

German's Gender Gap: A Morphosyntactic Analysis
of Gender-Innovative Nouns

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Abstract

German role nouns are undergoing significant innovation with the spread of forms which do not belong to any of the established grammatical genders. To provide a morphosyntactic account for these 'gender gaps,' this thesis proposes a structure based on the Merger of two 'n' heads, allowing for an innovative set of active gender features in German. The proposed structure assumes the core components of the Minimalist Program and Distributed Morphology. To support this account, I first examine the interpretability of German role noun gender. I then survey the syntactic distribution and phonetic realization of 'gender gaps,' finding a broader distribution than previous scholarship. While a prosodic analysis of 'gender gaps' from the literature accounts for some speakers, the morphosyntactic analysis proposed here better accounts for nonbinary 'gender gap' uses. Concluding, I consider the analysis' predictions for further 'gender gap' innovations and its implications for the study of morphosyntactic gender cross-linguistically.

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1 Introductions

German role nouns are undergoing significant innovation with the spread of new forms which do not belong to any of the established grammatical genders. As these *gender gap* forms spread among German speakers, linguists have a opportunity to examine the morphosyntactic structures that allow gender innovation in a language with ternary grammatical gender. Documenting the distribution and structure of the innovative forms now may provide a window into the midst of linguistic change. Should gender innovations continue in German, an understanding of today's gender gap forms will be of great value in understanding the course of the change.

This thesis provides an account of how gender-innovative German nouns are derived in the morphosyntax of the speakers who use them. It ultimately argues that gender gap forms Merge two n heads in order to derive a previously unattested set of active gender features in a German DP.

Section 1 overviews grammatical gender in German, the status of gender in language more broadly, and the basics of the gender-innovative German nouns. Section 2 examines the interaction between grammatical and conceptual gender across a number of syntactic positions in German. Section 3 studies the interpretability of gender features on German role nouns broadly and on one feminine morpheme in particular. Section 4 outlines the distribution of gender gap forms, highlighting data showing them in a previously unattested environment. Section 5 considers the range of phonetic realizations of gender gaps. Section 6 weighs a number of accounts of gender gaps, including one existing account in the literature (Wagner 2021) and three possible morphosyntactic structures. Section 7 concludes with notes on the analysis' predictions and implications.

1.1 German Grammatical Gender

German has a ternary grammatical gender system, distinguishing between noun classes (or grammatical genders) traditionally labeled as masculine, feminine, and neuter. As with related noun class systems, German's noun classes are largely arbitrary with regard to semantic features but do associate with the conceptual gender categories of masculine and feminine in many animate nouns (Corbett 1991, 84). Table (1) shows some common examples of this alignment between animate nouns' grammatical and conceptual genders. Nouns are given in the nominative singular with definite articles to make their grammatical gender differences morphologically visible.

(1)

<i>German nominal</i>	<i>English translation</i>	<i>Grammatical gender</i>
die Frau	'the woman'	feminine
der Mann	'the man'	masculine
die Henne	'the hen'	feminine
der Hahn	'the rooster'	masculine

Grammatical gender affects obligatory agreement relationships between the noun and other elements in the determiner phrase (DP), including attributive adjectives and the determiner itself. Beyond the DP to which the noun belongs, agreement relationships are also formed with relative and personal pronouns. Morphological interactions with other ϕ -features,¹ specifically number and case, collapse some gender agreement distinctions.² Masculine and neuter agreement morphology is identical in the singular dative and genitive cases, and all gender agreement morphology differences are collapsed in the plural, regardless of case.

¹Person, number, gender, case: ϕ -features are important in the morphosyntax and often interact with one another in the morphology. German has three persons (first, second, third), two numbers (singular, plural), and four cases (nominative, accusative, dative, genitive).

²Morphological gender distinctions also collapse in the first and second persons. This thesis focuses exclusively on the third person, in which morphological gender distinctions exist.

