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On noun-related complementizer clauses

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Abstract

In recent research, it has been proposed that prima facie complement clauses are more akin to relativization structures. That is, verbs only take nominal complements and what is usually called a verb or a noun complement clause is actually a relative clause to an overt or silent noun. This paper argues that these clauses fall into two categories neither of which involves complementation or relativization. In the first category, clauses that stand in an identity relation to their head noun are analysed as close appositions. In the second category, where the relation between head noun and clause resembles a head-argument relation, this relation is not established by complementation but mediated through a silent preposition. Both clauses are themselves nouny: they are enshelled within an empty nominal head.

Introduction

This paper is concerned with examples such as in (1) and draws data mainly from German and English. I will refer to the CPs in (1) by the more neutral term noun related complementizer clauses (= NCCs).

(1)   a. die Behauptung / Tatsache, dass …
        b. the claim / fact that …

Cases like in (1) have been traditionally analysed as complement clauses. This, however, raises a number of theoretical issues (Stowell 1981, Kayne 2008). In more recent approaches, they have been analysed as relative clauses via movement from inside the subclause (Kayne 2008, Arsenijević 2009).
    The main questions of this paper are:

i.   What is the syntactic relationship between noun and NCC?
ii.   How does the syntactic relationship correspond to the semantic relationship?

I will argue that NCCs are neither complement clauses nor Kaynean relative clauses. Semantically, there are two basic kinds of relationship each of which corresponds to a certain syntactic constellation. Noun and NCC can either refer together to the same object, in which case the NCC is in (close) apposition to the head noun. Or they can refer to two different objects, in which case they have to be mediated by a preposition. This latter observation is usually blurred by the fact that the preposition can remain silent and usually has to in English. In each case, the CP is enshelled by a silent dummy DP, which becomes overt upon movement.

The following section illustrates the main problem to a complementation approach and introduces Type I, labelled "identity" for the sake of simplicity, which involves only one semantic object. In section 2, relative clause analyses of NCCs involving operator movement are discussed with data from speaker-oriented items and clause marker choice in German. An analysis based on movement from functional adverbial positions is presented, but rejected. Section 3 argues that NCCs of Type I are close appositions based on their commonalities. Section 4 introduces Type II, which is based on the observation that the NCC refers to a semantic object different from the head noun. This type is revealed to involve (silent) PPs, which are responsible for the relation between head noun and CP. It is argued that these PPs are not selected by the head noun. The conclusions drawn from the previous sections are then used to implement the analysis for each type. I argue that in both analyses, CPs are encapsuled in empty DP shells. In section 6, finally, noun-related V2-clauses are discussed and differentiated. The last section contains the summary and conclusion.

1   Type I: Identity

Major arguments against a head-complement approach to N-NCC combinations have been brought forward for syntax-theoretical reasons in order to limit case and θ assignment or unvalued features of different syntactic categories (especially Stowell 1981, Kayne 2008).

Stowell (1981) finds that the relationship in N+NCC structures, which previously had been analysed as head-complement configurations due to the verbal origin of nouns like *guess* or *claim*, resembles an identity relation rather than a verb-argument relation. This is evidenced by the fact that head noun and NCC can be linked via a copula as in (2b). Thus, N+NCC combinations differ clearly from examples like (3), where the noun *destruction* refers to an action and Rome refers to an object of that action.

(2)   a. John's claim that he would win
        b. John's claim was that he would win
        (Stowell 1981: 199f. ex. 155b & 158b)

(3)   a. the destruction of Rome
        b. *The destruction was Rome.

The difference between (2) and (3) shows that NCCs don't stand in the same argument relation to the deverbal noun as to the respective verb does to its verb complement clause (= VCC), because in cases like (2) the object, i.e. the thing that is claimed itself is nominalized.

Krapova & Cinque (2015) exclude nouns like *possibility* because they are not possible in specificational constructions like (2b), cf. (4a). The same seems to hold for *fact* as well, cf. (4b).

(4) a. *The possibility is that he wins. (Krapova & Cinque 2015: 81, ex. 8b)
   b. *The fact is that he wins.

Fabricius-Hansen & Stechow (1989) employ a similar test, but instead of a specificational structure they use a predicational structure like the one in (5):

(5)   a. Der Gedanke, daß ich dich beleidigt habe, beunruhigt mich.
         ‚The thought that I have insulted you worries me.'
       b. Daß ich dich beleidigt habe, ist ein Gedanke, der mich beunruhigt.
         ‚That I have insulted you is a thought that worries me.'
       (Fabricius-Hansen & Stechow 1989: 175, ex. 4, my translation)

If we use a predicational structure, *possibility* and *fact* are, in fact, possible:

(6) a. That he wins is a possibility.
   b. That he wins is a fact.

What these constructions have in common is that there is only one entity involved and the other part provides a predication over that entity. In contrast to the verb *claim*, which expresses a relation between a person claiming, the act of claiming, and what is claimed, the noun *claim* + NCC only involves one entity, which is the claim itself. Similarly for *fact*, the NCC is not an argument of another entity, but the description of that fact. And whether there is attitudinal force involved, a content relation, or a fact, the very basic relationship remains the same: there is only one entity, not two. I will call this type 'identity'.

In Moltmann's (2013, 2020) ontology of natural language, *that*-clauses refer to ontological objects like attitudinal, modal, or other intensional objects. Examples for attitudinal objects are claims, beliefs, assumptions, examples for modal objects are facts, possibilities and obligations. This fits neatly with the observation in (2)–(6): *that*-clauses are not arguments of nouns like *fact* or *claim*, but predicates of these objects. In Moltmann's view, they denote a set of truth-makers or satisfiers for the kind of object expressed by the noun.

It is logical that nouns for attitudinal objects often correlate with attitudinal verbs, one being derived from the other. While nouns like *fact* and *case* seem to stand alone, nouns for modal objects may relate to modal adjectives, as for *possibility* or German *Notwendigkeit* 'necessity'.

We now examine the syntactic relationship between noun and NCC in more detail, starting with the relative clause analysis.

2 Relativization and operator movement

In the last decade, syntactic research has made multiple proposals which analyse NCCs as relative clauses. I will focus on two prominent proposals, which tend to different kinds of nouns.

