

Chapter 8

Modification of literal meanings in semantically non-decomposable idioms

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In the literature on idioms, conjunction modification is understood as involving a modifier that does not lexically belong to the idiom at hand, modifying the literal meaning of a noun in that idiom while the idiomatic meaning of the expression as a whole is preserved. The construction relies on the hearer perceiving the idiomatic meaning of the whole and the literal meaning of a part of it simultaneously and in conjunction. We investigate instances of naturally occurring examples of four semantically non-decomposable verb-phrase idioms (two English, two German) whose complements contain such a modifier. We examine the possible interpretations and the contextual conditions of these idiom-modifier combinations. They are particularly interesting instances of one-to-many relations between form and meaning.

1 Introduction

In any comprehensive investigation of one-to-many relations between form and meaning, there is no way around idioms. In nearly all cases, the string that can be interpreted as an idiom (e.g. *pull x's leg* \rightsquigarrow_{id} 'playfully deceive x') can also be interpreted literally (*pull x's leg* \rightarrow_{lit} 'pull x's leg'), so that one and the same string



provides several meanings. This becomes especially obvious in so-called conjunction modification (Ernst 1981), in which a modifier inserted into the nominal complement of a verb-phrase idiom modifies the literal meaning of the noun, while the idiom as a whole is still understood in its idiomatic meaning (*pull x's tattooed leg* \rightsquigarrow_{id} 'playfully deceive *x*' and \rightarrow_{lit} '*x* has a tattooed leg').¹ The perceived interpretation of the resulting expression requires both the idiomatic meaning of the idiom and the literal meaning of the idiom's noun.

Overall, Ernst (1981) distinguishes three types of modification in what he calls "extraneous" modifiers in idioms (i.e. modifiers that are not part of the idiom itself): internal modification, external modification, and conjunction modification.² The aim of this paper is to explain this tripartite division of idiom modification and then to focus on conjunction modification and corpus examples that fall into this category. As our discussion will show (and as Ernst 1981 already emphasizes as well), it is not always uncontroversial which one(s) of the three categories of idiom modification a specific example falls into. Such complications might ultimately lead to a revision of Ernst's characterizations of the three classes or to a different theory of idiom modification altogether. With our present discussion, we want to contribute to a better understanding of the empirical situation as a necessary foundation to such a revised theory.

The paper is structured as follows. First, we will give a short introduction to Ernst's tripartite division of idiom modification (Section 2). We will then zoom in on conjunction modification and present corpus data on two English and two German semantically non-decomposable verb phrase idioms with the meaning 'die' (*kick the bucket, bite the dust, den Löffel abgeben* '(lit.) pass on the spoon', and *ins Gras beißen* '(lit.) bite into the grass') that include an extra modifier. We did not always agree on how these idiom-modifier combinations are to be analyzed (Section 3). Before we conclude our paper (Section 5), we will point to some idiom examples beyond modification that nonetheless seem to be analyzable in a similar way to conjunction modification (Section 4).

Our discussion of semantic interpretation will remain mostly nontechnical, although we have a suitably expressive logical language in mind for semantic representations when we explicate the meaning of our examples in English paraphrases. How these representations are to be built from the representations of

¹Here and in the following, we italicize those words that belong to the idiom, underline the modifier(s), and put single quotation marks around the meaning representations, which we state informally by means of natural language (English) expressions.

²As far as we know and as Stathi (2007: 83) states as well, Ernst (1981) is the first to systematically look into modification in idioms. Since our purpose is mainly to study naturally occurring data, rather than to provide a complete account, we will not discuss other, more recent papers on modification (see, for instance, Stathi 2007; Cserép 2010; McClure 2011; Sailer 2017).

words, or how the representations of larger semantically non-decomposable idioms enter the semantic composition mechanism, is an important question, but it is not the focus of the present discussion. Only with an explicit system that answers these questions and governs a precise semantic composition mechanism could we begin a serious investigation of issues concerning compositionality, which are regularly and naturally raised in connection with the analysis of idioms.

When we use the term *compositionality* here, it is meant as a broad reference to a semantic composition operation that starts from simple or phrasal lexical units (the latter being possibly necessary for semantically non-decomposable idioms) and constructs the representations of larger units from them, conditional on syntactic structure. When we say for some examples, following common parlance, that we do not know how to analyze them compositionally, this means that we are unsure how to spell out a composition operation in this sense in full detail. It is not to be understood as a technical statement about the relationship between the syntax and semantic composition mechanism(s) of the grammar framework of choice in which the operation would have to be expressed.³

2 Ernst's tripartite division of idiom modification

According to Ernst (1981), modification in idioms is – at least in principle – three-way ambiguous between external modification, internal modification, and conjunction modification. Context and world knowledge narrow down the interpretative options that the semantics provides on the basis of the combination of the meaning of the modifier and the meaning of the idiom.

If an idiom has *internal semantic structure* in the sense that its “particular words [...] correspond to specific independent elements in the idiom’s semantic representation” (Ernst 1981: 67), as in *pull strings* (\rightsquigarrow_{id} ‘use connections’) or *jump on the bandwagon* (\rightsquigarrow_{id} ‘join a movement’), the idiom allows for all three modification options. Following Nunberg et al. (1994), we call such idioms *semantically decomposable*. If, by contrast, the idiom has no internal semantic structure, as in *kick the bucket* (\rightsquigarrow_{id} ‘die’) or *tighten one’s belt* (\rightsquigarrow_{id} ‘economize’), internal modification is impossible. These idioms we call *semantically non-decomposable*.⁴

³Two authors of the present paper have a preference for a constraint-based semantics in HPSG for which compositionality in the traditional sense does not hold, although it formulates a precise *systematic* relationship between syntactic structure and semantic interpretation.

⁴It is important to note at this point that the semantic decomposability of an idiom cannot be proven by simply finding a paraphrase for the idiom in which each word corresponds to exactly

2.1 Internal modification

In internal modification, the literal or figurative meaning of the modifier applies to the idiomatic meaning of the idiom's noun, see (1), Ernst's (8).

- (1) In spite of its conservatism, many people were eager to *jump on the horse-drawn Reagan bandwagon*.

If you jump on the bandwagon in the idiomatic sense, you join a growing movement (in an opportunistic way or simply for the excitement) once that movement is perceived to be successful.⁵ This is directly reflected in Ernst's decomposition of the idiom into two parts and his assumption that the literal and the idiomatic meaning of each part are linked: 'jump on' is linked to 'join', and 'bandwagon' is linked to 'movement'.

In the sentence in (1), there are two modifiers within *jump on the bandwagon*: Reagan and horse-drawn.⁶ Together with these modifiers, Ernst argues, the idiom expresses something like 'join the old-fashioned Reagan campaign', i.e. Reagan and horse-drawn modify the noun *bandwagon* on its idiomatic reading, not only syntactically but also semantically. More precisely, the figurative meaning of the modifier horse-drawn (\rightsquigarrow_{inf} 'old-fashioned' or 'behind the times', at least in relation to *bandwagon*) modifies the meaning of the nominal *Reagan bandwagon*, in which the literal meaning of the modifier Reagan (\rightarrow_{lit} 'Reagan') modifies the idiomatic meaning of the noun *bandwagon* (\rightsquigarrow_{id} 'movement').

To conclude, in internal modification, modifiers not only have the form and position (= morphosyntactic characteristics) of prenominal modifiers but also behave like them semantically, as they characterize the meaning of the following nominal. While the noun itself is interpreted in its idiomatic meaning, the interpretation of the modifiers can be literal (as with Reagan) or figurative (as with horse-drawn).

one of the words of the idiom. In order to show that an idiom is semantically decomposable, i.e. that the idiom's meaning disseminates over its words in such a way that each of these words receives a meaning component of the overall meaning of the idiom, it must pass tests like semantic modification of the idiomatic meaning of its nominal part (= Ernst's internal modification), quantifier variation in the idiomatic meaning of its nominal part, and/or anaphoric references to the idiomatic meaning of its nominal part; see Nunberg et al. (1994).

⁵Variations of this idiom are *hop on the bandwagon* and *climb on the bandwagon*. All of them allude to literally jumping/hopping/climbing on the wagon that used to carry (and sometimes still does) the band and the candidate during a political campaign.

⁶Note, however, that Ernst (1981) focuses on the modifier horse-drawn only.

2.2 External modification

In external modification, the literal or figurative meaning of the modifier applies to the idiomatic meaning of the idiom as a whole and functions like a domain adverb, see (2), taken from Ernst (1981: 51).

- (2) With that dumb remark at the party last night, I really *kicked the social bucket*.

If you kick the bucket in the idiomatic sense, you die. Nothing is said about a bucket or kicking. In (2), we again have a modifier in the idiom: social. In contrast to the situation in (1), however, it is not the case that the modifier modifies the idiomatic meaning of the idiom's noun. Instead, *I kicked the social bucket* means that the speaker did the "bucket-kicking" in the social domain, i.e. she did not die physiologically (if she had, she would not have been able to report that) but only socially. It is not the meaning of the idiom's noun but the meaning of the entire idiom that is modified. Truth-conditionally, the meaning of the sentence in (2) seems to be indistinguishable from the meaning of the sentence in (3):

- (3) Socially, I really *kicked the bucket* with that dumb remark at the party last night.