Role nouns describe social roles and categories humans belong to. In German, they often have morphologically distinct masculine and feminine forms. These forms' grammatical genders align with the semantic gender of the set of their possible referents, except in generic uses.³ A crucial consequence of this alignment between the grammatical and semantic gender of role nouns is that the set of plural nouns' referents may be semantically interpreted to exclude people belonging to other gender categories. Consider the plural masculine and feminine forms in (2).

- (2) a. Künst-ler
 art-AGNZ.M\PL
 '(male) artists'
- b. Künst-ler-in-nen
 art-AGNZ-F-PL
 '(female) artists'

Using either (2a) or (2b) alone could restrict the interpreted set of referents to a single masculine or feminine semantic gender. German speakers make use of these semantic restrictions, as will be discussed in Section 3.2. Where referents of multiple social genders are intended, however, a masculine or feminine form as in (2a-b) leaves ambiguity. More specifically, (2a) could either be interpreted as referring to the set of all artists (regardless of gender) or the set of all male artists. Similarly, as shown in Section 3.2, feminine forms like (2b) can sometimes be interpreted as referring to people of all genders instead of only female referents.

To unambiguously refer to a group of multiple genders (but still only including women and men), speakers may use an expression like (3), coordinating the masculine and feminine role noun forms.

³See Section 3.

- (3) Künst-ler-in-nen und Künst-ler
art-AGNZ-F-PL and art-AGNZ.M\PL
'(female and male) artists'

Utterances like (3) allow speakers to achieve both syntactic and pragmatic ends. Syntactically, (3) avoids the ambiguity of whether a single form's grammatical gender contributes to the utterance's meaning; pragmatically, (3) avoids negative social connotations that speakers may associate or expect their interlocutor(s) to associate with generic masculine constructions. Yet if the grammatical and semantic gender of nouns in coordinations like (3) are aligned (as the use of multiple noun forms suggests), then coordinations may not accomplish a speaker's goal of including nonbinary or other referents beyond the two indicated social gender categories. In Sections 4.1 and 6.2, I show that innovative role noun forms allow for the explicit inclusion of nonbinary referents.

1.2 Syntactic Background & Gender in Language

Along with German's specific grammatical gender system, parts of the broader literature on gender in linguistics will be essential for analyzing the innovative German data presented later in this thesis. This section elucidates two key distinctions: grammatical vs. conceptual gender and interpretable vs. uninterpretable gender.

Ackerman (2019) investigates how gender ϕ -features are evaluated for coreference. They begin by establishing a more layered and nuanced conception of gender that includes multiple social levels. *Grammatical gender* is the strict features in the morpho-syntax. *Conceptual gender* is the understanding of gender at a categorical level, dividing individuals into a number of genders. *Biosocial gender*, meanwhile, includes specific instantiations of gender through gender roles, gender expression, and gender identity (Ackerman 2019, 3). Under her analysis, all three types of gender interact — in some

languages more actively than in others. Section 2 shows that in German, grammatical and conceptual gender can both influence the features of personal pronouns.

Grammatical gender in Minimalist Program syntax can further be *interpretable* or *uninterpretable*, following Chomsky (2000). Interpretable features contribute to the semantics of an utterance by interacting at the CI interface, while uninterpretable features do not. Uninterpretable features may enter a derivation unvalued and enter into Agreement with valued features (Conrod 2021). Role nouns' interpretability affects the set of their potential referents. Interpretable gender restricts the set of possible referents to those belonging to an equivalent conceptual gender. Uninterpretable role nouns still form Agreement relations, but their set of possible referents is not constrained to a single conceptual gender.

1.3 'Gender Gap' Forms

Beginning in the 1980s, feminist language critics proposed and advanced alternatives to many gendered constructions in German (Acke 2019, 306). Some proposals sought to substitute nouns with interpretable gender features for others with uninterpretable gender features. Other critics used new orthographic conventions to combine masculine and feminine role noun forms. Earlier proposals were binary in their goals (seeking the inclusion of women but not necessarily people of all genders) and included simply writing both forms as in (3). Later orthographic conventions proposed in the 2000s functioned identically in combining masculine and feminine forms in writing, but chose different nonalphabetical characters (e.g., ‘*’ or ‘_’, see (4) below) that are meant to question a binary concept of sex/gender (Acke 2019, 307). Terms for these orthographic conventions are often specific to the nonalphabetical character used (Acke 2019, 307). In this thesis, following Wagner (2021), the term *gender gap* is used for all these related forms regardless of the specific character they use. Today, a variety of orthographic

gender gap forms are in use, as seen in (4).