According to Kayne (2008), nouns cannot enter the derivation with unvalued features, otherwise they could not denote. This poses a problem to a complement analysis of NCCs and is discussed especially for the head noun *fact*, which cannot be assumed to be a verb at any point of the derivation and thus cannot have an unvalued feature to select a clausal complement. The idea sketched out by Kayne (2008) and represented in (7) is that the head noun *fact* originates from a sentence internal position within a prepositional phrase *in fact*, similar to how *the way they solved it* would be derived from *they solved it (in) this way*. The preposition is obligatorily dropped.

A related proposal has been brought forward by Arsenijević (2009), who focuses on attitudinal nouns like *claim*. In his analysis, represented in (8), the head noun is supposed to originate in the specifier of ForceP and carry one of three feature values, namely [assert], [question] and [imperative].

(7)   [DP the [CP ~~fact~~$_i$ [C' that they're here ~~in fact~~$_i$]]]
        (Kayne 2008)

(8)   [DP the [CP claim$_i$ $_{[force:\ assert]}$ [C' that [ForceP ~~claim~~$_i$ $_{[force:\ assert]}$
        [John kissed Mary]]]]]
        (Arsenijević 2009)

Further, Haegeman & Ürögdi (2010), Haegeman (2012) propose a free relative analysis of factive complement clauses. According to Haegeman (2012: 267), a supposed TP-internal clause-typing operator is moved to the edge of the CP, as illustrated in (9). According to their view, this yields a referential CP, which denotes a proposition as a referential, semantic object. The referentiality of the CP is due to operator movement and there is no additional nominal layer involved. Without spelling out the details, Haegeman (2012) also suggests a relativization analysis for NCCs. In fact, since the analysis in (9) is intended for factive clauses, it would have to be assumed at least for all NCCs with factive head nouns.

(9) [CP OP$_i$ that [TP … t$_i$ …]]

All three of these proposals involve some kind of relativization and (operator) movement.[1] The analyses in (7) and (8), however, stand out in assuming a specific relationship between the NCC and the head noun, namely that the head noun originates as part of the NCC.

In the following two subsections, I will discuss data from German that relates more generally to relativization and operator movement, that is (the lack of) intervention effects caused by speaker-oriented items and NCC vs. relative clause markers in German. After that we will turn to the problem of origin of the head noun.

2.1 Speaker-oriented items

In many accounts for different clause types, the left periphery is often less accessible. In truncation accounts it is cut off, in operator movement accounts the left periphery cannot be occupied because higher, modal and pragmatic operators are supposed to block movement of the operator that is intended to be relativized (e.g. Haegeman 2012, but see also the truncation account in de Cuba 2017). While in English, different types of fronting are often discussed, the distribution of speaker-oriented items like sentence adverbs or discourse particles also play a role.

The example in (10) shows a factive VCC which is supposed to be equivalent to *John regrets the fact that …* and would thus equal a factive NCC. In the analysis proposed by Haegeman (2012), the sentence adverb *probably* blocks the operator movement which would be necessary in order to derive the *that*-clause, causing an intervention effect and rendering the sentence ungrammatical.

(10)   *John regrets that Mary probably did not attend the meeting.
       (Haegeman 2012: 271, ex. 30)

While Haegeman (2012) proposes operator movement only for factive clauses, de Cuba (2017) briefly discusses the examples in (11) an (12), which also include the non-factive noun *rumour*. He compares NCCs to restrictive and non-restrictive relative clauses and notes that like restrictive relative clauses, NCCs are degraded with adverbs like *incidentally* or *by the way*.

(11)   a. The man who (*by the way) arrived yesterday (*incidentally) is tired.
       b. The man, who (by the way) arrived yesterday (incidentally), is tired.

(12)   a. John spread a rumor that Bill (*incidentally) was in town (*by the way).
       b. Jason came to the conclusion (*by the way) that Gwen ate the cupcake
          (*incidentally).
       (both examples from de Cuba 2017: 13, fn. 18)

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[1] There is a fourth relative clause analysis. Krapova & Cinque (2015) propose that NCCs of this type are non-restrictive reduced relative clauses. Since the proposal neither involves operator movement nor assumes that *that* marks the relative clause, it is not relevant for this section.

However, it is not clear at all, where the unacceptability of these examples stems from. In German, non-factive nouns clearly license not only embedded V2-clauses, as discussed in section 6 below, but also modal particles like *ja* and sentence adverbs:

(13)   der Glaube, dass man selbst ja sicherlich Recht habe …
        'the belief that one is [JA] certainly right'

In constructed examples, it is not always easy to determine a meaning and a context which is appropriate for the speaker-oriented item in question. In corpus data, we can assume that speakers use them if they see context and interpretation fit.

Müller (2021) provides examples with sentence adverbs and modal particles in NCCs. While in (14a), *Argument, dass* … 'argument that' is not factive and appears not only with the adverb *leider* 'unfortunately' but also with subjunctive mood, *Ergebnis* 'result' in (14b) and *Tatsache* 'fact' in (14c) should be factive and appear with *vermutlich* 'presumably' and *leider* 'unfortunately', respectively.[2]

(14)   a. Immer wenn irgendwas besonders Ungerechtes beschlossen wird, folge
            das Argument, dass es leider keine Alternativen gebe.
            (Mannheimer Morgen, 2009; Müller 2021: 136, 2.126d)
            ‚Every time anything particularly unjust is enacted the argument fol-
            lows that unfortunately there is no alternative.'
        b. Juristen der Uni Hannover kommen in einer Studie zu dem Ergebnis,
            dass vermutlich jährlich bis zu 10 000 Abrechnungen manipuliert sind.
            (Hannoversche Allgemeine, 2009; Müller 2021: 136, 2.126a)
            ‚In a study, legal scholars from the University of Hanover came to the
            conclusion that presumably up to 10 000 statements are falsified every
            year.'
        c. Ob es nun die nordische Zurückhaltung des Publikums war oder die
            Tatsache, dass die Barclaycard-Arena leider nicht so richtig voll gewor-
            den ist:
            (Hamburger Morgenpost, 2016; Müller 2021: 137, 2.128b)
            'Whether it was the Nordic reserve of the audience or the fact that the
            Barclaycard Arena unfortunately wasn't really full'

The same holds for modal particles in (16):

(16)   Mich stört jetzt (die Tatsache), dass ich die Lüfter ja nur lassen muss,
        um die produzierte Wärme aus dem Gehäuse abzuführen.
        ‚The fact bothers me now that I [JA] have to let the fans run for the sole
        reason of dissipating the produced warmth from the [computer's] case.'
        (Grosz 2021: 664, ex. 43)

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[2] A semantic explanation for their licensing in (14b) could be that the projection expressed by *vermutlich* is part of the result of the study, and in (14c), that evaluatives are also factive.