As the modifier in external modification specifies the domain within which the meaning of the idiom applies, Ernst calls external modifiers *domain delimiters*. Typical domain delimiters are adjectives belonging to professional or academic domains, like *political*, *economic*, *musical*, etc. However, there are also non-typical domain-delimiting modifiers that can nonetheless function as domain delimiters in certain contexts, see (4), Ernst's (24).

- (4) He denied that the Saudis, angry over [the movie] *Death of a Princess*, were *seeking* some celluloid *revenge* with a movie of their own.

In this example, "celluloid is being used figuratively, and is more or less equivalent to the literal cinematic" (Ernst 1981: 55). From examples like these Ernst concludes that external modification is not restricted to one particular lexical class of adjectives.

2.3 Conjunction modification

In conjunction modification, the last of Ernst's three types of idiom modification and our central topic in this paper, the meaning of the modifier applies to the

meaning of the idiom's noun, just like in internal modification. However, unlike in internal modification, Ernst argues, the modifier does not apply to the idiomatic meaning of the noun but to its literal meaning, and this happens in an additional proposition that is independent of the proposition that expresses the meaning of the idiom. Conjunction modification is exemplified in (5), Ernst's (10), taken from a review of a production of the Shakespearean play *Twelfth Night*:

- (5) Malvolio deserves almost everything he gets, but ... there is that little stab of shame we feel at the end for having had such fun *pulling* his cross-gartered leg for so long.

If you pull someone's leg in the idiomatic sense, you playfully deceive that person. It need not, and usually does not, have anything to do with that person's leg(s). However, the insertion of the modifier cross-gartered, as in (5), suddenly leads to an interpretation that includes the proposition that Malvolio has a cross-gartered leg, a proposition that is entirely independent of the meaning of the idiom. For reasons of clarity, let us look at a simplified version of (5), namely (6):

- (6) We *pulled* Malvolio's cross-gartered leg.

According to Ernst, this sentence expresses the conjunction of two independent propositions. Here and in the following, we will spell his analysis out in detail and use the representation format shown in (7) to do so.⁷

- (7) Conjunction modification analysis of (6):

	s_1 :	<i>We pulled Malvolio's cross-gartered leg.</i>
\rightsquigarrow_{id}	p_1 :	'We playfully deceived Malvolio.'
	s_2 :	<i>We pulled Malvolio's cross-gartered leg.</i>
\rightarrow_{lit}	p_2 :	'Malvolio has a cross-gartered leg.'
	p_1 & p_2 :	'We playfully deceived Malvolio, who has a cross-gartered leg.'

⁷In our representations and explanations of the conjunction modification analyses, in contrast to our representations and explanations of the natural language examples, we italicize not just the words that belong to the idiom but all words, including the modifier. Moreover, and more importantly, we strike out those words that are not semantically interpreted at a particular instance (this is different from the Minimalist notation, in which strikeout usually represents the deletion of phonological material while keeping that material's meaning). It is important to note here that s_1 and s_2 are, in fact, one and the same string with different parts of that same string being semantically interpreted in s_1 and s_2 . For reasons of simplicity, however, we will talk about them as if they were two different strings.

The analysis in (7) expresses that the proposition p_1 ('We playfully deceived Malvolio.') represents the idiomatic meaning (\rightsquigarrow_{id}) of the string s_1 (*We pulled Malvolio's leg.*), which is the sentence in (6) without the modifier *cross-gartered*. Without that modifier, s_1 says nothing about Malvolio's leg. The proposition p_2 ('Malvolio has a cross-gartered leg. '), in contrast, is the non-idiomatic and non-figurative (hence \rightarrow_{lit}) meaning of the string s_2 (*Malvolio's cross-gartered leg* – the NP-complement of the verb in (6)) and hence does say something about Malvolio's leg, namely that it is cross-gartered. The two independent propositions p_1 and p_2 are then conjoined into $p_1 \& p_2$: 'We playfully deceived Malvolio, and Malvolio has a cross-gartered leg.' Alternatively, and expressed more naturally: 'We playfully deceived Malvolio, who has a cross-gartered leg.'

On top of cases like the one we have just dealt with, Ernst also points to cases in which p_2 is figuratively reinterpreted, see (8), Ernst's (40).

(8) With the recession, oil companies are having to *tighten* their Gucci belts.

If you have to tighten your belt in the idiomatic sense, you have to economize. Let us once again simplify the example:

(9) Oil companies have to *tighten* their Gucci belts.

Just like "We *pulled* Malvolio's cross-gartered leg." in (6), the sentence in (9) expresses the conjunction of two propositions of which the first is idiomatic, whereas the second is non-idiomatic and independent of the first. In contrast to (6), however, the second proposition expressed by (9) is the result of a figurative reinterpretation (subsumed under \rightsquigarrow_{inf} in this paper):⁸

(10) Conjunction modification analysis of (9):

	s_1 :	<i>Oil companies_i have to tighten their_i Gucci belts.</i>
\rightsquigarrow_{id}	p_1 :	'Oil companies have to economize.'
	s_2 :	<i>Oil companies_i have to tighten their_i Gucci belts.</i>
\rightarrow_{lit}	p_2 :	'Oil companies have Gucci belts.'
\rightsquigarrow_{inf}	p_2' :	'Oil companies are rich.'
	$p_1 \& p_2'$:	'Oil companies have to economize, and they are rich.'

⁸Here and in the following, we will use the arrow \rightsquigarrow_{inf} whenever a figurative reinterpretation is at play or any other kind of inference needs to be drawn from the literal meaning by taking into account the overall context and/or world knowledge. Note that in a non-figurative inference, the literal meaning that the inference is based on continues to hold, whereas in a figurative reinterpretation, it does not.

The proposition p_1 ('Oil companies have to economize.') is the idiomatic meaning (\rightsquigarrow_{id}) of the string s_1 (*Oil companies_i have to tighten their_i belts.*), which is the sentence in (9) without the modifier *Gucci*. The proposition p_2 ('Oil companies are rich.'), in contrast, is a figurative reinterpretation of the intermediate proposition p_2 ('Oil companies have Gucci belts.'), which expresses a possessive relation between oil companies (= the possessors) and belts by the luxury brand Gucci (= the possessions), which are symbols of great wealth. This intermediate proposition represents the non-idiomatic and non-figurative (hence \rightarrow_{lit}) meaning of s_2 (*their_i Gucci belts*), which is the NP-complement of the verb in (9), in which the reference of the possessive determiner *their_i* has already been resolved, so that *their_i Gucci belts* is identical in meaning to *oil companies' Gucci belts*. The two independent propositions p_1 and p_2 are then conjoined into 'Oil companies have to economize, and oil companies are rich.' More naturally: 'Oil companies have to economize, and they are rich.' So, neither p_1 nor p_2 nor their conjunction says anything about belts or Gucci or Gucci belts, and there is no literal possession of such belts by oil companies.

However, whereas the meaning components of a literal or idiomatic meaning can simply be retrieved from the lexicon, i.e. accessed directly, a figurative interpretation (in 10: 'Oil companies are rich.') is always based on, and hence a reinterpretation of, a literal meaning (in 10: 'Oil companies have Gucci belts.'). Consequently, at one point within the analysis of (9), the literal meaning of the idiom's noun *belts* and the literal meaning of the modifier *Gucci* actually do play a role, just like the literal meaning of the idiom's noun *leg* and the literal meaning of the modifier *cross-gartered* do in the analysis of (6), whose interpretation process does not contain any figurative steps. One of the reasons why a proposition is reinterpreted figuratively can be that its literal meaning does not make much sense, which is the case in (10), as oil companies do not usually have belts.⁹

3 Zooming in on conjunction modification

Before we turn to our corpus examples and their analysis in the spirit of Ernst's (1981) conjunction modification (see Section 3.3 to Section 3.5), let us delineate our general take on conjunction modification (see Section 3.1) and present the four semantically non-decomposable idioms to be studied (see Section 3.2).

⁹However, even if we were talking about people instead of companies, it would not be necessary that those people have (literally possess) Gucci belts, and a figurative reinterpretation would still be possible.

3.1 Our take on conjunction modification

First, we perceive conjunction modification and the modification of literal and idiomatic meanings within idioms in general to be well within the scope of a grammatical theory of idioms. Sometimes these phenomena have been denied this status, being discarded as “word play”.¹⁰ Even if conjunction modification were to fall within “word play” (however we define it), it would still involve language and thus should be analyzable.