- (4) Orthographic forms
- a. Künstler:innen
 - b. Künstler*innen
 - c. Künstler_innen
 - d. Künstler/innen
 - e. KünstlerInnen

For (4a), see Deutsche Wohnen & Co Enteignen (2021b). For (4b-e), see Acke (2019, 307). The orthographic method in (4a) will be used hereafter to avoid confusion with technical uses of other characters (e.g., marking unacceptability with an asterisk). In this thesis, colons in glosses are exclusively part of the German orthography and are not used to represent any formal elements of the gloss.

As data in Sections 4–6 will show, gender gap forms have crossed over from orthographic convention to a spoken form of German role nouns. Today, spoken gender gap forms are used in speeches on the floor of the German parliament (Emmerich & Arndt 2021) and in daily news podcasts from public broadcasters (e.g., Habermalz 2021). With the inclusion of gender gap forms, German includes three distinct forms for role nouns with interpretable grammatical gender. These are shown in table (5) along with a broad transcription of their phonetic realization.

(5)

<i>Orthographic form</i>	<i>Phonetic realization</i>	<i>Grammatical gender</i>
Künstler	[kʏnstlɐ]	masculine
Künstlerinnen	[kʏnstlɛʁɪnən]	feminine
Künstler:innen	[kʏnstlɛʔɪnən] ⁴	unspecified

Table (5) shows that gender gap forms are distinct from their masculine and feminine counterparts not only orthographically but also phonetically. As the data throughout this thesis shows, the paradigm in (5) is now quite productive on German role nouns.

⁴Previous work, including Wagner (2021) and Kruppa, Fenn & Ferstl (2021, 1), claims a glottal stop in gender gap forms. See Section 5 for further discussion.

While orthographic forms already form a rich area of sociolinguistic research (Acke 2019, 306–308), gender gaps’ entry into the spoken language places new demands on morphosyntactic analyses of German to account for new data that falls outside of the masculine, feminine, and neuter grammatical gender system.

2 German Gender Agreement Hierarchy

Any complete morphosyntactic analysis of German gender gap forms requires an understanding of the broader gender system into which they have entered. In addition to the basics of German grammatical gender discussed in Section 1.1 then, Sections 2 and 3 explore two key complexities to the valuation and interpretation of grammatical gender in German. This section demonstrates how the resolution of differences between grammatical and conceptual gender varies across syntactic positions.

Apparent conflicts between syntactic and semantic ϕ -features have been noted in the literature since at least the late 1970s (Corbett 1979) and continue today (Sigurðsson 2019). The distinction between syntactic and semantic feature values is equivalent to the distinction between grammatical and conceptual gender used throughout this thesis. G. G. Corbett (1979) proposes a cross-linguistic hierarchy to describe the distribution of syntactic and semantic feature agreement. Syntactic agreement involves only the ϕ -features within the syntactic structure (e.g., *pants* is syntactically plural). Semantic agreement involves the conceptual/semantic value of a feature (e.g., *pants* is semantically singular when referring to a single pair).

Corbett’s proposed hierarchy contains four positions.

“attributive — predicate — relative pronoun — personal pronoun.
The possibility of syntactic agreement decreases monotonically from left to right. The further left an element on the hierarchy, the more likely syntactic agreement is to occur, the further right, the more likely semantic agreement.” (204)

According to Corbett, if a language allows semantic agreement in a given position along the hierarchy, it will allow semantic agreement in all positions to the right as well (1979, 206).

