Parametric Variation and Morphological Realization: A Generative Account of the Dative Case in German and English

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Abstract

This study provides a generative syntactic analysis of the dative case in German and English, two languages exhibiting stark morphological divergence. Adopting a framework combining the Minimalist Program and Distributed Morphology, the paper argues that surface differences, German's overt morphological dative versus English's dative alternation (Double Object Construction vs. Prepositional Object Construction), stem from parametric variation under shared principles of Universal Grammar. The analysis posits that the English DOC and the German dative construction share an identical abstract syntactic structure involving an Applicative Phrase (ApplP), where the Recipient receives abstract dative case via an Agree operation. The English POC, in contrast, is derived from a distinct structure with a prepositional phrase and lacks an ApplP. Cross-linguistic variation is localized modularly: differences in verb behavior (e.g., donate vs. give) are attributed to lexical specifications; the multiple functions of the German dative (Recipient, Benefactive, Possessor) are unified under different semantic "flavors" of ApplP. And the presence versus absence of overt morphological case marking is explained post-syntactically by the spell-out rules of Distributed Morphology at the PF interface. While offering a unified account of dative phenomena, the paper acknowledges theoretical limitations, including potential circularity in lexical explanations and challenges posed by second language acquisition data regarding the psychological reality of abstract Case and its morphological realization. The study concludes by suggesting directions for future research, including finer-grained syntactic modeling, psycholinguistic experimentation, and detailed investigation of parameter resetting in L2 acquisition.

Keywords

Generative syntax, Dative case, Minimalist Program, Distributed Morphology, Applicative Phrase, Parametric variation, German-English contrast, Syntax-morphology interface

Introduction

In syntactic theory, the "Case" system is one of the core mechanisms linking the lexicon, morphology, and syntax. Universal Grammar (UG) posits that all Noun Phrases (NPs) must receive "Case" to be legitimate in a syntactic derivation. The "dative case", traditionally associated with the "Recipient" argument, manifests in starkly different ways on the surface in German and English, two Germanic languages. German retains a rich morphological case system, whereas English's morphological case has largely eroded. This divergence provides a critical testing ground for the theories of the universality and abstractness of Case within Generative Grammar [1].

The German dative is an overt morphological category, realized on the determiners and adjectives of an NP.

(1) a. Ich gebe dem Mann das Buch.
I give the.DAT man the book.
'I give the man the book.'
b. Er hilft der Frau.
He helps the.DAT woman.
'He helps the woman.'
c. Sie fährt mit dem Auto.
She drives with the.DAT car.
'She is going by car.'

As shown in (1a), dem Mann (Recipient) bears explicit dative marking. Furthermore, specific verbs (1b) and prepositions (1c) also obligatorily assign dative case to their objects.

In contrast, modern English lacks a morphological dative case. Its similar semantic functions are realized via the

syntactic "Dative Alternation":

(2) a. I give the man the book (Double Object Construction, DOC).

b. I give the book to the man (Prepositional Object Construction, POC).

In (2a), the recipient the man bears no morphological marking and appears between the verb and the "Theme" the book. In (2b), the recipient is introduced by the preposition "to".

Traditional descriptive grammars or functional grammars tend to describe these differences from a functional or historical perspective [2]. However, these approaches often remain descriptive and fail to provide a unified, predictive syntactic model [3].

Generative Grammar, particularly since Government and Binding (GB) theory, proposed "Abstract Case Theory" [4]. This theory posits that all NPs (regardless of morphological inflection) must be assigned Abstract Case in the abstract syntactic structure. Under this framework, dem Mann in (1a) and the man in (2a), though different on the surface, must both receive abstract dative case at an underlying level [5]. As the theory evolved, the Minimalist Program (MP) refined "Case assignment" into an "Agree" operation, where a functional head values the syntactic features of an NP.

The position of this paper is that the differences in dative realization between German and English are the result of different parameters being set under the same principles of Universal Grammar (UG). This paper will adopt a modern generative approach combining the Minimalist Program (MP) and Distributed Morphology (DM).