Second, if conjunction modification, as Ernst claims, adds an independent proposition, it should be a non-restrictive kind of noun modification. Restrictive modification, e.g. in the combination of adjective (A) and noun (N), involves intersecting the set of entities with the property N with the set of entities with the property A, or with subsective As, narrowing the set down to the set of entities that have both the A and the N properties (e.g. *black elephants* have both the black property and the elephant property, or are a subset of *elephants*) and therefore the A denotes a property (see, e.g., Kamp & Partee 1995). Non-restrictive modification, on the other hand, adds a secondary proposition that does not narrow down the nominal property and the role it plays in the primary proposition; therefore the content of the secondary proposition is often analyzed as being outside the main assertion of the first proposition (see, e.g., Morzycki 2015; McNally 2016; and literature cited therein). Propositions, in contrast to properties (predicates) expressed by adjectives or restrictive relative clauses, cannot modify an N restrictively.

Third, we would like to emphasize, just like Ernst does, that semantically non-decomposable idioms only allow for conjunction modification and external modification, as internal modification requires access to an idiomatic meaning of the idiom’s noun, which semantically non-decomposable idioms cannot provide. Therefore, if Ernst’s hypothesis is correct that modifiers in idioms are in principle three-way ambiguous, focusing on semantically non-decomposable idioms in the empirical investigation removes one level of ambiguity. In the following we therefore restrict our attention to semantically non-decomposable idioms.

3.2 Our four idioms

We chose two English and two German semantically non-decomposable idioms with the meaning ‘die’, see (11) for the English and (12) for the German idioms.

¹⁰See, for instance, Schenk (1995) or Nicolas (1995), who claim that any modification of idioms is either (i) external modification or (ii) statistically negligible and outside the scope of a grammatical theory of idioms, which for them are always semantically non-decomposable units.

- (11) a. kick the bucket
b. bite the dust
- (12) a. den Löffel abgeben
the.ACC spoon on.pass
'(lit.) pass on the spoon'
b. ins Gras beißen
in.the.ACC grass bite
'(lit.) bite into the grass'

We searched for occurrences of these four idioms in combination with modifiers that seemed likely to be of the conjunction modification kind using the corpora ENCOW16A (World Englishes) and DECOW16A (German, Austrian and Swiss German) at webcorpora.org.

In (11) and (12), our four idioms are paired up by language. However, there are good reasons to pair them up instead as in (13) and (14). In order to make those reasons more obvious, (13) and (14) do not contain the original German idioms but their literal translations (as if they existed in English that way).

- (13) a. kick the bucket
b. pass on the spoon
- (14) a. bite the dust
b. bite into the grass

Whereas buckets and spoons, just like belts, are typical personal possessions, dust and grass can be interpreted as types of ground. Personal possessions and their traits, like their brand and/or their material, invite inferences about their possessors (see, e.g., Belk 1988), while grounds and their traits, like their surface and/or what you find on it, invite *pars pro toto* inferences about the locations that they are a part of (for a somewhat similar reasoning based on conceptual contiguity, see Stathi 2007: 92). Building on this and on Ernst's (1981) definition of conjunction modification, see Section 2.3, we expected that the analyses of our corpus examples would contain a proposition including *die(x)* and a proposition of the form '*x* has a MODIFIER bucket/spoon' or 'the dust/grass is MODIFIER'¹¹ and that

¹¹As Ernst (1981) expresses at the top and bottom of page 60, in (47), and in the middle of page 64, the second conjunct in conjunction modification is not limited to '*x* has a MODIFIER *y*' but can take on different forms. Given that this second proposition is anchored in the first proposition, we adjust its tense/aspect/mood accordingly.

it would be necessary at times to reinterpret the latter proposition figuratively, as in the analysis of the Gucci belts example in (10), or to draw non-figurative inferences from it.

To make the possessive relation in our first pair of idioms explicit also in cases where there is no possessor (as there is in 6) or no possessive determiner (as there is in 9), we will also co-index the definite expressions *the bucket*, *the spoon* with the subjects, in analogy to (9) (e.g. *the_i bucket*). We treat the definites in these cases as weak possessive definites (in the sense of Poesio 1994; Barker 2005), of the sort we find in (15) (from Le Bruyn 2014).

- (15) a. I hit him on the hand.
 b. He raised the hand.

Le Bruyn's analysis of the definite in these examples (at some step of the analysis) involves a relation to a PRO that is co-indexed with an (intrinsic) possessor, as in (16) (adapted from Le Bruyn 2014: 324).

- (16) the PRO_i hand $\overset{trans}{\rightsquigarrow}$ $\lambda z(\text{hand}(z) \wedge \text{intrinsically_belong_to}(i)(z))$

In the following, when we use co-indexation on the definites in our idioms (e.g. *the_i bucket*), we will do this as a short-cut for an analysis of the sort in (16), although we are not committed to a particular account of weak (possessive) definites at this point. With these observations in mind, let us turn to our corpus examples.

3.3 Corpus examples of conjunction modification

For each of our four idioms, we will now discuss a corpus example that we think fits Ernst's conjunction modification category. The first example in this line-up is about the death of Hugo Chávez, the former President of Venezuela, see (17).

- (17) Venezuela's Friend of the Working Class, Hugo Chávez, *kicked the golden bucket* with an estimated net worth of 2 billion dollars.¹²

A conjunction modification analysis of this example in our representation format looks as in (18).

¹²<https://canadafreepress.com/article/a-socialism-spill-on-aisle-9> (last accessed on 5 April 2018)

(18) Conjunction modification analysis of (17):

s_1 :	<i>Hugo Chávez_i kicked the_i golden bucket.</i>
\rightsquigarrow_{id} p_1 :	‘Hugo Chávez died.’
s_2 :	<i>Hugo Chávez_i kicked the_i golden bucket.</i>
\rightarrow_{lit} p_2 :	‘Hugo Chávez had a golden bucket.’
\rightsquigarrow_{inf} $p_{2'}$:	‘Hugo Chávez was rich.’
p_1 & $p_{2'}$:	‘Hugo Chávez died, who was rich.’

As mentioned underneath (14), the material of a personal possession like a bucket invites inferences about its possessor. And since the material gold is a well-known symbol for wealth, stating that the late Hugo Chávez had a golden bucket (p_2) invites the inference that he was rich ($p_{2'}$). If you take that inference to be a figurative reinterpretation of p_2 , which seems to be the most plausible variant here, then nothing is said about Hugo Chávez having a golden bucket. All that you obtain in the end is that he was rich (cf. the analysis of Ernst’s Gucci belts example in (10)). In conjunction, p_1 and $p_{2'}$ then result in ‘Hugo Chávez died, who was rich.’¹³

Our second corpus example is about the mentalist Vincent Raven, who, just like Uri Geller, claims to be able to bend spoons by sheer mental power and who almost died from a stroke that he had after falling on his head. See (19) for the example and (20) for the analysis.

¹³ An anonymous reviewer correctly observed that sentences such as *Hugo Chávez kicked the drunk/poor/70-year-old bucket* cannot (easily) express ‘Hugo Chávez died drunk/poor/at the age of 70’ and wondered why this should be the case. Following the conjunction modification analysis, the answer would go as follows: Neither literal drunk nor literal poor makes any sense as a modifier of literal *bucket* (a bucket can neither be drunk nor poor). This is different with literal 70-year-old, which does make sense as a modifier of literal *bucket* (a bucket can certainly be 70 years old), but maybe having a 70-year-old bucket (in contrast to having a rusty bucket, for example) is simply not graphic enough to be easily interpreted in a figurative manner.

The above does not mean, of course, that golden is the only possible modifier that can occur within a conjunction modification of *kick the bucket*. Consider the following example: *To her detractors, the “iron lady” has finally kicked the tin bucket – may she rust in peace.* (<https://dinmerican.wordpress.com/2013/04/08/53476>). Just like literal golden, literal tin does make sense as a modifier of literal *bucket*, as a tin bucket is a steel bucket coated with zinc oxide, which makes the steel more rigid and rugged, and there is an obvious figurative interpretation of the Iron Lady having such a steel bucket, namely that she was tough and uncompromising, as the name *Iron Lady* already indicates.

- (19) Oder Vincent Raven aus Uri Gellers ProSieben-Sendung, der einen Unfall hatte und beinahe *den verbogenen Löffel abgeben* hätte.¹⁴

‘Or Vincent Raven from Uri Geller’s show on ProSieben [German TV channel], who had an accident and almost *passed on the bent spoon*.’

- (20) Conjunction modification analysis of (19):

	s_1 :	<i>Vincent Raven_i almost passed on the_i bent spoon.</i>
\rightsquigarrow_{id}	p_1 :	‘Vincent Raven almost died.’
	s_2 :	<i>Vincent Raven_i almost passed on the_i bent spoon.</i>
\rightarrow_{lit}	p_2 :	‘Vincent Raven has a bent spoon.’
\rightsquigarrow_{inf}	p_2' :	‘Vincent Raven bends spoons.’
	$p_1 \ \& \ p_2'$:	‘Vincent Raven, who bends spoons, almost died.’