In German, the association between syntactic/grammatical and semantic/conceptual gender is far from absolute. A straightforward example cited in Corbett (1979) is the German word for ‘girl’. *Mädchen*, ‘girl’, is conceptually feminine but grammatically neuter (205). As (6) and (6b) show, agreement with the syntactic gender is required in all syntactic positions but the personal pronoun, where agreement with either syntactic or semantic gender is acceptable. In the glosses below, the feminine or neuter gender of the boldfaced words is crucial to the sentences’ acceptability. Also note that in (6), the boldfaced words to the left are determiners, while those to the right are relative pronouns.⁵

- (6) a. [**Das** *Mädchen*]_i, **das**_i *ich*
the.N.SG.NOM girl[N.SG.NOM] RELZ.N.SG.ACC 1SG.NOM
ge-seh-en *hab-e*
PTCP.PRF-see-CIRC AUX.PRF-PRS.1SG
‘The girl that I saw.’
- b. [**Das** *Mädchen*]_i, ***die**_i *ich*
the.N.SG.NOM girl[N.SG.NOM] RELZ.F.SG.ACC 1SG.NOM
ge-seh-en *hab-e*
PTCP.PRF-see-CIRC AUX.PRF-PRS.1SG
‘The girl that I saw.’
- c. [***Die** *Mädchen*]_i, **das**_i *ich*
the.F.SG.NOM girl[N.SG.NOM] RELZ.N.SG.ACC 1SG.NOM
ge-seh-en *hab-e*
PTCP.PRF-see-CIRC AUX.PRF-PRS.1SG
‘The girl that I saw.’

⁵(6) & (6b) adapted from Corbett (1979, 205).

- d. */**Die** Mädchen]_i, **die**_i ich
 the.F.SG.NOM girl[N.SG.NOM] RELZ.F.SG.ACC 1SG.NOM
 ge-seh-en hab-e
 PTCP.PRF-see-CIRC AUX.PRF-PRS.1SG
 ‘The girl that I saw.’

In (6a), agreement that matches the noun’s grammatical gender is required on its determiner and a coindexed relative pronoun. In (6b) however, semantic agreement in the attributive position is unacceptable. Semantic agreement is also unacceptable further right in Corbett (1979)’s hierarchy, as (6c) shows that semantic agreement is unacceptable on a relative pronoun. In (6d), meanwhile, acceptability is not improved by semantic agreement in both the attributive and relative positions.

The same is not found in (7).

- (7) a. [*Das* Mädchen]_i sag-t, dass **es**_i
 the.N.SG.NOM girl[N.SG.NOM] say-PRS.3SG that[COMP] 3.N.SG.NOM
 bei=m Unterricht ge-wesen sei
 by=the.M.SG.DAT lesson[M.SG.DAT] PTCP.PRF-be AUX.PRF.PRS.3SG
 ‘The girl says that she was in class.’
- b. [*Das* Mädchen]_i sag-t, dass **sie**_i
 the.N.SG.NOM girl[N.SG.NOM] say-PRS.3SG that[COMP] 3.F.SG.NOM
 bei=m Unterricht ge-wesen sei
 by=the.M.SG.DAT lesson[M.SG.DAT] PTCP.PRF-be AUX.PRF.PRS.3SG
 ‘The girl says that she was in class.’
- c. */**Die** Mädchen]_i sag-t, dass **es**_i ...
 the.F.SG.NOM girl[N.SG.NOM] say-PRS.3SG that[COMP] 3.N.SG.NOM ...
 ‘The girl says that she ...’
- d. */**Die** Mädchen]_i sag-t, dass **sie**_i ...
 the.F.SG.NOM girl[N.SG.NOM] say-PRS.3SG that[COMP] 3.F.SG.NOM ...
 ‘The girl says that she ...’

Both (7a) and (7b) are acceptable. In (7a), the coindexed personal pronoun *es*, ‘it’, which is grammatically neuter, syntactically agrees with its antecedent *das Mädchen*,

‘the girl’. Meanwhile, in (7b), the coindexed personal pronoun *sie*, ‘she’, which is grammatically feminine, semantically agrees with its referent. In (7c–d), we see that feminine agreement in the attributive position (here, the determiner) remains unacceptable even when co-occurring with a coindexed feminine personal pronoun.