At first glance, this might be construed as evidence against a relative clause analysis for NCCs. However, Müller (2021) argues with examples from a wide range of different subclause types that the distribution of sentence adverbs and modal particles is not driven by syntax. For our purposes, the examples in (17) are important. They show a sentence adverb and modal particle in relative clauses which are clearly marked as restrictive by *die-/derjenige* 'the one who/that'.

(17) a. Kopfschütteln gab es jedoch von einigen Helfern für diejenigen Zeitge-
          nossen, die anscheinend kaum dazulernen und ihren Abfall nach wie
          vor in die Natur werfen"
          (Rhein-Zeitung, 2007; Müller 2021: 153, 2.163c)
          ,However, only those people received disapproval by some helpers who
          apparently hardly learn anything and continue to throw their waste into
          nature'
      b. Warum das aber gerade auf die Kritik derjenigen stößt, die ja diese Lage
          wissentlich herbeigeführt haben, ist doch recht verblüffend.
          (Plenarprotokoll, Bremen, 2008; Müller 2021: 154, 2.164c)
          ,But it is quite astonishing why this is met with criticism from exactly
          those who [JA] knowingly brought about this situation. '

In conclusion, while the data from speaker-oriented items does not speak in favour of a relative clause analysis of NCCs, it also does not provide evidence against such an account. Since we have thus ruled out this type of argument, we now proceed to different types of relative clause markers in German.

2.2   Choice of clause marker

In some languages, relative clauses and NCC are marked by the same element (at least phonologically). This has been reported for Brabant Dutch, Burmese, Serbo-Croation, Korean (Arsenijević 2009, Haegeman 2012). Most famously, English is such a language (see also Kayne 2008, 2010).

(18) a. the fact that you are sick
      b. a fact that I've known for a long time

In other languages, different markers are employed. De Cuba (2017) lists several languages from different language families, including Basque, Bulgarian, Durban Zulu, Icelandic, Finnish and Swedish. In these languages, the markers for relative clauses differ from the ones for declarative VCCs. NCCs are introduced by an element which is the same as for declarative VCCs, but different from the one for relative clauses.

   Between these two groups of languages, German generally seems to pattern with the latter. In Standard German, relative clauses are introduced by *der, die, das* or *welcher, welche, welches*, see (19), which is a direct translation of (18).

Both sets of relative pronouns agree with the head noun in gender and number and are assigned case within the relative clause.

(19)   a. die Tatsache, dass du krank bist
        b. eine Tatsache, die/welche ich schon lange kannte

Upon a closer look, English and German behave more similarly in some respects. In English, *wh*-pronouns can also be used to introduce relative clauses as in (20a). As Kayne (2008, 2010) discusses, *which* cannot introduce a NCC in English, cf. (20b), and this is what we also find for German *d*-pronouns, (20c).

(20)   a. a fact which I've known for a long time
        b. *the fact (in) which you're sick
        c. *die Tatsache, die (/in der) du krank bist

Dialectal varieties of German, however, differ in this respect and often employ uninflected particles (Fleischer 2004), which are not marked for case and gender and thus are more comparable to English *that*. Especially in southern dialects like Alemannic, Bavarian and Franconian, relative clauses can be introduced by uninflected *wo*. An additional *d*-pronoun can be realized optionally, (21). This double marking of the relative clause has been dubbed 'doubly-filled COMP' and is usually analysed with the uninflected *wo* occupying the head of CP and the pronoun occupying its specifier.

(21)   Der Hund, (der) wo   gestern   d'Katz   bissn   hod
        the dog   REL REL yesterday DET-cat bitten has
        'The dog that has bitten the cat yesterday.'
        (Bavarian, from Bayer 1984: 213ff., ex. 10a & 15)

While *dass* is used neither alone nor in combination with a *d*-pronoun to introduce a headed relative clause, dialectal data shows that *dass* does appear together with *w*-pronouns in the left periphery of two types of headless subclauses (Grewendorf & Weiß 2014), that is in interrogatives, (22), and in free relatives, (23).

(22)   I woaß ned wann daß da   Xaver kummt
        I know not when that the Xaver comes
        'I don't know when Xaver will come'
        (Bayer 1984: 212, ex. 8c)

(23)   a. [Wea dass des gsogd hod] hod koa Ahnung.
            who that this said   has   has no clue
            'Whoever has said this, has no clue.'
        b. [Wem   dass-a a Auto kafft   hod] werd-a a   a Geld gebn.
            To-whom that-he a car bought has will-he also a money give
            'To whoever he has bought a car, he will also give money.'
        (Grewendorf & Weiß 2014: 3, ex. 3)

From these data, we may draw several conclusions. First, relative clause markers in German differ from markers of VCCs and NCCs. Second, this difference is not

due to inflection or a head vs. phrasal status. However, (22) and (23) show that *dass*-clauses are not generally incompatible with operator movement and relativization. But in the data observed, the headed relative clauses are not introduced by *dass*. Despite this issue, I will discuss a more fine-grained implementation of the Kaynean proposal and its remaining problems in the next subsection.

2.3 An attempt at and further problems for a movement analysis

A generalized movement analysis for the head nouns of NCCs has to be applicable to different head nouns over different languages. At first glance, it is not clear how Kayne's (2008) analysis translates to other head nouns like *possibility*, or to other languages. In German, phrases like **in Fakt/*in Tatsache* are not possible. There are, however, adverbs like *möglicherweise* 'possibly' and *tatsächlich* 'in fact' which can be assumed to occupy adverbial positions in the clausal layer – which may also be assumed for *in fact* in English. Functional specifiers would provide almost ideal targets of relativization for a variety of head nouns. This way, a Kaynean analysis can be carried over to *possibility* as well as to German *Tatsache*. In (24a), *possible* moves out of a Cinquean (1999) modal phrase in order to combine with the nominal suffix *-ity*, leaving behind the adverbial suffix *-ly*, which then is deleted. In (24b), the noun *Tatsache* moves out of a polarity phrase[3], leaving behind a deleted adverbial suffix *-lich*. This analysis would also extend to cases where deverbal attitudinal nouns as well as correlating deverbal adverbs exist, cf. *Vermutung* 'assumption' and *vermutlich* 'assumedly' in (24c).