Just as idiomatic *kick the bucket* in English, idiomatic *pass on the spoon* in German means ‘die’ (p_1). And just as *golden* in (17) nonetheless applies to the literal meaning of the noun *bucket*, *bent* in (19) nonetheless applies to the literal meaning of the noun *spoon*, and, here too, this happens in an additional proposition (p_2) that is independent of the proposition that expresses the meaning of the idiom. However, learning that someone has a bent spoon is far less telling than learning that someone has a Gucci belt or a golden bucket. In order for readers/listeners to be able to interpret this, they need some knowledge about Vincent Raven or Uri Geller’s show “The next Uri Geller” or a telling linguistic or non-linguistic context, so that they get the inference p_2' that Vincent Raven bends spoons. And if they take that inference to be a figurative reinterpretation of p_2 , then the content of p_2 plays no role in the final interpretation of (19), so that there is no claim that Vincent Raven actually has a bent spoon.

Our third corpus example is about the three ideals of the French Revolution and the lives that were taken in the attempt to achieve these ideals, see (21).

- (21) It was the great Trinity of the French Revolution, and you can still see it carved in stone over town halls and elsewhere in France: ‘Liberty, Equality, Fraternity’. But the greatest of these, it turns out, is ‘Equality’. ‘Liberty’ soon *bit the blood-spattered dust* along with ‘Fraternity’ as the drive to the unattainable goal of ‘Equality’ took over as it was bound to do.¹⁵

For a conjunction modification analysis of this example, see (22).

¹⁴<https://carolin-neumann.de/2009/02/fuehlt-euch-bravo> (last accessed on 5 April 2018)

¹⁵<http://thebritishresistance.co.uk/tim-haydon/1637-the-destructive-lie-of-equality> (could no longer be accessed on 5 April 2018)

(22) Conjunction modification analysis of (21):

	s_1 :	<i>Liberty bit the blood-spattered dust.</i>
\rightsquigarrow_{id}	p_1 :	'Liberty died.'
\rightsquigarrow_{inf}	$p_{1'}$:	'Liberty was no longer pursued.'
	s_2 :	<i>Liberty bit the blood-spattered dust.</i>
\rightarrow_{lit}	p_2 :	'The dust was blood-spattered.'
\rightsquigarrow_{inf}	$p_{2'}$:	'The location was blood-spattered.'
\rightsquigarrow_{inf}	$p_{2''}$:	'People lost their lives.'
	$p_{1'}$ & $p_{2''}$:	'Liberty was no longer pursued, and people lost their lives.'

If you state that an ideal, like liberty, bit the dust (s_1), you state that it died (p_1). Since an ideal cannot literally die, however, this is to be reinterpreted figuratively, which, in our case, results in something like: 'Liberty was no longer pursued.' ($p_{1'}$).

The inference from 'The dust was blood-spattered.' (p_2) to 'The location was blood-spattered.' ($p_{2'}$) is not something that Ernst assumes. However, as mentioned underneath (14), dust can be interpreted as a type of ground, whose surface and/or what you find on it (like spattered blood) invite *pars pro toto* inferences about the location that the ground is a part of. In an additional inferential step, we take this location to be the location of the event expressed by the idiom.¹⁶ From 'The location was blood-spattered.' ($p_{2'}$), it can then be inferred that people lost their lives ($p_{2''}$), especially in the context of the French Revolution. Combined, $p_{1'}$ and $p_{2''}$ result in 'Liberty was no longer pursued, and people lost their lives.'

Our fourth example is about the 1925 peasant court in the high-lying Renchtal of the Black Forest in Germany, at which the peasant who hosted it during the last week of that year offered his guests a dish that, among others, had cost the lives of several little bunnies, see (23) for the example and (24) for the analysis.

(23) Der vorbedachte Hauswirt hat für die Bedürfnisse seiner Gäste bestens gesorgt. Mehrere Häslein mussten fürs Bauerngericht *ins schneeige Gras beißen* und ein Schwein und Kalb das Leben lassen.¹⁷

'The thoughtful landlord took perfect care of his guests' needs. For the peasant court, several little bunnies had to *bite into the snow-covered grass*, and a pig and a calf had to give their lives as well.'

¹⁶In all the examples that follow, we assume that the steps from 'dust/grass' to 'a location that contains the dust/grass' to 'the location of the event in question' are fairly natural inferences that are drawn in discourse, and we will not specify these steps any further.

¹⁷<http://www.museum-durbach.de/heiteres-und-geschichtliches/die-bottenauer-und-ihr-bauerngericht.html> (last accessed on 5 April 2018)

(24) Conjunction modification analysis of (23):

	s_1 :	<i>Several little bunnies had to bite into the snow-covered grass.</i>
\rightsquigarrow_{id}	p_1 :	'Several little bunnies had to die.'
	s_2 :	<i>Several little bunnies had to bite into the snow-covered grass.</i>
\rightarrow_{lit}	p_2 :	'The grass was snow-covered.'
\rightsquigarrow_{inf}	p_2' :	'The location was snow-covered.'
	p_1 & p_2' :	'Several little bunnies had to die, and the location was snow-covered.'

Whereas in English you bite the dust, in German you bite into the grass. As a type of ground, grass, just like dust, invites pars pro toto inferences about the location that it is a part of, so that we easily get from the grass being snow-covered (p_2) to the location being snow-covered (p_2'). Apart from the two additional inferences in (22) (from 'Liberty died.' to 'Liberty was no longer pursued.' and from 'The location was blood-spattered.' to 'People lost their lives.'), (24) and (22) work the exact same way.

Conjunction modification is not restricted to prenominal modification, though. In example (25), the modifier is neither an attributive adjective nor a noun but a non-restrictive relative clause. The example is taken from Ludwig Ganghofer's 1914 novel *Der Ochsenkrieg* (English title: *The War of the Oxen*).

- (25) Und während die ausgesperrten siebenunddreißig Reiter ein zorniges Geschrei erhoben, kam es innerhalb des Tores zwischen der Besatzung des Grenzwalles und den drei Abgeschnittenen zu einem Scharmützel, in dem der heilige Zeno Sieger blieb; aber zwei von seinen Soldknechten mußten *ins Gras beißen*, das bei dieser mitternächtigen Finsternis kaum zu sehen war.¹⁸
 'And while the locked out thirty-seven horsemen clamored furiously, there was a skirmish within the gateway between the garrison of the boundary wall and the three horsemen that had been cut off, in which Saint Zeno was victorious; but two of his mercenaries had to *bite into the grass, which was hardly visible in this midnight darkness.*'

A conjunction modification analysis of this example looks as in (26).

¹⁸http://freilesen.de/werk_Ludwig_Ganghofer,Der-Ochsenkrieg,1106,8.html (last accessed on 5 April 2018)

(26) Conjunction modification analysis of (25):

s_1 :	<i>Two of his mercenaries had to bite into the grass, which was hardly visible in this midnight darkness.</i>
\rightsquigarrow_{id} p_1 :	‘Two of his mercenaries had to die.’
s_2 :	<i>Two of his mercenaries had to bite into the grass, which was hardly visible in this midnight darkness.</i>
\rightarrow_{lit} p_2 :	‘The grass was hardly visible in this midnight darkness.’
\rightsquigarrow_{inf} $p_{2'}$:	‘The location was hardly visible in this midnight darkness.’
p_1 & $p_{2'}$:	‘Two of his mercenaries had to die, and the location was hardly visible in this midnight darkness.’

As in (23), *ins Gras beißen* means ‘die’ here (p_1) – independently of any literal grass – but still the modifier which was hardly visible in this midnight darkness, just like snow-covered in (23), applies to the literal meaning of the noun *grass*, which happens in an additional proposition (p_2) that is independent of p_1 . And as in (23), the modification of *grass* is interpreted as a modification of the location of the dying event, just like the modification of *dust* in (21). The additional proposition p_2 , which in this case is explicitly given by the non-restrictive relative clause (and therefore is easier to “unpack” than conjunction modification by an adjective or a noun, for which one always has to add a suitable relation to create a proposition), is then interpreted as ‘The location was hardly visible in this midnight darkness.’ ($p_{2'}$). Together, p_1 and $p_{2'}$ result in: ‘Two of his mercenaries had to die, and the location was hardly visible in this midnight darkness.’

In the following section, we will address three examples that are more complex cases of conjunction modification, either because they require additional background knowledge or because they go beyond a simple analysis of conjunction modification involving two propositions, since they involve a third one. After these examples, we will discuss corpus examples for which an analysis in terms of conjunction modification might not be the only option.

3.4 Complex conjunction modification examples

The following example, (27), is taken from a review of *Enigma Rosso* (English title: *Red Rings of Fear*), a 1978 Italian-German-Spanish giallo film. In the example, the idiom *den Löffel abgeben* ‘to pass on the spoon’ is slightly altered, as it contains *Löffel* ‘spoon’ in the plural (which might reflect that more than one person died) and, more importantly for our purposes, the modifier *langen*, which is an inflected form of the adjective *lang* ‘long’.

- (27) Die Geschichte um die Umtriebe in einem Mädcheninternat, das in Teenagerprostitution verstrickt ist und dessen bezaubernde Zöglinge nach und nach *die langen Löffel abgeben*, gibt einen nett anzuschauenden Thriller ab – leider nicht mehr.¹⁹

‘The story of the activities at a girls’ boarding school that is entangled in teenage prostitution and whose enchanting pupils, one by one, *pass on the long spoons*, makes for a thriller that is nice to watch – unfortunately, that is as far as it goes.’

