

Idioms: Movement and Non-Movement Dependencies

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Abstract

Phrasal idioms are often used to argue that some syntactic phenomenon involves a movement dependency. This paper shows that idioms are not a valid argument for movement, because they can participate in all sorts of non-movement dependencies, including pronominal anaphora and control. This is demonstrated by expanding on cases from the literature and by presenting new data. Idioms are shown to be compatible with null operator analyses and with binding. The paper also argues that any reasonable view of how anaphora works and how idioms work predicts that idioms should be compatible with all kinds of dependencies, movement and non-movement alike. The paper also resolves some issues that arise with idiom chunks as heads of relative clauses.

1 Introduction

Since at least an unpublished 1968 manuscript by Brame (cited in Schachter 1973 and Vergnaud 1974), the syntactic literature has often appealed to phrasal idioms to motivate certain analyses of syntactic phenomena. In particular, idioms are often used to justify a movement analysis of some phenomenon. For instance, Brame's own examples involved relative clauses, and recent years have seen a revival of the head raising analysis of relative clauses that he first proposed (e.g., Kayne 1994, Bianchi 1999). It is worth quoting some of this literature, concerning examples like that in (1) (where the idiom is *make headway*):

- (1) The headway that John made was impressive.

The reasoning goes like this: "Since verb-complement idioms must be interpreted as a unit, it must be the case that the external head in [(1)] is interpreted in the complement position within the [relative] clause" (Henderson 2007, 203). Similarly: "If the idiomatic reading of *headway* is available only if *headway* appears inside the complement of *make*, [(1)] requires the raising analysis" (Hulsey and Sauerland 2006, 113). That is, the idiomatic phrase *headway* must start as the complement of *make* and move from there to its surface position.

This reasoning is not limited to relative clauses. As one example of many, Postal (2004, 93) states that certain idioms may only undergo raising and do not participate in control, and so they can be used to identify movement phenomena. Postal uses them to argue for a process of raising to object of P. As another example, Chomsky (1981) erroneously claimed that idioms may not undergo tough movement,¹ and so argued that there is no direct movement to the subject position in tough constructions. Examples of this sort of reasoning could be compounded ad infinitum.

At the same time, other researchers have pointed out numerous issues for the use of idioms as a movement diagnostic, for instance Ruwet (1991) and Nunberg, Sag, and Wasow (1994). They have noted that idioms can, in fact, participate in control; they can also participate in pronominal anaphora:

- (2) a. To some, the lesson is that no matter how happy the tune may be, eventually, the piper wants to be paid. (control; idiom is *pay the piper*; Riehemann 2001, 62, (60a))
b. We thought the bottom would fall out of the housing market, but **it** didn't. (pronominal anaphora; Nunberg, Sag, and Wasow 1994, (7b))

¹Grammatical examples of idioms in tough movement can be found in Berman (1973), Ruwet (1991), Nunberg, Sag, and Wasow (1994), and below.

In this paper, I add to this body of data and show that idioms can participate in the full range of syntactic dependencies. I examine cases where many analyses posit a null operator rather than a direct movement dependency (parasitic gaps), and show that in these cases, too, idioms chunks are grammatical. I also show that idiom chunks can participate in variable binding. That is, an idiom chunk can be a quantifier binding a pronoun as a variable. In addition, idiom chunks can antecede VP pro-forms like *do so*. Pronominal anaphora has never, to my knowledge, been analyzed as movement; nor should it be, since it can cross sentence boundaries. I also offer more examples of idiom chunks controlling the null subject of an infinitive, to shore up that data point. Putting all of this together with known data from the literature, I conclude that idioms can participate in the full range of syntactic dependencies, movement and non-movement alike.

I also critically examine the reasoning behind the use of idioms as a movement diagnostic, displayed in the quotes above. I show that this reasoning is based on an erroneous assumption. In fact, any reasonable view of how idioms work and how anaphora works would predict that idioms can participate in the full range of anaphoric possibilities, including control, binding, and predication through a null operator. The conclusion is that idioms cannot be used to argue for movement analyses in particular; idioms are consistent with non-movement analyses such as ones that invoke a null operator or a binding dependency. Finally, I discuss some issues that arise with idioms in relative clauses in particular.

2 New Data

In this section I present new data involving idioms and parasitic gaps; parts of idioms acting as the antecedent for a VP pro-form like *do so*; and parts of idioms as quantifiers binding pronouns as variables.

2.1 Parasitic Gaps

Chunks of idioms are known to be able to undergo A-bar movement like wh-movement and relativization, as in example (1) above. In doing so, they can also license parasitic gaps:

- (3) a. These are the kind of strings that people who pull usually end up regretting having pulled.
- b. We were amazed at the strings she managed to pull without seeming to pull.
- (4) a. How much headway can we make without appearing to make?
- b. That's the kind of headway that people who make always want to brag about having made.