(24)   a. [DP the [CP [NP possible$_i$ -ity] [C' that … [ModpossP ~~possible$_i$~~ ~~-ly~~ …]]]]
   b. [DP die [CP [NP Tatsache$_i$] [C' dass … [PolP ~~tatsäch$_i$~~ ~~-lich~~ …]]]]
   c. [DP die [CP [NP Vermut$_i$ -ung] [C' dass … [Modepistemic ~~vermut$_i$~~ ~~-lich~~ …]]]]

While this would be a neat analysis for some cases, it undergenerates as well as overgenerates because it is tied to the connection between the material that is realized in the adverbial positions of the NCC and the material that is realized as head nouns for NCCs.

For example, this works for *Tatsache* in German, but not for *Fakt*, which has the same meaning: there is no **in Fakt/*faktlich/*faktischerweise*.

On the other hand, as Kayne (2008) already notes, *John is indeed ill* is possible, but **the deed that John is ill* is not. Furthermore, the analysis would suggest that *Probably, John is ill* can be relativized into *the probability that John is ill*. A probability, however is not a modal object like a possibility (p.c. Friederike Moltmann). As will be shown in section 4, *probability*+NCC involves two different entities, hence a relative clauses analysis is not suited.

It becomes clear that this type of analysis differs from the analysis proposed in Arsenijević (2009): in his analysis, the relativization target for attitudinal nouns

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[3] Krifka (to appear) and Müller (accepted) suggest that *tatsächlich* expresses VERUM.

would be uniformly the clause typing feature in Force, while in the analysis illustrated above, attitudinal head nouns may originate from different adverbial positions.

This leads to another problem, which I take to be the main problem for Arsenijević's (2009) movement analysis: the head nouns are never actually realized as specifiers of Force within a clause. If these nouns are never found in the position they are supposed to be generated, we might assume that only a force feature moves. Then, in its target position, it would be spelled out as a lexical representation of that feature. For nouns like *claim*, *question*, and *order* it might seem reasonable that they constitute lexical realizations of features like [assert], [question], [imperative], respectively. However, other nouns like *Gerücht* 'rumor', *Ausruf* 'exclamation' or *Erzählung* 'tale, narration' carry more lexical content.

Arsenijević (2009) also spells out a matching analysis, which seems more compatible. In this alternative, the head noun is not moved from outside the clause. Instead, such head nouns carry force features which match the force of the NCC. De Cuba (2017) raises the objection as whether nouns have illocutionary force at all. In my opinion, this particularly concerns attitudinal nouns like *belief* or *assumption*. It would have to be amended by a more articulate sentence structure and a richer feature inventory. The result might resemble the analysis sketched out in (24) in a matching fashion. For example, in addition to speech act features, features from a Judgement Phrase as proposed by Krifka (to appear) might match a variety of attitudinal nouns.

Finally, it is not clear how distinctive the force features carried by the head noun needs to be. As (25) shows, the German noun *Einwand* ≈ 'objection' is compatible with different sentence types (which does not work for English *objection* the same way). What characterizes an utterance as an *Einwand*, is the relation of its content to previous utterances rather than its syntactic makeup.

(25)   a. der Einwand, dass Pinguine auch Vögel seien
           'the objection that pinguins are also birds'
        b. der Einwand, ob man es nicht auch anders machen könne
           'the objection as to whether one could not do it differently'
        c. der Einwand, warum man es dann nicht getan habe
           'the objection as to why it hasn't been done then'

Even for seemingly straightforward nouns like *Frage* 'question', corpus examples can be found in which it combines with *dass*-clauses, (26).

(26)   Auf die Frage, dass Becker offenbar seinen Frauentyp geändert habe, sagt
        sie schlicht: „Tja, wo die Liebe hinfällt. So ändern sich die Zeiten."
        (Hannoversche Allgemeine, 2008, DeReKo)
        'When asked that Becker had apparently changed his type of woman, she
        simply said: "Well, that's where love falls. Times are changing."'

In summary, an analysis according to which the head noun originates within the NCC is hard to generalize for all possible head nouns and is not supported by data

from relative clause markers in German. While it is standard assumption that sub-clauses carry clause-typing features like [±wh], the matching process does not seem to be a strictly syntactical one.

In the next section, we explore the option that NCCs are close appositions.

3   Close appositions and referentiality

Many authors have suggested that NCCs are in (close) apposition to their head noun (e.g. Hawkins 1978, Stowell 1981, Fabricius-Hansen & Stechow 1989, Moltmann 2013, de Cuba 2017).[4] Typical examples of close appositions are given in (27).

(27)   a. the linguist Chomsky
       b. the colour blue
       c. the number six

Close appositions are not to be confused with 'regular', 'loose' appositions / appositives like in (28).

(28)   a. Chomsky, the linguist
       b. blue, my favourite colour
       c. six, my lucky number

Noun+NCC combinations share several properties with close appositions. First, in contrast to loose appositions, (29ab), and non-restrictive reduced relative clauses, (29c), the sortal noun must be definite, indefinite determiners and quantifiers are disallowed (Moltmann 2013), as illustrated in (30) and (31).

(29)   a. blue, a great colour
       b. the Mayers, some Germans he met on the road
       c. a child, unaware of their fate

(30)   a. * a/some/every colour blue
       b. * a/some/every physicist Curie

(31)   a. * a/some/every fact that it rained yesterday
       b. * a/some/every rumour that it rained yesterday

This property also sets them apart from restrictive relative clauses: in contrast to NCCs, restrictive relative clauses can be embedded under a quantifier like *every*, but NCCs cannot, cf. (32).[5]

(32)   a. every fact (that) I've learned
       b. every rumour (that) I've heard

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[4] Moltmann (2013) uses the term 'reifying term' but refers to the same construction.

[5] Note that the examples in (32) are acceptable, even if there is only one possible referent, i.e. one fact/rumour that the speaker has learned/heard.

Second, the definite noun can be used as a first mention in discourse, which is uncommon for definite DPs. The definite noun is odd if used as a first mention in discourse without the second noun or the NCC (Hawkins 1978, de Cuba 2017).

(33) a. # I love the linguist/number.
       b. # I'm surprised by the fact/rumour.

Third, close appositions alternate with predicational constructions like the ones observed in section 1 (Moltmann 2013).

(34) a. Blue is a colour.
       b. That blue is a colour is a fact.

Finally, the second part of a close apposition cannot be a pronoun or a demonstrative.[6]

(35) a. *the colour it/this
       b. *the linguist she/her

(36) a. *the fact/conclusion it/this
       b. *the claim/rumour it/this

The difference between a close apposition and a relative clause analysis also relates to the question which part of the construction is referential.