- (28) Incomplete conjunction modification analysis of (27):

s_1 :	<i>The enchanting pupils_i pass on the_i long spoons.</i>
\rightsquigarrow_{id} p_1 :	‘The enchanting pupils die.’
s_2 :	<i>The enchanting pupils_i pass on the_i long spoons.</i>
\rightarrow_{lit} p_2 :	‘The enchanting pupils have long spoons.’
\rightsquigarrow_{inf} p_2' :	‘The enchanting pupils are ???’
p_1 & p_2' :	‘The enchanting pupils die, who are ???’

Since the proposition ‘The enchanting pupils have long spoons.’ does not make any sense as the second conjunct of this example (not even considering the larger context of the example and/or the movie itself), that proposition must be figuratively reinterpreted. But how? One remote possibility to make sense of ‘The enchanting pupils have long spoons.’ would be to evoke yet another idiom, *jemandem die Löffel lang ziehen* ‘(lit.) pull someone.DAT the spoons long’, with a figurative use of *spoons* for *ears*,²⁰ which is commonly used to refer to a teacher or a parent scolding or punishing a pupil or a child. Under this interpretation, you might infer from p_2 that the pupils have been punished before, or are being punished by being killed, as in (29).

- (29) First conjunction modification analysis of (27):

s_1 :	<i>The enchanting pupils_i pass on the_i long spoons.</i>
\rightsquigarrow_{id} p_1 :	‘The enchanting pupils die.’
s_2 :	<i>The enchanting pupils_i pass on the_i long spoons.</i>
\rightarrow_{lit} p_2 :	‘The enchanting pupils have long spoons.’
\rightsquigarrow_{inf} p_2' :	‘The enchanting pupils are being/have been punished.’
p_1 & p_2' :	‘The enchanting pupils die, who are being/have been punished.’

¹⁹<http://www.christiankessler.de/enigmarosso.html> (last accessed on 5 April 2018)

²⁰This figurative meaning of *spoons* also appears in expressions like *jemandem ein paar hinter die Löffel geben* ‘(lit.) to give someone.DAT a few behind the spoons’ (fig. ‘to slap someone’), which might also be the idiom evoked here, and also in *sich etwas hinter die Löffel schreiben* ‘(lit.) to write oneself.DAT sth. behind the spoons’ (fig. ‘to make sure to remember sth.’).

The figurative interpretation of p_2 on the basis of *jemandem die Löffel lang ziehen* ‘pull someone the spoons long’, which results in p_2' in (29), might be facilitated by the fact that in this idiom the noun *Löffel* ‘spoon’ occurs in the plural, just as in (27).

The following example, (30), points to a more plausible option of reinterpreting ‘The enchanting pupils have long spoons.’ It is about Bertolt Brecht’s play *Mutter Courage und ihre Kinder* (English title: *Mother Courage and Her Children*).

- (30) Im Nordbayerischen Kurier schrieb Gero v. Billerbeck über “Eine Moritat gegen den Krieg”: “Wer mit dem Teufel frühstückt, muss einen langen Löffel haben. Der Feldprediger kennt sich aus und weiß auch, dass dieser Dreißigjährige Krieg ein gottgefälliger Glaubenskrieg ist. Und weil er selbst nicht mitmischt, sondern nur davon profitiert, wie seine Weggenossin Anna Fierling, wird er *den zitierten langen Löffel* ebenso wenig *abgeben* müssen [...]”²¹

‘In the N.K. [German newspaper] Gero v. Billerbeck wrote about “A Ballad Against the War”: “He who sups with the devil must have a long spoon. The field preacher knows his way around and is also aware of the fact that this Thirty Years War is a God-pleasing religious war. And because he does not get involved but only benefits from it, like his companion Anna Fierling, he will not have to *pass on the quoted long spoon* [...]”’

A conjunction modification analysis of the example in (30) looks just like the conjunction modification analysis of the example in (27), but now we can make sense of someone having a long spoon, because the beginning of the example in (30) indicates what that is supposed to mean by making reference to the proverb *He who sups with the devil must have a long spoon*. This proverb expresses a conditional (you sup with the devil \Rightarrow you have a long spoon) from which we can infer by pragmatic strengthening or conditional perfection (Geis & Zwicky 1971), i.e. by turning the conditional into a biconditional (you sup with the devil \Leftrightarrow you have a long spoon), that people with a long spoon sup with the devil and hence, just like the devil himself, must be deceitful. On that account, we get the analysis in (31).

²¹<http://www.luisenburg-aktuell.de/id-2009/articles/bertolt-brecht-mutter-courage-und-ihre-kinder.html> (could no longer be accessed on 5 April 2018)

(31) Second conjunction modification analysis of (30):

	s_1 :	<i>The field preacher_i will not have to pass on the_i long spoon.</i>
\rightsquigarrow_{id}	p_1 :	'The field preacher will not have to die.'
	s_2 :	<i>The field preacher_i will not have to pass on the_i long spoon.</i>
\rightarrow_{lit}	p_2 :	'The field preacher has a long spoon.'
\rightsquigarrow_{inf}	$p_{2'}$:	'The field preacher is deceitful.'
	p_1 & $p_{2'}$:	'The field preacher, who is deceitful, will not have to die.'

Analogously, we could now infer from p_2 in (28) ('The enchanting pupils have long spoons.') that the enchanting pupils are deceitful and, on the basis of that inference, complete the analysis of (27) as shown in (32).

(32) Complete conjunction modification analysis of (27):

	s_1 :	<i>The enchanting pupils_i pass on the_i long spoons.</i>
\rightsquigarrow_{id}	p_1 :	'The enchanting pupils die.'
	s_2 :	<i>The enchanting pupils_i pass on the_i long spoons.</i>
\rightarrow_{lit}	p_2 :	'The enchanting pupils have long spoons.'
\rightsquigarrow_{inf}	$p_{2'}$:	'The enchanting pupils are deceitful.'
	p_1 & $p_{2'}$:	'The enchanting pupils die, who are deceitful.'

What these examples show is that we sometimes need considerable background knowledge (e.g. of the proverb *He who sups with the devil must have a long spoon.*) to make sense of the idiom-modifier combination and find an appropriate overall interpretation.

Our next example is complex for a different reason than the necessity of considerable background knowledge. It is complex because there is more going on than just conjunction modification. The example is from a German review of *Journey to the Center of Time*, a 1967 U.S. science fiction film, see (33) for the example and (34) for its analysis.

- (33) Stanton Sr. war ein gutherziger Millionär, der viel Geld in außergewöhnliche Forschung steckte und leider kürzlich *den silbernen Löffel* an Stanton Jr. *abgab*, welcher nix von Friede, Freude, Wissenschaft wissen, sondern Geld machen will und zwar pronto.²²

‘Stanton Sr. was a kind-hearted millionaire who invested a lot of money in extraordinary research and, unfortunately, recently *passed on the silver spoon* to Stanton Jr., who does not want to know about peace, joy, science, but wants to make money, pronto.’

- (34) Analysis of (33):²³

s_1 : *Stanton Sr._i passed on the_i silver spoon to Stanton Jr.*

$\rightsquigarrow_{id} p_1$: ‘Stanton Sr. died.’

s_2 : *Stanton Sr._i passed on the_i silver spoon to Stanton Jr.*

$\rightarrow_{lit} p_2$: ‘Stanton Sr. had a silver spoon.’

$\rightsquigarrow_{inf} p_2'$: ‘Stanton Sr. was rich.’

s_3 : *Stanton Sr._i passed on the_i silver spoon to Stanton Jr.*

$\rightarrow_{lit} p_3$: ‘Stanton Sr. passed on his silver spoon to Stanton Jr.’

$\rightsquigarrow_{inf} p_3'$: ‘Stanton Sr. passed on his wealth to Stanton Jr.’

p_1 & p_2' & p_3' : ‘Stanton Sr. died, who was rich, and he passed on his wealth to Stanton Jr.’

Just like in the analyses of all the previous conjunction modification examples, we have one proposition that includes the idiomatic meaning of the idiom, namely that Stanton Sr. died (p_1), and one proposition in which the literal meaning of the modifier is applied to the literal meaning of the idiom’s noun, namely that Stanton Sr. had a silver spoon (p_2), from which we infer that he was rich (p_2'),²⁴ as in the *Gucci belts* example in (8) and the *golden bucket* example in (17).

What sets this example apart from all the previous conjunction modification examples, however, is that its analysis does not result in the conjunction of two but three propositions. This is due to the addition of the literal goal argument *to Stanton Jr.*, which, as soon as it is interpreted (s_3), enforces *pass on the spoon* to be literally interpreted as well (p_3) because there is no idiom *pass on the spoon to sb.*

²²<http://www.filmflausen.de/Seiten/centeroftime.htm> (last accessed on 5 April 2018)

²³Here, it is not just s_1 and s_2 but s_1 , s_2 , and s_3 that are one and the same string with different parts of that same string being semantically interpreted in s_1 , s_2 , and s_3 (cf. footnote 7).