This paper argues that: (1) The English dative alternation (DOC vs. POC) reflects two distinct underlying syntactic structures (with or without an Applicative Phrase, ApplP). (2) The German (1a) and English (2a) are syntactically identical at an abstract level (involving an ApplP), and their difference lies not in Syntax, but in the post-syntactic morphological "Spell-Out" at the PF(Phonological Form) component. (3) The multiple functions of the German dative (e.g., benefactive) can be unified under different "flavors" of the Applicative (Appl) head.

Theoretical analysis: The Minimalist Program and Distributed Morphology path

Theoretical overview: From "assignment" to "agree"

In classic GB theory, Case was "Assigned" by a specific head (like V, verb; P, preposition; T, tense) to an NP (noun phrase) under "Government". In the Minimalist Program (MP), this is replaced by the "Agree" operation. An NP is merged into the syntax with an unvalued case feature ([uCase]). A functional head (like T or v) carries an unvalued φ-feature (e.g., [uφ]) and a Case feature (e.g., [Nom] or [Acc]). When T (or v) (the Probe) "Agrees" with the NP (the Target), the NP's [uCase] is valued, and the T/v's [uφ] is valued, "checking" both features.

In handling ditransitive verbs (like (1a) and (2a)), the vP-Shell theory introduces the Applicative Phrase (ApplP), situated between vP and VP. The head of this phrase, Appl, is considered the functional category responsible for introducing the "Recipient" or "Beneficiary" argument and "valuing" its abstract dative case.

The core mechanism: ApplP and the syntactic unity of datives

This paper argues that the English DOC and POC are two fundamentally different syntactic structures.

(3) a. Abstract Structure of English DOC / German (1a) (ApplP Structure)

[vP I [v' v+give [ApplP the man/dem Mann [Appl' Appl [VP V tV the book/das Buch]]]]]

b. Abstract Structure of English POC (2b) (PP Structure)

[vP I [v' v+give [VP [V' V tV the book] [PP to the man]]]]

In structure (3a), an ApplP is merged. The Recipient the man/dem Mann is introduced in the Specifier of ApplP (Spec-ApplP). The light verb v (or Appl itself) acts as a Probe, establishes an Agree relation with the Recipient NP (Target), and values its [uCase] as [Dat] (Abstract Dative). Simultaneously, the verb V (which rises to v) agrees with the Theme NP the book, valuing its [uCase] as [Acc] (Accusative).

In structure (3b), there is no ApplP. The Recipient to the man is a Prepositional Phrase (PP), merged as an Adjunct to VP or as a second complement. The Case of the man is assigned by the preposition to (a Lexical Category), i.e., Prepositional Case, which is distinct from the Abstract Dative (assigned by the functional category v/Appl) in (3a).

English verb restrictions

(4) a. I donated [the book] [to the library] (POC).

b. *I donated [the library] [the book] (DOC).

The generative explanation is that this restriction stems from the Lexicon. A verb's lexical entry contains not just

its phonology and semantics, but also its "argument structure" or "subcategorization frame". The verb give has the lexical option to merge with an ApplP (yielding (3a)) or a PP (yielding (3b)). However, verbs like donate and explain have a defective lexical entry: They only permit selection of an NP (Theme) and a PP (Goal/Recipient). They lack the specific lexico-semantic feature required to activate the ApplP structure. Therefore, the derivation in (4b) is illicit from the start, as donate cannot co-occur with an ApplP [6].

The polysemy of the german dative

The German dative marks more than just "Recipients" (1a); it is widely used for "Benefactives" and "Possessors".

(5) a. Er kocht ihr einen Kaffee. (Benefactive)
He cooks her.DAT a coffee.
'He is making a coffee for her.'
b. Er wäscht ihm die Hände. (Possessive)
He washes him.DAT the hands.
'He is washing his (lit. 'to him the') hands.'

The generative ApplP model unifies these uses elegantly. Theorists propose that ApplP is not monolithic but comes in different "flavors". The "Recipient" in (1a) is introduced by a "Low Applicative", which is closely related to the V. The "Benefactive" in (5a) and "Possessor" in (5b) are introduced by a "High Applicative", located at the edge of the vP [7].

Despite the different merge positions and semantic "flavors", at the level of abstract syntax, ihr (5a) and ihm (5b) both occupy the Specifier position of an ApplP (Spec-ApplP) and, via Agree with v/Appl, receive the exact same abstract dative case ([Dat]). This perfectly explains why these semantically distinct NPs all surface with the same morphological case (dem/der/ihm/ihr).