Parasitic gaps have often been analyzed as movement of a null operator (e.g., Chomsky 1986, Nissenbaum 1998). In this type of analysis, (3a) would involve movement of a null operator within the subject NP:

- (5) [OP₁ people who pull *t*₁]

In null operator analyses, the null operator does not have any of the lexical content of what it is related to external to its own chain. This means that in the subject clause shown, there is no constituent *pull strings* that could give rise to the special interpretation. There is only *pull OP*, which should not be able to have the idiomatic interpretation, according to the reasoning given in the quotes in the introduction.²

There *are* analyses of parasitic gaps where they involve movement (or its equivalent) from the parasitic gap position to the overt wh-phrase or relative operator. For instance, Nunes (2004) analyzes parasitic gaps as “sideward movement,” with a single wh-phrase or relative operator binding both its trace and the parasitic gap (as a trace).

²In some analyses of across-the-board (ATB) movement in coordination, the second (and subsequent) gaps are not directly related to the overt antecedent (e.g., Munn 1993, Zhang 2010). Idioms can also participate in ATB movement:

- (i) a. They were surprised at the headway that we made but they didn't make.
- b. We were surprised at the strings that he consented to pull but she refused to pull.

In the analyses of ATB movement just cited, these examples would also be incompatible with the assumptions behind using idioms as a movement diagnostic.

However, these data support my contention that idioms can participate in the full range of syntactic dependencies. Moreover, the next two phenomena have never been analyzed as movement, to my knowledge.

2.2 VP Ellipsis and VP Pro-Forms

Elided VPs and VP pro-forms can take antecedents from different sentences and even across speakers (e.g., Hankamer and Sag 1976). This makes it impossible to claim that there is a movement relation between the elided VP or VP pro-form and its antecedent. Movement relations cannot cross sentence boundaries.

Now consider the following:

- (6) a. Every string will be pulled that can be.
- b. A: The cat is out of the bag. B: I know it is.
- c. A: The shit will hit the fan tonight! B: Yes, it will./ It already has.

Note also the example from Nunberg, Sag, and Wasow (1994) in (2b), which also includes VP ellipsis of part of an idiom.

VP ellipsis in these examples is not problematic for the view that takes idioms to be a movement diagnostic, if lexical material is actually present but unpronounced in VP ellipsis. B's response in example (6b) would have the following representation, with the strikethrough indicating lack of pronunciation (PF deletion, for instance, as in Merchant 2001):

- (7) I know it is ~~out of the bag~~.

Since the lexical material *out of the bag* is present here, it should be able to contribute to the idiomatic meaning. However, there is also a pronoun, *it*, in place of *the cat*. There is therefore no constituent *the cat out of the bag*, and, by the logic outlined above, there should be no idiomatic interpretation. However, native speakers automatically interpret this sentence in the idiomatic way. Note furthermore that there could be no movement relation between *it* and its antecedent *the cat*, because these two NPs occur in different sentences uttered by two different speakers.

VP pro-forms like *do so* behave exactly like VP ellipsis with idioms, and they *are* problematic for the movement view, in exactly the same way as pronouns:

- (8) a. A: I'm going to have to pull some strings to get you what you want. B: Then do so!
- b. He let the cat out of the bag on national television before she was able to do so.
- c. He wants to call the shots around here but he has never succeeded in doing so.
- d. The shit hits the fan with astonishing regularity around here. How can it do so so frequently?

Do so is generally regarded as a pro-form lacking the lexical content and syntactic structure of its antecedent, analogous to a pronoun (e.g., Bresnan 1971, Hankamer and Sag 1976, Fiengo and May 1994, Hallman 2013). In (8a), then, B's sentence is just the following, with a covert imperative subject:

- (9) Then ~~you~~ do so!

Here, there is no constituent *pull strings*, and so there should be no idiomatic meaning. Nevertheless, this is exactly what speakers recover as the meaning of the sentence.

In (8a), the entire idiom is the antecedent of *do so*. In (8d), though, only part of it is: the antecedent of *do so* is just *hit the fan*. The idiom can be spread across two different pro-forms, one a pronoun (*it*) and the other *do so*. Both types of pro-forms are problematic for the view that idioms can be interpreted only on the basis of a movement derivation.

Simply for the sake of completeness, I also note before moving on that idioms can participate in antecedent contained deletion (Bouton 1970, Sag 1976):

- (10) a. She can pull every string that we can.
- b. We can make all the headway they can.

Again, this just contributes to showing that idioms can participate in every type of dependency there is.