Using Corbett (1979)’s hierarchy, then, German permits assignment of a referent’s conceptual gender rather than an antecedent’s grammatical gender on some personal pronouns. However, German does not allow conceptual gender agreement in attributive positions closer to the noun. Only syntactic agreement is acceptable in these positions. Moving beyond Corbett (1979)’s hierarchy, however, Section 3 shows complications on some German nouns themselves.

3 Interpretability of German Gender Features

This section examines the interpretability of German gender features in role nouns. Section 3.1 introduces empirical research on the interpretation of gendered role nouns and outlines German role noun types that lack interpretable gender features. Section 3.2 presents a case study of German gender features’ discursive and pragmatic sensitivity to interpretation.

3.1 Interpretability of Role Nouns’ Gender Features

Gygax et al. (2008) use an experimental research design to investigate whether the generic use of masculine plural forms of role nouns “results in a gender-neutral or male-biased representation” (465) in speakers. Their experiment investigates the influence of grammatical and/or stereotypical gender information on the gender representation of plural role nouns. French and German, which both distinguish between feminine and (allegedly generic) masculine plural forms of role nouns, are the objects of Gygax et

al.’s research. English, meanwhile, is used as a quasi-control in the experiment, as Gygax et al. assume that English plural forms encode no grammatical gender information and thus isolate the effects of gender role stereotypes on the gender representation of the plural role nouns.

Equivalent sentence pairs were constructed in English, French, and German. The first sentence in each pair contained a role noun in the generic masculine plural (for French and German), and the second sentence referred to some of that role noun’s referents as specifically men or women. Participants were asked “whether the second sentence was a *sensible continuation of the first one*,” and their timed responses were recorded (Gygax et al. 2008, 471 & 475). The study shows a strong male bias in the representation of the generic masculine plurals, even when stereotypical gender information contradicts grammatical gender. Gygax et al. also show that the German generic masculine produces stronger male-bias than that found in French. Still, the English quasi-control limits the certainty of Gygax et al.’s conclusions about the distinction between grammatical and stereotypical effects.

For the syntax of German gender gap forms, this study provides essential information about the representation of masculine plural forms. Gygax et al. show that the gender feature associated with the masculine plural is interpreted socially to at least some extent. Therefore, use of a gender gap form may be socially motivated by the desire to avoid the conceptually masculine interpretation of grammatically masculine role nouns.

While Gygax et al.’s research indicates that the grammatical gender of role nouns with masculine and feminine forms is often semantically interpreted, some German role nouns have grammatical gender features that are consistently uninterpretable. As seen in Section 2, *Mädchen*, ‘girl’, is grammatically neuter despite taking conceptually feminine referents. *Kind*, ‘child’, similarly has neuter grammatical gender. It can

refer to people of any conceptual gender, showing that its grammatical gender feature is also uninterpretable. Grammatically neuter role nouns are not the only ones to have consistently uninterpretable gender features. *Fachkraft*, ‘professional’, for example, is a grammatically feminine noun that nonetheless takes referents belonging to any conceptual gender category. Unlike role nouns whose gender features can be interpretable (e.g., *Künstler*, ‘artist’), *Fachkraft* has no equivalent forms for other grammatical genders.

Complex relationships exist between grammatical and conceptual gender categories in German. Gygax et al. (2008) show that speakers interpret generic masculine role nouns with bias toward masculine conceptual gender. Other German role nouns eschew any formal interpretability. Section 3.2 next shows that even the gender interpretability of role nouns with equivalent masculine and feminine forms is far from simple.