²⁴The reinterpretation of ‘Stanton Sr. had a silver spoon.’ as ‘Stanton Sr. was rich.’ is additionally facilitated by the existence of the German idiom *mit einem silbernen Löffel im Mund geboren sein* ‘to be born with a silver spoon in the mouth’ (with its English equivalent *to be born with a silver spoon in one’s mouth*), which means that one is wealthy by birth.

In parallel to the figurative interpretation of ‘having a silver spoon’ (p_2) as ‘being rich’ ($p_{2'}$), ‘passing on your silver spoon to sb’ (p_3) is figuratively reinterpreted as ‘passing on your wealth to sb’ ($p_{3'}$).

In the end, we not only have different interpretations of the idiom’s noun *spoon* but also different interpretations of the idiom’s verb *pass on*. Whereas p_1 includes the idiomatic meaning of *pass on*, $p_{3'}$ includes its literal meaning in the sense of ‘hand down’ or ‘bequeath’, i.e. a change of possession, and the goal phrase specifies the beneficiary of the inheritance.

In the next section, we will discuss a number of examples for which it is less clear that they involve conjunction modification. Those examples caused intense debates among the three authors of this paper, as at least one of the authors preferred to analyze them in terms of what we will call extended external modification, a broader construal of Ernst’s external modification not limited to domain delimitation (cf. Stathi 2007: Section 4.2, in which she argues for a similar approach whilst retaining Ernst’s original term). In the following section, we will provide reasons why such an extended external modification analysis might be a valid alternative for the examples.

3.5 Controversial cases

We have shown that our four idioms can be divided into two groups, *kick the bucket* and *pass on the spoon* vs. *bite the dust* and *bite into the grass*: buckets and spoons are typical personal possessions, whose properties invite inferences about their possessors, whereas dust and grass can be interpreted as different types of ground, whose properties invite inferences about the event location. When we modify an event location, however, the event is modified as a whole, which opens up the option to analyze such a modification as a type of external modification, not in the sense of Ernst, i.e. as domain delimitation, but in a more general or extended sense. There are two factors that point in this direction.

First, as we noted, Ernst observed that external modifiers often allow an adverbial paraphrase. Given that adverbs, however, are not always domain delimiters (frame-setting sentence adverbials) but can be of various kinds, depending on where they attach and what they modify, we expect external modification in idioms not to be restricted to domain delimiters either. For example, one prominent kind is event-related modification, which, however, still relates to the idiom as a whole and could, for that reason, also be analyzed as a type of external modification.

Second, the data that Ernst uses to illustrate external modification either involve relational adjectives (e.g. *social* in 2) or prenominal noun modifiers (of the *stone lion* type). These are both types of modifiers that express an underspecified relation between modifier and modifiee (see, e.g., McNally & Boleda 2004), and a hypothesis one could pursue in future research is that this additional relation facilitates external modification.²⁵ In this section, we discuss examples that could be analyzed in terms of conjunction modification, but which also all contain relational adjectives and therefore could also be analyzed as extended external modification. While we will not offer the details of a compositional analysis of these cases – which we have not done for any of the examples in Section 3.3 and Section 3.4, either – the intuitive idea should be clear.²⁶

With these considerations in mind, let us see why the following examples caused controversies among the authors of this paper. Our first example is about a South Tyrolean writer, Norbert Conrad Kaser, who apparently did not find the literature of his fellow writers very compelling, see (35).

- (35) Erstes Aufsehen erregte der junge Kaser an einer Studientagung der Südtiroler Hochschulschaft, die in Brixen von Gerhard Mumelter organisiert wurde. Hier meinte er, dass 99% der Südtiroler Literaten am besten nie geboren wären, seinetwegen könnten sie noch heute *ins heimatische Gras beißen*, um nicht weiteres Unheil anzurichten.²⁷

The young Kaser caused a first stir at a South Tyrolean study conference, which was organized in Brixen by Gerhard Mumelter. There he said that it would have been better if 99% of South Tyrolean writers had never been born and that they have his blessing to *bite into the home grass* by today, so as not to do any more mischief.

If we take this to be conjunction modification, the analysis looks as in (36).

²⁵This is not Ernst's observation, who, as we pointed out above, assumes that external modification is not restricted to a particular lexical class of adjectives.

²⁶For further discussion and a possible analysis of external modification in this broader, extended sense, see Gehrke & McNally (2019).

²⁷<http://www.selected4you.de/dolomiten/thema/norbert-c-kaser> (last accessed on 5 April 2018); see Stathi (2007: 91) for a variant of this example in which the statement of the young Kaser is reported in direct speech – and not in indirect speech, as in (35).

(36) Conjunction modification analysis of (35):²⁸

- s_1 : *They_i have his blessing to bite into the_i ~~home~~ grass by today.*
- \rightsquigarrow_{id} p_1 : ‘They have his blessing to die by today.’
- s_2 : *They_i have his blessing to bite into the_i home grass ~~by today~~.*
- \rightarrow_{lit} p_2 : ‘The grass would be their home grass.’
- \rightsquigarrow_{inf} $p_{2'}$: ‘The location would be their homeland.’
- p_1 & $p_{2'}$: ‘They have his blessing to die by today, and the location would be their homeland.’

While p_1 (‘They have his blessing to die by today.’) is the idiomatic meaning of s_1 (*They_i have his blessing to bite into the_i grass by today.*), $p_{2'}$ (‘The location would be their homeland.’) is an inference from p_2 (‘The grass would be their home grass.’), which again is the non-idiomatic and non-figurative (hence \rightarrow_{lit}) meaning of s_2 (*the_i home grass* – the definite NP that is (part of) the verb’s internal argument in (35)). The two independent propositions p_1 and $p_{2'}$ are then conjoined into ‘They have his blessing to die by today, and the location would be their homeland.’ We perceive $p_{2'}$ as some kind of side information (since it is non-restrictive modification) that conveys the idea that the South Tyrolean writers would make sure to die in/on their homeland.

Given the broader understanding of external modification outlined above, where the modifier contributes something external to the idiom (or modifies the idiom as a whole), we might also interpret (35) as in (37):

(37) Extended external modification analysis of (35):²⁹

- s_1 : *They_i have his blessing to PRO_i bite into the ~~home~~ grass by today.*
- \rightsquigarrow_{id} p_1 : ‘They have his blessing to die by today.’
- s_2 : *They_i have his blessing to PRO_i bite into the home grass ~~by today~~.*

²⁸As *heimatlich* ‘of one’s home, native, local’ (a relational adjective consisting of *Heimat* ‘homeland’ + the adjectival suffix *-lich*) and *home* are relational (any home must be the home of someone or something), the definite determiner of the verb’s internal argument is co-indexed with the verb’s external argument, just like in the *kick the bucket* and *pass on the spoon* examples.

²⁹PRO is meant as a convenient notation for indicating an implicit subject argument which plays a role in the analysis. Grammar frameworks without PRO will usually have appropriate counterparts in their structural analyses of our examples.

- \rightsquigarrow_{id} p_2 : 'They would die in their homeland.'
 p_1 & p_2 : 'They have his blessing to die by today, and the dying event would take place in their homeland.'

The analysis of p_1 ('They have his blessing to die by today.') is more or less the same as before: the idiomatic meaning of s_1 (*They_i have his blessing to PRO_i bite into the grass by today.*). The difference lies in p_2 ('They would die in their homeland.'), which comes about by taking the relational adjective *heimatlich* 'of one's home, native, local' as specifying the location for the dying event associated with the idiom as a whole and by resolving the relation of home to the subjects of this dying event (to keep things a bit more simple we did not represent this here). This looks more like an analysis in terms of external modification, just not in Ernst's more restricted sense, because the modifier is not a domain delimiter. It is still a non-restrictive kind of modification, but external modification should in principle be possible restrictively and non-restrictively. The two independent propositions p_1 and p_2 are then conjoined into 'They have his blessing to die by today, and the dying event would take place in their homeland.' Again, we perceive p_2 as some kind of side information (since it is non-restrictive modification) that conveys the idea that the South Tyrolean writers might as well die in South Tyrol, where they happen to be.

The example in (38) is similar at first sight.

- (38) Auch die deutsche Geschichte mag im Gesamten alles Andere als rosig sein, doch ich lebe in diesem Staate und somit MIT seiner Vergangenheit, seiner Gegenwart und höchstwahrscheinlich auch zukünftig, was da heissen wird, dass ich eines Tages *in deutsches Gras beissen* werde.³⁰

German history as a whole may be anything but rosy as well, but I live in this country and thus WITH its past, its present and most likely also in the future, which will mean that one day I will *bite into German grass*.

An analysis in terms of conjunction modification looks like in (39).