2.3 Quantifiers Binding Variables

There is no analysis of variable binding that involves movement from the position of a pronoun to the position of the quantifier that binds it, to my knowledge. Nevertheless, quantificational chunks of idioms can bind pronouns as variables:

- (11) a. Every string will be pulled if it can be.
- b. You should cross no bridge before you come to it.
- c. We will leave no possible stone unturned after we find out about it.
- d. We will leave no avenue unexplored once we learn about it.

As noted above, idiom chunks can antecede pronouns. These examples show that they can also bind them as variables when they are quantificational.

Consider (11a) in particular. In the adjunct clause, we must have the following representation, with the struck through material elided (see above on VP ellipsis):

- (12) [if it₁ can be ~~pulled~~ _{t₁}]

Here, *it* started as the object of the verb *pull*, but became the subject by passivization. The interpretation in this clause is exactly that of the idiom *pull strings*. Yet there is no such constituent. The only constituent is *pull it*, but by the logic of the idiom-as-movement-diagnostic view, this could not have the idiomatic interpretation.

Idiom chunks can also be e-type pronouns, where the quantifier that binds them does not c-command them (Evans 1980):

- (13) a. Every comedian who was worried about beating a dead horse of a joke did beat it.
- b. Every boss who was able to do a number on his rival did do it on him.

They can also antecede paycheck pronouns (Karttunen 1969):

- (14) a. The worker who lost his cool yesterday is better off than the one who lost it today.
- b. A POW who spills his guts only after hours of torture is more honorable than one who spills them immediately.

In other words, idiom chunks can antecede pronouns, with the full range of interpretations that are open to pronouns (coreference, binding, e-type anaphora, and so on). These interpretations do not raise any further problem for the movement view of idioms, but they do indicate that idioms can participate in *every* kind of syntactic dependency. They are not limited to movement dependencies.

3 The Full Range of Dependencies

The previous section provided three new types of data on the syntactic abilities of idioms. They can be parasitic gaps, VP pro-forms, and they can bind pronouns as variables. We already knew that idioms could undergo A-movement and A-bar movement of all types. We also already knew that they can participate in pronominal anaphora, but the examples above have shown that they can do so with every interpretation that is open to pronouns in general. Idioms have also been claimed to be able to control the null subject of an infinitive (Nunberg, Sag, and Wasow 1994), although this may be controversial. To shore up this point, I provide some more data here. An attested example of control was cited in (2a) and is repeated here:

- (15) To some, the lesson is that no matter how happy the tune may be, eventually, the piper wants to be paid. (Riehemann 2001, 62, (60a))

The problem with most control verbs is that they impose semantic requirements on their arguments. *Want*, for instance, requires an NP that is capable of having desires. Most idiom chunks do not have this property. Other control verbs impose similar requirements, such as *try* (subject control) or *convince* (object control). So when publications produce contrasts between raising and control clauses like the following, the problem is not that pieces of idioms cannot control, it is that they make bad subjects for verbs like *try*:

- (16) (Davies and Dubinsky 2004, 8, (23a–b))
- a. The cat seemed to be out of the bag.
 - b. The cat tried to be out of the bag. (*idiomatic)

For this reason I turn to control into adjunct clauses. The null subject of a non-finite adjunct clause is controlled by the subject of the clause it is adjoined to. The verb of that clause can be anything, even an idiomatic verb. We are therefore more likely to find idiom chunks participating in this sort of control, and indeed we do (I represent the null subject as PRO):

- (17)
- a. The shit will hit the fan in our office without PRO hitting it in yours.
 - b. Could the cat have been let out of the bag without PRO being let out deliberately?
 - c. Could the beans have been spilled without PRO being spilled deliberately?
 - d. Headway was made without PRO seeming to be made.
 - e. Strings can be pulled without PRO being pulled in any obvious way.

These examples shore up the claim that idiom chunks can participate in control, and undermine the view that idioms are a valid way of differentiating between raising and control (e.g., Postal 1974, Davies and Dubinsky 2004 and references there). Idioms *can* control, when the circumstances are right. In this idioms differ from the expletive *there*, which cannot control the null subject of an infinitive:

- (18)
- a. * There occurred three more accidents without PRO being any medical help available on the premises. (Haegeman 1994, 279, (46g))
 - b. * Next to the cauldron there appeared a witch without PRO appearing a black cat, too.

The expletive *there* also cannot antecede pronouns (different occurrences of *there* are independent of each other). It *can* undergo movement (A-movement, at least). This expletive therefore does appear to be a valid movement diagnostic.

Idioms, in contrast, do not appear to be a valid movement diagnostic. Most of the syntactic phenomena listed here are not generally analyzed as movement. Control sometimes is (Hornstein 1999, 2001), but on this analysis it is mysterious why idioms can do control movement but the expletive *there* cannot. Parasitic gaps are also sometimes analyzed as direct movement, as mentioned above. However, no one analyzes pronominal anaphora or variable binding as movement. Nor do they analyze the VP pro-form *do so* as movement. There are good reasons not to do so: pro-forms can take antecedents across sentences, or even lack a linguistic antecedent.