While Krapova & Cinque (2015) assume that the CP is referential, their analysis of NCCs as non-restrictive reduced relative clauses suggests otherwise. By definition, a non-restrictive relative clause is not needed to establish the referent of the head noun, which is often a proper name. This is in contrast to the ban of first mentions illustrated in (33).

If we assume that the NCC is not referential (cf. Keizer 2007, Moltmann 2013), then they would be similar to restrictive relative clauses in this respect, which also can only refer as a whole. However, a major difference between those and NCCs can be observed in the fact that the former are typically compatible with quantifiers, while the latter are not.

Now, if we assume that the NCC is in fact referential (e.g. Haegeman 2012, de Cuba 2017), relative clause analyses as discussed in section 2 are not applicable, since a headed relative clause can never refer on its own.

If N+NCC combinations are like the close appositions in (29), then the fact that these take proper nouns like *Chomsky* is an indication that the NCCs are referential, too. Another piece of evidence lies in predicational constructions as in (34), the first part of which is usually believed to be referential (e.g. Moro 1997, Mikkelsen 2005).

We will come back to this issue for the syntactic analysis in section 5, but first we turn to the cases that do not fit the type discussed so far.

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[6] This fact might also explain the ban of the pro-form *so* observed in Moulton (2015):
(i)   *the claim/belief so

4   Type II: Non-identity

4.1   Differences from Type I

There are two major problems for assuming that all NCCs are relative clauses or close appositions.

The main empirical argument against a complement analysis for NCCs has been observation that N+NCC often refer to only one single object, which is evidenced by the fact that they can be transformed into predicational structures, as discussed in the previous sections.

The first problem lies in the fact that this transformation cannot be applied to all cases of N+NCC. This has been observed especially for deadjectival nouns like *happiness* in (37) from Stowell (1981) and *probability* in (38) from Krapova & Cinque (2015).

(37)   a. I was surprised at Mary's happiness that Charles is leaving.
       b. *Bill's happiness is that Charles was leaving.
       (Stowell 1981: 205f. ex. 172a & 173a)

(38)   a. The probability that he arrived on time was remote.
       b. *The probability was that he arrived on time.
       c. The possibility that he wins is unrealistic.
       d. *The possibility is that he wins.
       (Krapova & Cinque 2015: 81, ex. 8ab)

As discussed in section 1, however, this test with a specificational construction can return wrong results. If we change the order and employ an indefinite noun in a predicative position, the results become clearer. The examples in (39) reveal that the subclause can describe a possibility, but not a happiness or a probability. In contrast to a possibility, a probability is not a modal or attitudinal object itself, but an ordering on a scale with is applied to a modal or another kind of abstract object.

(39)   a. *That Charles is leaving is a happiness.
       b. *That he arrived on time is a probability
       c. √That he wins is a possibility.

Stowell (1981) and Krapova & Cinque (2015) assume that these nouns form an exception because they are deadjectival. However, *possibility* is deadjectival, but falls into the Type I category. Furthermore, German *Freude*, a translation of *happiness*, is not deadjectival, but behaves similarly, as shown in (40).[7]

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[7] There is a reading of *Freude*, for which constructions like (42b) seem possible, rather translated as 'joy', but I believe this reading is different from NCC cases. It mostly applies to nouns, as in (i), and is similar to that of *Traum* 'dream'. It is obvious, that a sight is not really a dream or joy itself.

(40)   a. die Freude, dass sie gewonnen hatte
        b. *Dass sie gewonnen hatte, ist eine Freude.

Fabricius-Hansen & Stechow (1989) discuss more examples which are not deadjectival. On is German *Bewußtsein* 'awareness' (literally 'aware-being') as in (41), which has a deverbal adjective incorporated, but is derived with the copula *sein* 'be' and thus ultimately deverbal.

(41)   a. Das Bewußtsein, daß wir uns lange nicht sehen werden, bedrückt mich.
           ‚The awareness that we won't see each other for a long time depresses me.'
        b. *Daß wir uns lange nicht sehen werden, ist ein Bewußtsein, das mich bedrückt.
           'That we won't see each other for a long time is an awareness that depresses me.'
        (Fabricius-Hansen & Stechow 1989: 175, ex. 9, my translation)

According to Fabricius-Hansen & Stechow (1989), *Zweifel* 'doubt' is also one of these cases.[8]

(42)   a. Der Zweifel, ob sie zu ihrem Amte tauge, ließ sie nicht mehr los.
           ‚The doubt whether she was fit for her position would not leave her.'
        b. *Ob sie zu ihrem Amte tauge, war ein Zweifel, der sie nicht mehr los ließ.
           'Whether she was fit for her position was a doubt that would not let her go.'
        (Fabricius-Hansen & Stechow 1989: 175, ex. 10, my translation)

The second major problem is revealed by nouns like *proof* in (43) (Higgins 1973, Moulton 2009, 2015, Krapova & Cinque 2015) and also holds for the German counterpart *Beweis* as well as for *Bedingung* 'condition' in (44).

(43)   The best proof that John was not lying is that he was here last night.
        (Higgins 1973: 140, ex. 26a)

(44)   a. Dass wir nicht runterfallen, ist der Beweis, dass die Erde flach ist.
           'That we don't fall off is the proof that the earth is flat.'
        b. Dass wir Masken tragen, ist die Bedingung, dass wir uns treffen können.
           'That we wear is the condition so we can meet.'

It is clearly not plausible that both *that*-clauses refer to the same object or describe the content of the same object (cf. Kratzer 2006, Moulton 2015). They refer to

(i)   Dieser Anblick ist eine Freude/ein Traum! 'This sight is a joy/a dream!'
   [8] Arsenijević (2009) applies his relative clause analysis to *doubt*, as well. I am not completely sure about the judgement for (44b). If we were to consider this example acceptable, we might assume that there is a double-reading such that the NCC relates to a speech act about the object of doubt, which can be seen as an act of doubting.

two different things: one thing that is considered to *be* the proof, that is the thing by which something is proven, and another thing that is proven by that. Similarly, there is a probability, and then there is a modal object which *has* this probability. Different modal objects can have the same probability. I call this type 'non-identity'.

These cases do not constitute a bigger problem for semantic analyses and particular syntactic analyses of NCCs of Type I if we simply accept this as another type.