- (39) Conjunction modification analysis of (38):
- s_1 : *One day, I will bite into German grass.*
 \rightsquigarrow_{id} p_1 : 'One day, I will die.'
 s_2 : *~~One day, I will bite into~~ German grass.*

³⁰<http://www.chat24.de/archive/index.php?t-256.html> (could no longer be accessed on 5 April 2018)

- \rightarrow_{lit} p_2 : 'The grass will be German.'
 \rightsquigarrow_{inf} p_2' : 'The location will be Germany.'
 p_1 & p_2' : 'One day, I will die, and the location will be Germany.'

Again, we infer from the second proposition ('The grass will be German.') that the location of the dying event will be Germany. However, this kind of analysis faces the problem that the modifier in this case does not seem to be adding mere side information, as non-restrictive modification would, but it rather functions as a restrictive modifier. In particular, if we left out the modifier entirely, we would lose the main information of the sentence and it would not make much sense anymore in this context (unlike in our previous example in 35). So, adding the modifier via conjunction modification wrongly places the meaning of the modifier in the secondary proposition rather than the primary proposition.

Understanding the term *external modification* in a broader, extended sense could be a way out of this dilemma, and we could interpret the whole sentence as one proposition, as in (40).

(40) Extended external modification analysis of (38):

- s : *One day, I will bite into German grass.*
 \rightsquigarrow_{id} p : 'One day, I will die (my dying will take place) in Germany.'

This interpretation is further facilitated by the fact that *German*, like all ethnic adjectives, is a relational adjective.

Let us now move on to controversial cases in which the referent of the literal meaning of the idiom's noun is a typical personal possession, and let us remind ourselves that personal possessions and their features can invite inferences about their possessors. The example in (41) is about *Gid*, a hypothetical God-like creature that is postulated and used in a proof of the existence of God in which the author talks about *Gid*'s mortality.

(41) He is presumably mortal himself; at least, being a creature of this universe, when (if) it collapses back to a mathematical point again (called the "Big Crunch"), *Gid* would die then, if he hasn't already *kicked the celestial bucket*.³¹

If we analyze this example in terms of conjunction modification, we get (42).

³¹<http://biglizards.net/blog/archives/2011/08> (last accessed on 5 April 2018)

(42) Conjunction modification analysis of (41):

- s_1 : ... *if Gid_i hasn't already kicked the_e celestial bucket.*
 \rightsquigarrow_{id} p_1 : '... if Gid hasn't already died.'
 s_2 : ... *if Gid_i hasn't already kicked the_e celestial bucket.*
 \rightarrow_{lit} p_2 : 'Gid has a celestial bucket.'
 \rightsquigarrow_{inf} $p_{2'}$: 'Gid is a celestial being.'
 p_1 & $p_{2'}$: '... if Gid, who is a celestial being, hasn't already died.'

Under this interpretation we assume the proposition p_2 that Gid has a celestial bucket, from which we infer that Gid is a celestial being ($p_{2'}$), metonymically, like a pars pro toto (if his bucket is celestial everything else might as well be, including him). However, it is also clear that this involves an additional step. The simple proposition 'Gid has a celestial bucket' does not provide all of that content by itself.

An alternative analysis of (41) in terms of external modification – this time along the lines of Ernst's original idea that external modifiers are domain delimiters – is shown in (43), where the modification is, again, interpreted restrictively so that we only get one proposition.

(43) External modification analysis (in Ernst's sense) of (41):

- s : ... *if Gid hasn't already kicked the celestial bucket.*
 \rightsquigarrow_{id} p : '... if Gid hasn't already died in the celestial domain.'
 \rightsquigarrow_{inf} p' : '... if Gid hasn't already ceased to exist as a celestial entity.'

This restrictive, external interpretation of the modifier leads to a completely different understanding though: Here, we assume that Gid might first cease to exist as a celestial entity (as expressed in p') to then become a terrestrial being, a mortal, and die as such when the 'Big Crunch' hits (as the remaining context in (41) suggests). Under the conjunction interpretation in (42), on the other hand, which takes the modification to be non-restrictive, Gid dies only once and happens to be a celestial creature. The question, then, is how the text is actually supposed to be understood.

Yet another interpretation of (41) is provided in (44).

(44) Extended external modification analysis of (41):

- s : ... *if Gid hasn't already kicked the celestial bucket.*
 $\rightsquigarrow_{id+inf}$ p : '... if Gid hasn't already died a celestial death (which is much more spectacular than an earthly death).'

This is clearly not a conjunction modification interpretation, since we do not add a second proposition (it is again a restrictive kind of modification), but it rather feels like a manner modifier of the event (the idiom as a whole) and should then be taken as yet another instance of extended external modification. This kind of interpretation might lead to an additional inferential step (provided in brackets in *p*), and it opens up the possibility to analyze an idiom like *kick the MOD bucket* on a par with cognate object constructions of the sort *die a MOD death*, in which the modifiers in question in turn have been taken to be event modifiers (see, e.g., Mittwoch 1998; Sailer 2010).

Finally, example (45) is about giardia, which are microscopic pear-shaped parasites that live in the intestines and cause Giardiasis, a diarrheal disease.

- (45) Hi, die Giardien sollen doch bei 60–70°C *ihren birnenförmigen Löffel abgeben*. Warum muss ich dann meine Bettwäsche bei 90°C kochen?³²
 Hi, the giardia are supposed to *pass on their pear-shaped spoon* at 60–70°C. Why do I have to wash my sheets at 90°C then?

An analysis of this example as conjunction modification would look like (46).

- (46) Conjunction modification analysis of (45):

	s_1 :	<i>The giardia_i are supposed to pass on their_i pear-shaped spoon at 60-70° C.</i>
\rightsquigarrow_{id}	p_1 :	‘The giardia are supposed to die at 60-70°C.’
	s_2 :	<i>The giardia_i are supposed to pass on their_i pear-shaped spoon at 60-70° C.</i>
\rightarrow_{lit}	p_2 :	‘The giardia have a pear-shaped spoon.’
\rightsquigarrow_{inf}	$p_{2'}$:	‘The giardia are pear-shaped.’
	$p_1 \ \& \ p_{2'}$:	‘The giardia, which are pear-shaped, are supposed to die at 60-70°C.’

As in the conjunction modification analyses of all the previous examples with *kick the bucket* and *pass on the spoon*, we here have a p_2 that includes a possession relation: ‘The giardia have a pear-shaped spoon.’ Unlike in the previous examples, but just like in *pull sb’s leg* in (5) and *tighten one’s belt* in (8), this possessive relation is explicitly expressed by a possessive determiner. We then again infer metonymically that if the giardia have a pear-shaped spoon, they themselves are pear-shaped.

³²<https://www.katzen-links.de/forum/darmparasiten-giardien/giardien-faq-allumfassende-infosammlung-t69985-p6.html> (last accessed on 5 April 2018)

However, at this point, the question arises whether we indeed get from the giardia (literally or metaphorically) having a pear-shaped spoon to them being pear-shaped; one author of this paper does not share the intuition that a pear-shaped spoon ever plays a role in this example. In that author's opinion, the modifier seems to be attributed to the possessor right away, without the intermediate step of attaching it to 'spoon', even if syntactically this is where the modifier appears. This seems to indicate that if we explicitly add a possessor via a possessive determiner inside the nominal phrase, we can combine the modifier with that possessor rather than with the noun itself, as in (47).

(47) Possessor modification analysis of (45):

- | | |
|---------------------------------|--|
| s_1 : | <i>The giardia_i are supposed to pass on their_i pear-shaped spoon at 60-70° C.</i> |
| \rightsquigarrow_{id} p_1 : | ‘The giardia are supposed to die at 60-70° C.’ |
| s_2 : | <i>The giardia_i are supposed to pass on their_i pear-shaped spoon at 60-70° C.</i> |
| \rightarrow_{lit} p_2 : | ‘The giardia are pear-shaped.’ |
| p_1 & p_2 : | ‘The giardia, which are pear-shaped, are supposed to die at 60-70° C.’ |

However, it is far from clear how this kind of analysis, which we dubbed possessor modification, would work in terms of a general semantic composition mechanism. Yet, the meaning we get is still: ‘And, by the way, the giardia are pear-shaped’, which is non-restrictive (as represented by the conjunction of p_1 and p_2 in 47).

A problem similar to the one of how to analyze the composition of (45) arises with what Ernst (1981: 66) calls ‘displaced epithets’:

- (48) I balanced a thoughtful lump of sugar on the teaspoon.
(P.G. Wodehouse, cited in Hall 1973)

From this example, we conclude that the speaker was thoughtful, not the lump of sugar. The giardia's pear-shaped spoon could then be of this kind, and the analysis would not involve conjunction modification at all. Again we do not have a semantic composition system to describe a displacement of epithets in a way that fits cases like these but does not over-generate and predict all kinds of interpretations to be possible when they are actually not.

On the other hand, if we analyze both examples in terms of something like conjunction modification with a possessive relation, metonymical inferences would

get us from the speaker having (as part of balancing) a thoughtful lump of sugar to the speaker being thoughtful, and from the giardia having a pear-shaped spoon to the giardia being pear-shaped. The question then is whether it is a fairly obvious metonymical inference: Is it common to infer from ‘I have a thoughtful lump of sugar.’ that ‘I am thoughtful.’?