The overall conclusion is that idioms can participate in every syntactic dependency there is. They are not limited to movement. As such, they cannot be used to argue for a movement analysis of any particular phenomenon. In the next section, I argue that any reasonable view of idioms and anaphora predicts this state of affairs.

4 Idioms and Lexical Activation

All accounts of idioms need to say that lexical entries of parts of idioms need to specify somehow that they have a special interpretation when combined with the other parts. So, in *spill the beans*, the lexical entry for *beans* needs to indicate in some way that it has a special meaning just in combination with the verb *spill*. Likewise for the entry for the verb *spill*. It is not important here exactly how this is done, the only thing that is important is that this is true. (See Riehemann 2001 for discussion of possible proposals and issues.)

Now, anaphoric dependencies of all types lead to lexical activation of the antecedent. Consider a sequence like the following:

(19) I don't like beans. They upset my stomach.

Regardless of one's theory of the syntax of pronouns, encountering a pronoun will activate or point to in some way the lexical entry of its antecedent. In this case, *they* will activate *beans*. Similarly for VP ellipsis and VP proforms: they activate their antecedents in some way. It is then no surprise that idioms can participate in anaphora: an anaphor whose antecedent is *the beans* will activate the lexical entry for *beans*, where it is specified that this word can have a particular meaning when it combines with the verb *spill*. Similarly, if the antecedent of the VP pro-form *do so* includes *spill*, this will activate the lexical entry of that verb, where it is specified that the verb has a particular meaning in combination with the noun *beans*. This means that it is no surprise that a pronoun and elided VP can have a fully idiomatic meaning:

(20) A: The beans have been spilled. B: Yes, they have.

In B's response, *they* activates its antecedent *the beans* and the elided VP activates its antecedent, *been spilled*. The lexical entries for *beans* and *spilled* indicate that when they are combined, they can have a special meaning. B's response is therefore expected to be interpretable idiomatically, regardless of what one's theory of pronouns or of VP ellipsis is.

Given these considerations, which are independent of any particular theory of idioms, we expect idioms to participate in the full range of anaphoric dependencies, on any reasonable view of anaphora. This means that the logic exemplified in the quotes at the beginning of this article is mistaken. I repeat one of them: "If the idiomatic reading of *headway* is available only if *headway* appears inside the complement of *make*, [(1)] requires the raising analysis" (Hulsey and Sauerland 2006, 113). This reasoning is faulty because there is a way to interpret *headway* as the complement of *make* without movement, namely anaphora. Let us consider an alternative to the raising analysis of relative clauses, the null operator analysis (e.g., Chomsky 1977):

- (21) a. They were surprised at the headway that we made.
b. [_{NP} the headway [_{CP} OP₁ that we made *t*₁]]

In this analysis, a null operator moves from the position of object of *make* to Spec-CP. Predication links this operator to *headway* (Chomsky 1977). This predication relation is sufficient to activate the lexical entry of *headway*, which is re-activated again by the trace of the operator. The lexical entry of *headway* specifies that it can have a particular meaning when it is the object of the verb *make*. In this example it is, indirectly, via predication and the movement chain. Exactly the same thing is assumed to happen with literal words:

(22) They were surprised at the headband that we made.

Here, native speakers understand that what was made was a headband. That is, the lexical content of the head noun has to be recovered in the gap position. If the null operator analysis succeeds at capturing this incontrovertible fact with literal phrases, as most assume that it does, then it succeeds at capturing idiomatic phrases, too. There is no argument from idioms for movement of the head noun itself. Idioms are fully compatible with a null operator analysis.

The same is true of tough movement, which Chomsky (1977, 1981) also analyzed as null operator movement rather than movement of the subject itself:

- (23) a. Headway should be easy to make in cases like this.
b. Headway should be easy [_{CP} OP₁ PRO to make *t*₁] in cases like this.

As in the null operator analysis of relative clauses, a null operator moves from the position of object of *make* to Spec-CP. Once again, predication links this operator to *headway*. This predication relation activates the lexical entry of *headway*, which is re-activated again by the trace of the operator. And again, the lexical entry of *headway* specifies that it can have a particular meaning when it is the object of the verb *make*. Again it is, indirectly.

As this discussion illustrates, idioms are compatible with null operator analyses. They do not require direct movement. There may well be other arguments for direct movement in some of these cases, but idioms do not constitute a valid argument for movement.³

5 An Issue with Relative Clauses

There is still an issue, however, but it is an issue for every analysis of tough movement and relative clauses. The issue is how the idiomatic noun *headway* can simultaneously be the object of the embedded verb *make* and an argument in the higher clause. *Headway* cannot occur as an argument of the higher clause by itself:

- (24) a. They were surprised at the headway that we made.
b. * They were surprised at the headway.
- (25) a. Headway should be easy to make in cases like this.
b. * Headway should be easy.