They do, however, pose a huge problem for syntactic theory if we want to assume that nouns universally do not have complements (Stowell 1981, Kayne 2008). Fabricius-Hansen & Stechow (1989) use examples like (41) and (42) as a test for syntactical status and argue that NCCs of Type I, which they call "explikativ", are adjuncts, but NCCs of Type II, which they call "implikativ", are complements, which are selected and theta-marked by the head noun.

Krapova & Cinque (2015: 95) don't offer an analysis, but "tentatively assume an adjunct status, along the lines of what has been proposed in different variants in Manzini and Savoia (2003, 2011), Arsenijević (2009), Haegeman (2010), Jenks (2014) in terms of the (headless) relativization of a propositional variable".

This cannot be right, since most of these analyses relate to Type I, and it does not address the fact that there must be two different objects involved in these cases. The relation between these two objects must still be established somehow, which would be theta-marking by the head by standard assumptions. In the following subsection I will argue that this is achieved by a (silent) preposition.

4.2 NCCs of Type II involve (silent) prepositions

Nouns that fall into this second category can appear with an overt preposition between the head noun and the NCC in German, as illustrated in (45).

(45) a. die Freude (darüber), dass du kommst
          'the happiness/joy (over the fact) that you are coming'
      b. der Zweifel (daran), ob alles gut wird
          'the doubt (about the question?) whether everything will be fine'

The fact that that the preposition can be dropped is not surprising, since it is well known in the German literature (e.g. Breindl 1989, 2013, Sternefeld 2006: 358) that in the case of verbs that embed so-called prepositional complement clauses, the preposition can be dropped as well, cf. (46).[9]

(46) a. Ich freue mich (darüber), dass du kommst.

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[9] In German, the verb *zweifeln* alternates with the verb *bezweifeln* as in (i). The German prefix *be-* turns an intransitive predicate into a transitive one. Thus, *bezweifeln* can be analysed as 'to put(/cast) doubt on something'. This is another argument that doubt is to be distinguished from its object, see fn. 8.
(i)   Er hat die Sache bezweifelt. 'He doubted the matter.'

'I'm glad (about the fact) that you are coming'
b. Ich zweifle (daran), ob alles gut wird.
'I doubt (?) that everything will be fine'

In the examples above it can be observed that the German prepositions include an incorporated correlate, namely *da-r-über* and *da-r-an*. The preposition can only be dropped together with its correlate and neither preposition nor correlate can be dropped alone, as illustrated in (47).

(47)   a. die Freude (darüber/*über/*da), dass du kommst
      b. der Zweifel (daran/*an/*da), ob alles gut wird

In English, pronominal adverbs are mostly archaic (Müller 2000) and are rarely used as correlates.[10] Since the overt realization of the PP above is optional, but hinges on an overt (pro)nominal, there are only two options in English, using an additional DP or dropping the PP altogether.

(48)   a. I am surprised *(by) that.
      b. I am surprised (by the fact / *thereby / *by / Ø) that you are coming.
      c. I am aware *(of) that.
      d. I am aware (of the fact / ??thereof / *of / Ø) that you are coming.

In (45) and (47) above, the head nouns are derived from verbs which embed the same PP. In the literature on German, these PPs are typically regarded to be complements of the verbs or depend on verb valency (cf. Breindl 1989, 2013, Sternefeld 2006: 359, Zifonun et al. 1997). If the verb selects PP complements and the derived noun appears with the same complement, we might have to concede that nouns take complements after all.

There are, however, many cases where the syntactic relationship cannot be inherited from the verb. This is the case for *Wahrscheinlichkeit*, which is derived from an adjective, (49). Verbs like *beweisen* 'to prove' and *bedingen* 'to condition' assigns accusative case in German, but unlike the verb, the derived nouns can appear with a PP, (50).

(49)   a. (*Dafür) Dass sie kommt, ist wahrscheinlich.
       'It is probable that she is coming.'
      b. die Wahrscheinlichkeit (dafür), dass …
       'probability that …'

(50)   a. Diese   Sache   beweist (*für) diese   andere Sache.
       this.NOM   thing.NOM   proves   for   this.ACC other.ACC   thing.ACC
       'This proves that'

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[10] In the Corpus of Contemporary American English, I found one example with thereof that would fit the role as incorporated correlate. It is from a Science Fiction text about Mars, which, some sentences earlier, also involves "the Queen and her loyal subjects".

(i)   I strolled to the airlock, pressed a button that alerted the residents thereof that I was coming in (COCA, Analog Science Fiction $26 Fact)

b. Der Beweis (dafür), dass …
   'the proof that …'

Finally, in verbs like *zustimmen* 'agree' already have an incorporated preposition, which assigns dative case. A correlate with dative case can appear to the left of the stranded *zu*, but not to the right, (51a). If the verb is nominalized, the preposition is still incorporated. If it is nominalized however, however, the preposition becomes inert and can no longer assign dative case. Instead, the preposition has to be reiterated as a full PP. The preposition can also be exchanged, (51b).

(51)   a. Die Chefin stimmt (dem)   zu (*dem), dass wir fertig   sind.
          the boss agrees pron.$_{DAT}$ to pron.$_{DAT}$ that we   finished are.
          ‚The boss agrees that we are finished'
       b. die Zustimmung (dazu/dafür), dass wir fertig sind
          'the approval that we are finished'

We have seen now that some predicates that don't select prepositions, especially verbs that assign case, have to employ PPs in order to combine with their previous argument when nominalized. I take this as evidence that nouns can neither assign case nor theta-mark. Thus they have indeed no unvalued features. The relation between noun and NCC has to be introduced by an overt or non-overt preposition, similarly to phrases like *the cat with the hat* or *the bird on the roof*. This means, the NCC is not an argument of the noun, but both noun and NCC are arguments of the preposition.

The categorization of our Type II, which is syntactically realized with a (silent) PP, is based on the observation that these NCCs involve a second entity. From this, we can also derive a prediction: nominalizations of verbs that select facts are always of Type II and always involve (silent) PPs.[11] This is because the verb itself cannot denote a fact, so there must be at least two entities involved: the verbal attitude and the fact. I believe this is borne out by the facts, as illustrated in (52) with *bedauern* 'to regret', the prototypical factive verb.[12]

(52)   a. Sie hat es bedauert, dass du gegangen bist.
          'The regretted the fact that you left'
       b. das Bedauern (darüber), dass du gegangen bist
          'the regret (over the fact?) that you left'

We have now discussed the possible basic semantic and syntactic relationships between noun and NCC. The syntactic implementation builds on the nouniness of German *dass*-clauses, which we address now.