In sum, what our examples in this section have shown is that it is not always straightforward to obtain an interpretation for a given modifier that is added to an idiom, and furthermore that it is not always clear which of Ernst’s three categories the kind of modification belongs to. Additionally, in most cases, even in our clear cases of conjunction modification, further inferences had to be drawn. They were not only based on the second proposition alone but also had to take context and world knowledge into account. In this section, we also saw that it might be possible to extend the notion of external modification beyond its original use to cover some other types of modifiers that we encountered. The broader, extended notion of external modification lumps together various types of modification that apply to the idiom as a whole, not just to the idiom’s noun. The modifiers can thus be interpreted on a par with adverbials, which also form a heterogeneous group, and we obtain an alternative to an analysis in terms of conjunction modification. External modification could be facilitated or mediated by the use of relational adjectives, though this would be a topic for future research. Finally, we discussed challenges that some of these examples entail for a precise compositional analysis, which we have to leave for future research for all our examples, though.

In the following section, we will briefly show that challenges concerning additional inferences beyond literal, figurative or idiomatic meaning and concerning the adequate formulation of semantic composition principles arise in other idiom data that do not, however, involve the kind of modification discussed so far. These data demonstrate that the observed pattern extends beyond the presence of a modifier that might (or might not) be analyzed in terms of conjunction modification.

4 Beyond modification

In this section, we study two corpus examples of *ins Gras beißen* that do not contain a modifier in the linguistic sense but still contain an adjustment of the idiom’s noun *Gras*. As we have seen in (21), (23), (25), (35), and (38), the nouns *Gras* and *dust* lend themselves to a location interpretation and in the context of the idioms invite inferences about the location of the dying event.

Example (49) is from a review of *The Descent Part 2*, a 2009 British horror film.

- (49) Erneut werden billige Schockeffekte eingesetzt [... und] wieder ist es in der Höhle meist viel zu hell, und schon wieder mutieren die überlebenden Damen zu wahren Kampfmaschinen, nur um dann doch allesamt *ins Gras respektive ins Höhlengestein beißen* zu müssen.³³
 ‘Once again, there are cheap shock effects, and once again, it is way too bright inside the cave most of the time, and again, the surviving ladies mutate into true battle machines, but in the end they still have to *bite into the grass, or rather the cave rock*.’

Even though *bite into the grass, or rather the cave rock* does not contain a modifier and hence is not an example of idiom modification in the linguistic sense, it still contains an adjustment of the idiom’s noun, and this adjustment could be analyzed by dissociating two propositions, just like in conjunction modification, see (50).³⁴

- (50) Analysis of (49):

s_1 :	<i>The ladies have to bite into the grass, or rather the cave rock.</i>
\rightsquigarrow_{id} p_1 :	‘The ladies have to die.’
s_2 :	<i>The ladies have to bite into the grass, or rather the cave rock.</i>
\rightarrow_{lit} p_2 :	‘The grass is cave rock.’
\rightsquigarrow_{inf} p_2' :	‘The location is cave rock.’
p_1 & p_2' :	‘The ladies have to die, and the location is cave rock.’

As in our analyses of the conjunction modification examples, p_1 is concerned with the idiom (stating that the ladies have to die), whereas p_2 is all and only about the modification of the literal meaning of the idiom’s noun, which in this case only applies in the non-linguistic sense, as the added material is neither an adjective, nor a noun, nor a relative clause but the part *respektive ins Höhlengestein* ‘or rather into the cave rock’, which is combined with *beißen* ‘bite’ in

³³<http://www.kreis-archiv.de/filme/descent2.html> (last accessed on 5 April 2018)

³⁴Alternatively, we could also assume that this adjustment happens in the same proposition (e.g. for (50) we would get something like *The ladies have to bite into the cave rock instead of the grass*). However, no matter which route is ultimately the right one, we are still facing the same kind of compositionality issues outlined here.

a parallel fashion as is *ins Gras* ‘into the grass’. It is not clear how this interpretation can be obtained compositionally unless we impose a semantic decomposition on the idiom that is assumed to be absent from its conventional form.

A potentially even more problematic example is given in (51).

- (51) Das soll er doch gesagt haben, der gute Caesar[,] bevor er statt ins Gras in den Marmorboden vom Senat gebissen hat.³⁵

‘He is supposed to have said that, our good old Caesar, before he *bit into the marble floor of the Senate instead of the grass.*’

In a parallel fashion to the previous example we might analyze this one along the lines of (52).

- (52) Analysis of (51):

s_1 :	<i>Caesar bit into the marble floor of the Senate instead of the grass.</i>
\rightsquigarrow_{id} p_1 :	‘Caesar died.’
s_2 :	<i>Caesar bit into the marble floor of the Senate instead of the grass.</i>
\rightarrow_{lit} p_2 :	‘The grass was the marble floor of the Senate.’
\rightsquigarrow_{inf} p_2' :	‘The location was the marble floor of the Senate.’
p_1 & p_2' :	‘Caesar died, and the location was the marble floor of the Senate.’

This leads to the construction of the proposition p_2 above, and the following inference to the effect that Caesar died on the marble floor of the Senate. Again, we do not know how to get there via standard semantic composition principles. What is even worse is that due to the negation that is part of the semantics of *statt* ‘instead of’, it is literally stated that Caesar did not bite into the grass. Therefore, our p_1 is not quite right; it should contain a negation. Nevertheless, we still get the interpretation that he died, only not on grass but on the marble floor of the Senate. So since the entire idiom is present, somehow its meaning is present as well. And substituting the literal *marble floor of the Senate* for the idiomatic *grass* has the effect that *grass* is understood literally as well.

³⁵<http://www.rom-fanclub.de/Episode-1-Folgen-1-12/3719-ReEP01-/-F12-Die-Kalenden-des-Februar/Page-7.html> (last accessed on 5 April 2018)

5 Conclusion

In this paper, we reviewed Ernst's (1981) classical three types of idiom modification (internal, external, and conjunction modification), followed by a close investigation of conjunction modification in semantically non-decomposable idioms as a particularly challenging phenomenon for semantic theorizing. In order to get a deeper understanding of the scope of naturally occurring meaning effects in conjunction modification, we studied corpus data of two English and two German semantically non-decomposable idioms with the same idiomatic meaning but different formal structure. Some of our findings of the effects of idiom modification followed the general pattern of Ernst's observations, while others pointed to a possible relationship with external modification. Patterns of unexpected but apparently systematic inferences and contextual adjustments outside the core cases led us to investigate data beyond modification which demonstrated the need for assuming additional inferential mechanisms and pointed to effects that are clearly outside the range of regular semantic composition.

Many of the corpus examples with our two English and two German "dying idioms" which were originally collected as candidates for conjunction modification were accepted as such by all authors of the present study. In those cases there was agreement that their analysis comprises a main proposition p_1 including the predicate *die*(x) and a secondary proposition p_2 of the form 'x has a MODIFIER bucket/spoon' or 'the dust/grass is MODIFIER'. Often it was also necessary to interpret these forms figuratively or to draw additional inferences from their literal meaning in order to obtain a coherent interpretation in context. Some examples, however, turned out to be controversial, and the available analytical tools did not provide an easy resolution for conflicting intuitions: Whereas some authors analyzed them as conjunction modification in combination with additional inferences, the other(s) preferred (a version of) external modification, where the notion of external modification had to be broadened compared to Ernst's original proposal.

We think that our data show that the distinction between semantically decomposable and semantically non-decomposable idioms might not be as categorical as Nunberg et al. (1994) thought (see also Bargmann & Sailer 2018). These idioms are certainly not a semantically monolithic lexical unit with complex syntactic structure. Not only are speakers aware of their internal structure, they also seem to be ready to fall back on alternative, literal meanings of smaller syntactic units, such as of the nominal head in a noun phrase complement, any time a consistent interpretation in context of all lexical material in a given structure requires their retrieval. The meaning of these smaller units, otherwise unavailable in the

idiomatic reading of the complete idiomatic expression, even serves as a basis for further interpretive processes, which can and must be considered in parallel to the idiomatic reading of the idiom as a whole – minus material whose interpretation it cannot integrate. To us it seems that this is a much more complex situation, and truly one-to-many, than most current semantic theories are ready to entertain. At the same time, corpus evidence suggests that the processes involved are far from unsystematic, and should definitely not be discarded into the realm of linguistically inexplicable creative word play.

Whichever way the open issues will ultimately be resolved, we have seen ample evidence that idioms are excellent instances of one-to-many relations between form and meaning, and that this becomes especially obvious in conjunction modification, where the idiomatic and the literal meaning of the idiom need to be present simultaneously.

Abbreviations

s_1	string including the idiom and everything else but not the modifier
s_2	string consisting of nothing but the NP within the idiom's verb's complement, which includes the modifier
p_1	main proposition
p_2	secondary proposition
\rightarrow_{lit}	literal meaning
\rightsquigarrow_{id}	idiomatic meaning
\rightsquigarrow_{inf}	figurative interpretation or additional inference within the context

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