I have found four different sorts of examples involving idiom chunks being shared across two clauses. The first consists of examples like the above. These can be explained by noting that appropriate paraphrases of these sentences can be constructed that do not involve splitting the idiomatic phrases:

- (26) a. They were surprised [that we made such headway].
b. It should be easy [to make headway] in cases like this.

That is, what they were surprised at and what is easy is not just the noun, but the entire proposition denoted by the noun plus accompanying clause. It appears that the two together are interpreted as a clause.

Tough movement is generally regarded as synonymous with its expletive counterpart (25a and 26b are equivalent), so I set aside tough movement as unproblematic for the remainder of this discussion. Relative clauses, on the other hand, are not usually thought to be interpreted in this way, which I will refer to as a *clausal* interpretation of the NP. However, a similar clausal interpretation arises with non-idiomatic phrases in relative clauses, too:

- (27) a. They were surprised at the offers I turned down.
b. \approx They were surprised [that I turned down those offers].
c. \neq They were surprised at the offers.
- (28) a. They were surprised at the hypotheses that I rejected.
b. \approx They were surprised [that I rejected those hypotheses].
c. \neq They were surprised at the hypotheses.

In these examples, what they were surprised at is not just the noun; it is an entire proposition, denoted by the noun plus its modifying relative clause. The relative clause does not appear to be performing its usual restrictive

³While it is not the purpose of this article to evaluate direct movement analyses of relative clauses or of tough movement, it is worth pointing out that the expletive *there*, which does seem to be a valid movement diagnostic, is not grammatical with either tough movement (ia) or relative clauses (ib–c):

- (i) a. * There is hard to believe to have been a crime committed. (Chomsky 1981)
b. * I believe there [that occurred an accident] to have been a riot.
c. * I think that there, which occurred an accident, was a riot.

The relative clause datum is particularly interesting, because, in general, any two grammatical clauses that share an NP can be combined into one sentence where one of the clauses is a relative clause modifying the NP in the other clause. Expletives are an exception. It is not clear in the head raising analysis of relative clauses why they would be. One could appeal to semantics, and say that relatives restrict; then expletives are not the kind of thing that can be restricted. Non-restrictive relative clauses, though, cannot have expletives as heads, either (ic).

function here; in (27), they are not surprised at some particular offers, where the particular offers are the ones picked out by the relative clause. What is surprising is the fact that I turned down the offers.

It therefore appears that at least some instances of head nouns plus relative clauses can be interpreted as clauses rather than as restrictions on NPs. This seems to be what is going on in many instances of idiomatic phrases as heads of relative clauses. The following is a sample of examples from the literature:

- (29) a. The careful track that she's keeping of her expenses pleases me. (Schachter 1973, 32, (36c))
- b. I was offended by the lip service that was paid to civil liberties at the trial. (Schachter 1973, 32, (37c))
- c. I was shocked by the advantage that she took of her mother. (Hulsey and Sauerland 2006, (8b)).
- d. . . . Robert McNamara's new book justified all the strings Clinton pulled as a young man. . . . (Riehemann 2001, 29, (25))
- e. Not even all the strings that Sounders coach Alan Hinton pulled to get Baggio to make an appearance was enough to fill the stadium. (Riehemann 2001, 75, (73d))

All of the above examples are compatible with the clausal interpretation, as the reader can verify by replacing the NP + relative clause with either *the fact that*. . . or a non-finite clause (e.g., *Robert McNamara's new book justified [Clinton pulling all those strings as a young man]*).

This same type of interpretation also seems to be at work in some attested examples of infinitival relatives:

- (30) a. I have a little hell to raise. (<http://ifunny.co/fun/zW6ZDE4R46>)
- b. So I *had* to actually socialize with the host's crew because we happen to sit in a small proximity and we got some ice to break. (<https://meganusa.wordpress.com>)

An appropriate paraphrase for (30a) is *What we have to do is [raise a little hell]*; an appropriate paraphrase for (30b) is *What we have to do is [break some ice]*.

If this is correct, then the first class of idiomatic examples is not problematic: the idiomatic NP is really only interpreted in the lower clause, with the rest of the idiom, while the argument in the higher clause is the lower clause.