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[11] Cf. Krapova (2010) for Bulgarian, who makes a similar proposal. In contrast to her analysis, however, the silent PP is not due to the factivity of the NCC, but to the NCC relating to a second entity. This is often the case for factive head nouns, but factivity is neither a sufficient condition, as in the case of *fact*, nor is it a necessary one, as in the case of *probability*.

[12] Like the verb *bezweifeln* 'doubt' in fn. 9, *bedauern* involves the transitivizing prefix *be-* and can be analysed as 'to put regret on a fact', which makes the two different semantic objects involved more transparent.

5   A nouny analysis for Type I and II

In many languages, CPs have a distribution similar to the distribution of nouns, or more precisely, DPs, in that they are believed to act as complement of verbs and saturate arguments. This is reflected in many proposals that all clauses or at least some, that is, factive clauses, relate to (hidden) nominal arguments (Fauré 2021, Kiparsky & Kiparsky 1970, Kratzer 2006, Roussou 2020, Sudhoff 2003, 2016, Zimmermann 2016).[13] From a theoretical point of view, it would be desirable to adopt a unified analysis of CPs across syntactic environments within the matrix clause.

One argument for assuming a NP or DP shell for factive complementizer clauses draws from the overt realization of the proform *it/es* as in (53). For non-factive clauses, the realization of *it/es* is odd in out-of-the-blue contexts as in (54) and usually requires a previous mention of the content of the VCC.

(53)   a. Sie bedauert (es), dass sie nicht da ist.
       b. She regrets (it) that she isn't here.

(54)   a. Sie hat (√es/#es) geglaubt, dass die Welt untergeht.
       b. Sie believed (√es/#it) that the world is ending.
       #es/it if out of the blue, *√es/it* if mentioned in previous discourse

A main argument against a DP analysis of CPs comes from examples like (48) above with *aware*: a full DP like *that* cannot take the place of the CP and the CP cannot be embedded directly under the preposition (see also Haegeman & Ürögdi 2010). The first observation hinges on the latter. The full DP is not acceptable in this position because the preposition is missing, so the crucial point is whether the predicate switches between PP and CP selection or the preposition is dropped if it combines with a CP. For German, typically the latter is assumed. This becomes evident from the fact that the bare CP cannot be moved into SpecCP, but only if embedded within a PP (see e.g. Sternefeld 357–362).[14]

(55)   a. Ich freue mich (darüber), dass du kommst.
       b. *(Darüber), dass du kommst, freue ich mich (*darüber).
       'I am glad that you are coming.'

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[13] See also the discussions in Schwabe, Frey & Meinunger (2016) and Axel-Tober (2013) for discussion and a diachronic account.

[14] I believe this also explains examples with *boast* or *complain*, as discussed in Moulton (2015). In contrast to verbs like *believe* or *expect*, the embedded CP cannot be fronted:

(i)   a. That the Giants would win, most baseball fans believed/knew/expected.
       b. *That the results were fantastic, Albert boasted/commented/complained.
       (adapted from Moulton 2015: 306, ex. 2c & 3c)

With 'pure' DPs, these verbs take prepositional arguments, as *in boasted / complained about something* (cf. also Breindl 2013: 462 for similar observations in German).

Moreover, even if we ignore the prepositional correlates in German, it isn't clear that it is completely true that prepositions do not embed CPs. There are a number of prepositions in German that do embed *dass*-clauses, as shown in (56).

(56)   a. Hannah kommt statt mir.
             'Hannah is coming instead of me.'
        b. Sie geht nach Korsika, statt dass sie zuhause geblieben wäre.
             'She goes to Corsica instead of staying home.'
        c. Alle kommen außer dir.
             'Everyone is coming except you.'
        d. Alles war blöd, außer dass du da warst.
             'Everything was stupid except that you were there.'
        e. Geht ruhig ohne mich!
             'Go ahead and go without me!'
        f. Er ging, ohne dass er bezahlt hatte.
             'He left without paying.'
        e. Wir schlafen bis Mittag.
             'We sleep until noon.'
        f. … bis dass der Tod uns scheidet.
             '… until death do us part.'

Interestingly, there is a complementary distribution between prepositions that can embed CPs and prepositions that can incorporate a correlate:

(57)   a. {statt / außer / ohne / bis} dass
        b. *da-statt / *da-r-außer / *da-r-ohne / *da-bis
        c. *{für / über / zu / an} dass
        d. da-für / da-r-über / da-zu / da-r-an

Müller (2000) assumes that prepositional adverbs result from a weak pronoun moving from the complement position to the left of the preposition. There seems to be a lexical restriction of prepositions like *ohne* against the realization as **da-r-ohne*. In German, the correlate cannot be realized overtly, if neither correlate nor CP has moved. This would explain the non-realization in the examples in (56).

(58)   Ich habe (*es), dass du gekommen bist, bedauert.

It remains to be explored why English behaves differently. One might speculate that DP shells of CPs can bear case in German, but not in English. This would be in line with the debate whether CPs can occupy subject positions (cf. Koster 1978, Delahunty 1983, Alrenga 2005). I leave this open at this point.

    If we assume that CPs are incorporated within DP shells, there are still two possibilities: Either CPs are always embedded within nouns like *fact, possibility, claim, rumor* which are the overtly realized in some case or these shells are obligatorily empty (at least in German). I will argue for the latter.

    First of all, if a CP is always analysed as e.g. *the fact/~~the fact~~ that* …, then the predicational constructions observed in section 1 become tautological.

(59)   a. #{The fact/~~the fact~~} that the earth is a tomato is a fact.
        b. #{The possibility/~~the possibility~~} that I am mistaken is a possibility.

Second, as we have shown in the previous section, the NCC is at least partly responsible the referentiality of the whole term, if not completely. Close appositions mostly embed referential or unique terms like *Sherlock Holmes*, which suggests a DP status for NCCs as well. If, for example, we assume that in *the colour blue*, *blue* has nominal status, then adjectives are excluded from close appositions, like in **die Eigenschaft stark* 'the property strong', and we end up with stronger restrictions.

Finally, it has been shown in section 2, that *dass* is not compatible with headed relative clauses in German. However, it is compatible with free relative clauses in some dialects.

Thus, I analyse *dass*-clauses as free relatives with a dummy DP shell whose ontological type can be determined by a sortal noun like fact. The analyses for NCCs of Type I and II are illustrated in (60).[15] Since English is lacking the incorporation of the pronoun, the PP is either dropped or realized with a full DP like *the fact*, thus embedding a NCC of Type I within Type II.

