. The holder of the result state must also be a participant in the causing event (in resultatives with a selected object). This is incompatible

with a small clause analysis. Modifying such an analysis to make the NP name a participant in the causing event makes that analysis no longer a small clause analysis. It might include a small clause, as in the hybrid and PRO accounts, but those are not pure small clause analyses because the postverbal NP is not solely the subject of the small clause. This means that a pure small clause analysis is incapable in principle of accounting for the facts of depictive secondary predicates. Secondary predicates absolutely do rule out a small clause analysis of resultatives, contra Hu & Cheng (2024). (And note that the PRO and hybrid accounts stumble on anaphora, meaning that even a modified small clause analysis suffers from intractable problems.)

Additionally, Hu and Cheng's proposal to explain the binding facts also fails. All true small clauses do constitute opaque domains for anaphora. Since resultatives do not, they cannot be analyzed as small clauses. In addition, I have shown here that the small clause analysis of resultatives is semantically inadequate, and it is syntactically inadequate, as it is incompatible with the constituency evidence. All of the available evidence converges to argue that the small clause analysis is untenable. I conclude that Bruening (2018a) was correct, and depictive secondary predicates and anaphora do in fact rule out small clause analyses of phenomena like resultatives (and verb-particle constructions, caused motion constructions, and double object constructions).

The other analyses of resultatives that I have contrasted with the small clause analysis all fare better, although none of them captures all of the facts. All of them incorrectly predict that a depictive could modify the postverbal NP solely during the result state (but see footnote 4), but all of them do correctly predict that a depictive could modify the postverbal NP during the event described by the verb. The PRO analysis and the hybrid analysis stumble on anaphora, just like the small clause analysis, whereas the complex predicate analysis and the ternary analysis correctly capture the binding data. All four alternative analyses get semantic entailments correct, since all four view the postverbal NP as an argument of the verb. Regarding constituency, the ternary analysis captures the data with no additional restrictions, while the other three have to add a restriction to block movement of a remnant VP that includes the trace of the verb within it. None of these analyses is perfect, but the ternary analysis (Carrier & Randall 1992) fares best on the data discussed here, then the complex predicate analysis, and last the PRO and hybrid analyses. All four of the alternatives fare better than the small clause analysis, and the small clause analysis has no other advantages to offer that I can see (Hu & Cheng 2024 do not offer any). There is no rational reason not to reject it (and I would also reject the PRO and hybrid analyses on the basis of anaphora).

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