The second class of examples all seem to involve the idiom *make headway*. Here is a selection of such examples:

- (31) a. The headway that we made was satisfactory. (Schachter 1973, 31, (35c))
- b. The headway John made proved insufficient. (Sauerland 1998, 63, (53a))
- c. The headway on her project Mary had made pleased the boss. (Sauerland 1998, 71, (64b))
- d. John was satisfied by the amount of headway that Mary made. (Hulsey and Sauerland 2006, 113, (3a))
- e. Mary praised the headway that John made. (Hulsey and Sauerland 2006, 114, (8a))

Here the clausal interpretation does not seem to be appropriate. Rather, the *amount* of headway is what is important, as is explicitly indicated in (31d). I suggest that in these cases, *headway* is not really an argument in the main clause, some abstract noun like *amount* is. The idiomatic noun is interpreted solely within the relative clause. (See Sudo 2015 for an analysis of Japanese clausal comparatives that posits a similar silent degree head.)

The third type of example has the idiom in both the main clause and the relative clause:

- (32) a. John paid the same heed last year that Mary paid. (Henderson 2007, 215, (28a))
- b. We can make any headway you can make.
- c. James won't pull any strings that Jill is not willing to pull.

This is expected to be possible, because the idiom chunk has its idiomatic interpretation in both clauses.

In the fourth type of example, the NP part of the idiom seems to be able to be interpreted in the metaphorical sense required in the idiom, even outside the idiom. Here is a case where this is clear:

- (33) a. The rat you smell is Gino.
 b. The rat is Gino.

Here, *rat* can mean a snitch or betrayer even outside the idiom *smell a rat*, as in (33b). So it can be used in the idiomatic sense in both the main clause and the relative clause in (33a), although only the relative clause includes the verb *smell*.

In other cases, the NP does not generally occur in the idiomatic meaning without the rest of the idiom, but speakers still seem to be able to decompose the idiom so that the NP and the verb have separate metaphorical meanings. Nunberg, Sag, and Wasow (1994) discuss this with *spill the beans*, suggesting that speakers interpret *spill* as ‘divulge’ and *the beans* as ‘the secret’. Riehemann (2001) presents evidence that this might be correct, at least for some idioms. For instance, she gives the following example:

- (34) They had the strings and pulled them. (Riehemann 2001, 75, (73e))

In (34), one conjunct includes only *strings* and not *pull*. It appears to be sufficient for this NP to occur in the general linguistic context of the verb *pull* for the metaphorical meaning of ‘connections’ to be activated. The NP does not have to be the object of *pull* in all of its occurrences. Riehemann also cites some examples of infinitival relatives of this particular idiom that show the same thing:

- (35) a. Why would a reputed master politician fail to find one string to pull? (Riehemann 2001, 75, (73a))
 b. But Lee has even more strings to pull . . . (Riehemann 2001, 76, (73g))

In these examples, *string* must bear a thematic relation to the matrix verb. It appears to be able to do this while having its metaphorical interpretation, because *pull* is present in the immediate linguistic context.

A similar example is the following:

- (36) Oh, Doni, there was never any hatchet to bury, you silly goose! (*La Di Da Di Bloody Da!* by Robin Anderson)

The utterer of this sentence seems to be decomposing *bury the hatchet* into an NP meaning ‘a quarrel’ and a verb meaning ‘put aside, lay to rest’. The NP *hatchet* has this meaning in both clauses.

This fourth class of examples—decomposable idioms—permits the NP of the idiom to serve as an argument of another verb and still be interpreted idiomatically. The NP serves as an argument in both the relative clause and the main clause.

To summarize, there are four ways idioms are interpreted in relative clauses, listed below:

- (37) a. A clausal interpretation;
 b. A silent *amount* interpretation;
 c. The full idiom occurs in both the main and relative clause;
 d. The idiom is decomposable.

Only in (37c–d) does the NP actually serve as a thematic argument in both clauses.

Now, when the idiom cannot be interpreted in one of these four ways, relativization does not work (the asterisk indicates that the sentences do not have the idiomatic interpretation):

- (38) a. *John saw the heed that Mary paid.
 b. *I ate the new leaf that he turned over.
 c. *The bucket that James kicked tripped me up.
 d. *I polished the plug that he pulled on that project.
 e. *I fed the dogs that the police chief called off.
- (39) a. I criticized the headway that he made. (silent *amount*)

- b. * I copied the headway that he made. (*amount* does not make sense)

Example (38a) is modeled after the following example:

- (40) * John saw the heed last year that Mary paid. (Henderson 2007, 215, (27a))

Henderson (2007) claims the problem here is extraposition of the relative clause, but as (38a) shows, the example is ungrammatical even without extraposition. Hulsey and Sauerland (2006) also claim that relative clauses with idiomatic heads cannot be extraposed, and according to them, this follows because they must have a raising analysis. But note that non-idiomatic relatives with the clausal interpretation discussed above also do not admit extraposition:

- (41) a. * They were shocked by the offers yesterday that I turned down.
b. * They couldn't believe the hypotheses last year that I rejected.