Distributed Morphology (DM) and a critical look at the theory

A unified abstract syntax has now established: (1a), (2a), (5a), and (5b) all involve an ApplP whose Spec-NP is valued [Dat]. Why does German have dem Mann while English has the man?

Distributed Morphology (DM) provides the answer. DM posits that Syntax is entirely abstract, containing no phonological information [8]. After the syntactic derivation (Narrow Syntax) is complete, the result is sent to the PF (Phonological Form) and LF (Logical Form) interfaces. At the PF interface, the morphological component "spells out" or "inserts" phonological exponents for the abstract syntactic features (e.g., [Noun], [+Dat]).

German: When the morphological component reads [+Dat], it inserts the corresponding case exponent from its Vocabulary Items (e.g., -em).

English: When the morphological component reads [+Dat], it inserts a null exponent (∅).

Thus, the German/English difference is precisely located post-syntactically at the PF morphological spell-out [9]. This maintains the universality of UG (the abstract syntax is the same) and also explains why English learners find German case so difficult: they must acquire not only the abstract ApplP syntax (which they have in their first language) but also an entire set of PF spell-out rules that are absent in their first language (L1) [10].

However, this highly abstract theory is not without its theoretical limitations.

Circularity: How do we know donation lacks the ApplP feature? Because it disallows the DOC. Why does it disallow the DOC? Because it lacks the ApplP feature. This appeals to lexical "defectiveness" risks circularity.

The Learnability Paradox: If ApplP and Abstract Case are universal, why do second language (L2) learners still show such profound L1 influence when processing these structures? This suggests a deep disconnect between the abstract computation and its real-time processing [11].

Conclusion

Previous studies on the comparative study of the dative case in German and English have long focused on descriptive syntactic differences or functionalist explanations. While valuable, this research often failed to penetrate to the level of universal principles underlying the syntactic structures of both languages. This study, adopting a modern generative approach (Minimalist Program and Distributed Morphology), attempts to provide a more theoretically unified and current explanation for this classic contrast.

The core finding of this study is that the German morphological dative and the English "dative alternation" can be explained within a unified, modular (Syntax-Lexicon-Morphology) generative framework.

First, the English DOC (2a) and POC (2b) are two fundamentally different syntactic derivations: DOC relies on an ApplP structure, while POC involves a VP-internal PP.

Second, German (1a) and the English DOC (2a) share an identical abstract syntax (ApplP).

Third, English exceptions like donate are accounted for by the Lexicon: they lack the lexico-semantic feature to activate an ApplP.

Fourth, the polysemy of the German dative (e.g., benefactive, possessor) is unified syntactically via different "flavors" of High/Low ApplP.

Finally, the surface morphological difference is precisely located at the post-syntactic PF spell-out component (DM).

The theoretical contribution of this study is the reduction of the surface differences (rich morphology vs. fixed word order) to parametric variations in abstract UG principles, and the modular localization of these differences: (a) in the Lexicon (donate vs. give); (b) in the Syntax (ApplP vs. PP); and (c) in the Morphology (PF spell-out dem vs. ∅). This analysis not only updates the classic account but also demonstrates the power of modern generative grammar (MP and DM) in handling "messy data" and cross-linguistic variation.

This study also has limitations. As discussed in 2.5, the theory (especially the "flavors" of ApplP) risks a proliferation of functional heads, and the lexical explanation for donate borders on circularity. Furthermore, while this paper cited empirical studies from L2 acquisition, it did not demonstrate in detail how this acquisition data (e.g., L1 transfer, processing difficulties) precisely reflects the differences in abstract Case parameters versus PF spell-out rules.

Future research can be expanded in several directions. First, within syntactic theory, the ApplP model should be further refined to specify the precise mechanisms and parameters by which v, Appl, V, and P value Abstract Case in different languages. Second, more psycholinguistic experiments should be designed within the generative framework to test the psychological reality of abstract syntactic structures (e.g., the derivational differences between DOC/POC) in real-time processing. Third, future work should deeply investigate the resetting of "Case" parameters in L2 acquisition and the extent to which (processing) instruction can facilitate the learning of L2 abstract syntactic features versus their PF spell-out rules.

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Conflicts of Interest

The author declares no conflict of interest.

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