(60)   a. Type I: [$_{DP1}$ [$_{DP1}$ the fact] [$_{DP2}$ Ø [$_{CP}$ that …]]]
        b. Type II: [$_{DP1}$ [$_{DP1}$ der Beweis] [[$_{PP}$ da$_i$-für [$_{DP2}$ t$_i$ t$_j$]] [$_{CP}$ dass …]$_j$]]

In the remainder of this paper, we take a closer look at the peculiar case of noun-related V2-clauses and their relationship with the head noun.

6 On noun-related V2 clauses

So far, we haven't distinguished subtypes within Type I. There is ample evidence from other languages, that factive clauses are different from non-factive clauses that describe the content of a claim, for example. This evidence is drawn from main clause phenomena like fronting in English, clause typing morphemes in Korean, complementizer choice in Greek and Bulgarian (cf. e.g. Haegeman 2012, Kim 2011, Krapova 2010, Roussou 2020).

However, we have seen in section 2 that German does not distinguish between factive and non-factive clauses with respect to complementizer choice and there are no intervention effects for speaker-oriented adverbs and particles in factive clauses (see Müller 2021). There is one difference, however.

De Cuba (2017) argues that factive and non-factive VCCs differ in that the former are referential and the latter are non-referential. NCCs, on the other hand, are always referential, regardless of factivity. In his analysis non-referentiality comes with an additional cP-layer, which accounts for main clause phenomena, and which is truncated in referential clauses.

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[15] In order for the PP to be deleted, I assume the CP moves out and adjoins to the right.

However, de Cuba cites the noun-related V2 clauses in (61) and (62) as counter-evidence to his proposal: V2 is a well-known main clause phenomenon in Germanic.[16]

(61)   der Glaube, die Erde sei   flach
       the belief   the earth is.SBJ flat
       'the belief that the earth is flat'
       (Heycock 2006: 194; cited from de Cuba 2017)

(62)   Så   trekker han konklusjonen at   annet er ikke å vente.
       then draws   he conclusion-the that other is not   to expect
       'Then he draws the conclusion that nothing else is to be expected.'
       (Norwegian Bokmål; Julien 2010: 14, cited from de Cuba 2017)

This seems to be the case for a bulk of attitudinal object referring nouns like *belief* or *claim*. In contrast to Bokmål, V2 typically excludes a complementizer in German, (63).[17]

(63)   der Glaube, (*dass) die Erde sei flach

Let us first turn to the question of referentiality. In contrast to canonical complement clauses, embedded V2-clauses do not allow a correlative in the main clause (Reis 1997). The verb *glauben* can select either an accusative argument or a prepositional one. In neither case is a correlate acceptable, (64).

(64)   Er glaubte (??es/??daran), die Erde sei flach.
       'He believed the earth is flat.'

Embedded V2-clauses are highly restricted in their position. They cannot occupy the German pre-field (Reis 1997). Moreover, they cannot be left-disclocated, which typically requires resumption in the prefield with a resumptive pronoun and an integrated prosody, (65).

(65)   *Die Erde sei flach, das glaubte er.
       *'The earth is flat [that] he believed.'

Finally, V2-clauses are marked in the predicational and specificational constructions that Type I NCCs can appear in, (66).

(66)   a. ??Die Erde sei flach, ist ein Glaube, den viele haben.
          *'The earth is flat is a belief shared by many.'
       b. ??Johanns Behauptung war, die sei flach.
          *'John's claim was the earth is flat.'

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[16] Noun-related V2-clauses would also constitute counter-evidence to a Kaynean relative analysis, since they are a barrier for movement (Reis 1997).

[17] There is a reading of this example, where *flach* is extraposed and (65) actually represents a grammatical verb final structure. For counterexamples to the exclusion of complementizers from V2 structures in German see Catasso (2017).

Thus we can assume that, in contrast to complementizer clauses, embedded V2-clauses are not referential and that noun-related V2-clauses do not have the same structure as NCCs. Close appositions also include cases with quotational elements, as in *the name "Klaus"* or *the sound "mh"*. Noun-related V2-clauses seem similar in the respect that they are quotational.

Another question is what kind of head nouns V2-clauses combine with. It stands to reason that they carry an illocutionary or attitudinal force and thus relate to attitudinal and illocutionary objects.

If we combine a factive Type II noun like *Bedauern* 'regret' with a V2-clause, the noun receives a speech act interpretation and the V2-clause is not the object of an emotional state *regret*, but expresses the content of a speech act expressing regret about something.

(67) das Bedauern, man habe nicht mehr tun können
      'the regretful assertion that one couldn't have done more'

However, it is not completely clear yet, what is responsible for the compatibility of a head noun. The force criterion would suggest that attitudinal and illocutionary objects are compatible and modal or other abstract objects are not. This is true for attitudinal and illocutionary nouns like *Hoffnung* 'hope' and *Behauptung* 'claim' and it also holds for *Tatsache* 'fact'. However, V2 is also compatible with *Möglichkeit* 'possibility', which should be a modal object, and to some extent with *Fall* 'case'. The translation in (68b) would suggest that it is not the head noun *Fall* 'case', but the whole VP that denotes an attitude. This is, however, not transparent from the individual lexical parts of the German original.

(68) a. Es gibt auch die Möglichkeit, Klaus kommt / käme nach Hause
         'There's also the possibility of Klaus coming home'
      b. Nehmen wir den Fall, du gewinnst im Lotto / du würdest im Lotto ge-
         winnen.
         'Suppose you win the lottery'

I will tentatively assume that in these cases verbal mood is anaphoric to a mentally salient attitudinal object, but further research is required to resolve these open issues. For now, we summarize our findings.

Conclusion

This paper has offered a typology of noun-related complementizer clauses based on a simple semantic distinction: either noun and CP relate to one and the same entity or they relate to two different entities. Syntactically, the first case has been analysed as a close apposition instead of a complement or headed relative clause. In the second case, the relation between the two different entities is established by a PP, which is often silent. While none of these analyses is in line with Kayne's (2008) relative movement analysis, the results allow us to uphold the general idea

of Kayne, namely, that nouns do not have complements or unvalued features. The analyses are spelled out in the assumption that German *dass*-clauses are headless relatives which are encased in an empty DP shell. If we pose the question as to how nouny CPs are, then the answer is: yes.

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