It appears that an NP+relative clause that is interpreted as a clause does not permit extraposition. I will not attempt to explain this here, but note that this phenomenon is independent of idioms. Furthermore, as Henderson (2007) shows, when the idiomatic head occurs with the rest of the idiom in both clauses, extraposition is possible:

- (42) a. I made the same headway last year that he made this year.
b. We can pull the same strings this year that we pulled last year.
c. He is barking up the same wrong tree today that he was barking up yesterday.

This means that relative clauses with idiom chunks as heads can in principle extrapose.

One last issue with relative clauses is that an idiomatic head noun can also occur with the rest of its idiom just in the main clause, and not in the relative clause:

- (43) a. Bill made the amount of headway that Mary demanded. (Hulsey and Sauerland 2006, (47a))
b. Let's cut him the slack that he needs.
c. Pravda began to toe a line approved by Stalin and Kamenev.

Some of the examples of this that I have found involve the noun *amount*, either overtly or covertly. So the representation of (43a) is actually *John made the amount of headway that Mary demanded* <*amount*>, where what Mary demands is an amount. The idiom is confined to the matrix clause. The other examples, though, require that idiomatic nouns be modifiable. But this was shown long ago to be true, since idiomatic nouns admit adjectives and other modifiers (Ernst 1981, Nunberg, Sag, and Wasow 1994, Nicolas 1995, O'Grady 1998, among others):

- (44) (O'Grady 1998, (5a,c,d))
a. kick the filthy habit
b. leave no legal stone unturned
c. jump on the latest bandwagon

Relative clauses just fit into this pattern. They might be problematic for the raising analysis of relative clauses, however, if the head noun is thought to require a purely idiomatic interpretation, and it can only get that when it occurs with the rest of the idiom. In (43c), for instance, the (reduced) relative clause would be *a line approved by Stalin and Kamenev*. But *approve a line* cannot have the idiomatic interpretation that *toe the line* does. In contrast, the null operator analysis treats relative clauses as open predicates ($\lambda x.x$ is approved by Stalin and Kamenev). This combines with the noun *line* by conjunction, giving a representation like *Pravda began to toe x such that x is a line and x is approved by Stalin and Kamenev*. Since *toe* and *line* occur together, *line* as object of *toe*, they can have their idiomatic interpretation. At the same time, we get the meaning that what was toed was approved by Stalin and Kamenev. So, such idioms make sense on the null operator analysis; it is not clear if they are compatible with the head raising analysis.

To summarize this section, idioms in relative clauses raise various issues, but closer inspection helps us to understand how they work. The facts are certainly compatible with null operator analyses of relative clauses, and possibly raising analyses as well, though this is less clear.⁴

⁴One last type of idiom example is the following:

6 Conclusion

Idioms are not a valid argument for movement. All of the data discussed here—some new, some old—indicate that idioms can participate in every type of syntactic dependency, including non-movement dependencies like pronominal anaphora, binding, and control. The fact that they can be interpreted via non-movement dependencies should be expected on any view of idioms and of anaphoric dependencies.

References

- Berman, Arlene (1973), “A Constraint on Tough-Movement.” In Claudia Corum, T. Cedric Smith-Stark, and Ann Weiser, eds., *Papers from the Ninth Regional Meeting of the Chicago Linguistic Society*, Chicago: University of Chicago, pp. 34–43.
- Bianchi, Valentina (1999), *Consequences of Antisymmetry: Headed Relative Clauses*. Berlin: Mouton de Gruyter.
- Bouton, Lawrence (1970), “Antecedent Contained Proforms.” In *Papers from the Sixth Regional Meeting of the Chicago Linguistic Society*, Chicago: University of Chicago.
- Bresnan, Joan (1971), “Note on the Notion ‘Identity of Sense Anaphora’.” *Linguistic Inquiry* 2: 589–597.
- Chomsky, Noam (1977), “On WH-Movement.” In Peter Culicover, Thomas Wasow, and Adrian Akmajian, eds., *Formal Syntax*, New York: Academic Press, pp. 71–132.
- Chomsky, Noam (1981), *Lectures on Government and Binding*. Dordrecht: Foris.
- Chomsky, Noam (1986), *Barriers*. Cambridge, MA: MIT Press.
- Davies, William D., and Stanley Dubinsky (2004), *The Grammar of Raising and Control*. Oxford: Blackwell.
- Ernst, Thomas (1981), “Grist for the Linguistic Mill: Idioms and “Extra” Adjectives.” *Journal of Linguistic Research* 1: 51–68.
- Evans, Gareth (1980), “Pronouns.” *Linguistic Inquiry* 11: 337–362.
- Fiengo, Robert, and Robert May (1994), *Indices and Identity*. Cambridge, MA: MIT Press.
- Haegeman, Liliane (1994), *Introduction to Government and Binding Theory*. Oxford: Blackwell, second ed.
- Hallman, Peter (2013), “Predication and Movement in Passive.” *Lingua* 125: 76–94.
- Hankamer, Jorge, and Ivan Sag (1976), “Deep and Surface Anaphora.” *Linguistic Inquiry* 7: 391–426.
- Henderson, Brent (2007), “Matching and Raising Unified.” *Lingua* 117: 202–220.
- Hornstein, Norbert (1999), “Movement and Control.” *Linguistic Inquiry* 30: 69–96.
- Hornstein, Norbert (2001), *Move! A Minimalist Theory of Construal*. Cambridge, MA: Blackwell.
- Hulsey, Sarah, and Uli Sauerland (2006), “Sorting Out Relative Clauses.” *Natural Language Semantics* 14: 111–137.
- Karttunen, Lauri (1969), “Pronouns and Variables.” In Robert I. Binnick, Alice Davison, Georgia M. Green, and Jerry L. Morgan, eds., *Papers from the Fifth Regional Meeting of the Chicago Linguistic Society*, Chicago: University of Chicago, Chicago Linguistic Society, pp. 108–115.
- Kayne, Richard (1994), *The Antisymmetry of Syntax*. Cambridge, MA: MIT Press.
- Merchant, Jason (2001), *The Syntax of Silence: Sluicing, Islands, and the Theory of Ellipsis*. Oxford: Oxford University Press.
- Munn, Alan (1993), *Topics in the Syntax and Semantics of Coordinate Structures*. Ph.D. thesis, University of Maryland College Park.
- Nicolas, Tim (1995), “Semantics of Idiom Modification.” In Martin Everaert, Erik-Jan van der Linden, André Schenk, and Rob Schreuder, eds., *Idioms: Structural and Psychological Perspectives*, Hillsdale, NJ: Lawrence Erlbaum, pp. 233–252.
- Nissenbaum, Jonathan (1998), “Movement and Derived Predicates: Evidence from Parasitic Gaps.” In Uli Sauerland and Orin Percus, eds., *The Interpretive Tract*, Cambridge, MA: MITWPL, vol. 25 of *MIT Working Papers in Linguistics*, pp. 247–295.

(i) But like 19th-Century Populist Mary Elizabeth Lease, who exhorted Kansas farmers to “raise less corn and more hell,” they do get riled up with great regularity. (Riehemann 2001, 80, (80e))

In (i), the verb *raise* has to be interpreted both literally and idiomatically at the same time. One might claim that this is not actually allowed, and examples of this are deliberate violations of the “anti-pun ordinance” (Zaenen and Karttunen 1984).

- Nunberg, Geoffrey, Ivan A. Sag, and Thomas Wasow (1994), "Idioms." *Language* 70: 491–538.
- Nunes, Jairo (2004), *Linearization of Chains and Sideward Movement*. Cambridge, MA: MIT Press.
- O'Grady, William (1998), "The Syntax of Idioms." *Natural Language and Linguistic Theory* 16: 279–312.
- Postal, Paul M. (1974), *On Raising: One Rule of English Grammar and Its Theoretical Implications*. Cambridge, MA: MIT Press.
- Postal, Paul M. (2004), *Skeptical Linguistic Essays*. Oxford: Oxford University Press.
- Riehemann, Susanne Z. (2001), *A Constructional Approach to Idioms and Word Formation*. Ph.D. thesis, Stanford University.
- Ruwet, Nicolas (1991), "On the Use and Abuse of Idioms in Syntactic Argumentation." In Nicolas Ruwet and John A. Goldsmith, eds., *Syntax and Human Experience*, Chicago: University of Chicago Press, pp. 171–251.
- Sag, Ivan (1976), *Deletion and Logical Form*. Ph.D. thesis, Massachusetts Institute of Technology. Distributed by MIT Working Papers in Linguistics, Cambridge, Mass.
- Sauerland, Uli (1998), *The Meaning of Chains*. Ph.D. thesis, Massachusetts Institute of Technology. Distributed by MIT Working Papers in Linguistics, Cambridge, Mass.
- Schachter, Paul (1973), "Focus and Relativization." *Language* 49: 19–46.
- Sudo, Yasutada (2015), "Hidden Nominal Structures in Japanese Clausal Comparatives." *Journal of East Asian Linguistics* 24: 1–51.
- Vergnaud, Jean-Roger (1974), *French Relative Clauses*. Ph.D. thesis, Massachusetts Institute of Technology.
- Zaenen, Annie, and Lauri Karttunen (1984), "Morphological Non-Distinctiveness and Coordination." *Proceedings of the Eastern States Conference on Linguistics* 1984: 309–320.
- Zhang, Niina Ning (2010), *Coordination in Syntax*. Cambridge: Cambridge University Press.