3.2 Interpretability of Gender-Changing Morphology

The 2021 federal parliamentary elections in Germany created a convenient case study for the (un)interpretability of some German gender-changing morphology. German includes a suffix *-in* that marks a role noun as feminine. Depending on how the morphology of masculine role nouns is analyzed,⁶ the suffix *-in* either derives a specifically feminine form from a generic masculine one or forms the feminine counterpart to a masculine form. Either way, nouns with *-in* are generally thought of as both grammatically and conceptually feminine — they would not be used generically except in rare cases as a political act. Yet forms with *-in* nonetheless have gender-generic semantics in certain cases, as shown by recent media coverage of Annalena Baerbock. Her nomination as the

⁶The key question here is whether masculine features are inherent to the suffix *-er* used to form many role nouns, or whether they are added in a separate, silent morpheme. I assume the former in this thesis, as it requires a simpler Numeration and as role nouns ending with the agentive nominalizer *-er* are invariably masculine.

German Green Party’s candidate for chancellor in the 2021 federal elections presents a fruitful case study for the following reasons: (1) the only contenders for the Greens’ nomination were one woman (Baerbock) and one man (Robert Habeck, co-chairperson of the Greens along with Baerbock); (2) Baerbock is not only the first woman but simply the first person the Greens have nominated as a candidate for federal chancellor; (3) the other two parties that nominated candidates for chancellor in the 2021 election both nominated men, so there is a mixed-gender cohort of candidates.

The generic use, or rather, the uninterpretability of the feminine suffix *-in* seen in the sentences about Baerbock below is interesting for two reasons. First, feminine forms take explicit additional morphology whereas masculine forms generally do not take explicit gender morphology other than the *-er* suffix that also functions as an agentive nominalizer. Second, there is no prescriptive history and pressure driving the generic use of feminine-marked forms. It should first be noted, however, that nouns with *-in* can have their gender features interpreted, as in (8).

- (8) *Angela Merkel ist die erst-e*
 Angela Merkel is the.F.SG.NOM first-F.SG.NOM
Kanzler-kandidat-in
 chancellor-candidate-F.SG.NOM

‘Angela Merkel is the first female candidate for chancellor.’⁷

This headline from *Die Welt* demonstrates a clearly interpreted feminine gender feature on the DP *die erste Kanzlerkandidatin*, ‘the first female candidate for chancellor’. Angela Merkel was certainly not the first candidate for chancellor in Germany, but she was the first female candidate for chancellor. The feminine gender feature must be interpretable to contribute to the meaning of the sentence at the CI interface.

While (8) shows that the gender feature of *-in* can be semantically interpreted, it is ambiguous in other cases whether a gender feature is interpretable, as seen in (9).

⁷A. G. (2005)

- (9) *Annalena Baerbock ist seit vor-gestern die erst-e*
 Annalena Baerbock is since before-yesterday the.F.SG.NOM first-F.SG.NOM
Kanzler-kandidat-in *der Grün-en*
 chancellor-candidate-F.SG.NOM the.PL.GEN green-PL.GEN
 ‘As of two days ago, Annalena Baerbock is the Greens’ first (female) candidate
 for chancellor.’⁸

As in (8), all words in the boldface DP are grammatically feminine. As Baerbock is the first candidate from the Greens of any gender, the sentence is true regardless of whether the feminine gender feature is interpreted. In other words, since Baerbock is both the Greens’ first candidate and the Greens’ first female candidate, the interpretability of the feminine feature in *die erste Kanzlerkandidatin*, ‘the first (female) candidate for chancellor’ is unclear.

German not only allows ambiguity in the interpretability of the feminine *-in* suffix — it also allows cases in which the feminine gender feature must be left uninterpreted for the sentence to be semantically acceptable. An example is shown in (10).

- (10) *Nach Scholz von der SPD*
 after Scholz from the.F.SG.DAT German.Social.Democratic.Party[F.SG.DAT]
ist Baerbock die zwei-t-e
 is Baerbock the.F.SG.NOM two-ORD-F.SG.NOM
nomin-ier-t-e ***Kanzler-kandidat-in*** *für*
 nominate-VBZ-PRF.PTCP-F.SG.NOM chancellor-candidate-F.SG.NOM for
die Wahl i=m September
 the.F.SG.ACC election[F.SG.ACC] in=the.M.SG.DAT September[M.SG.DAT]
 ‘Following Scholz from the SPD, Baerbock is the second nominated candidate
 for chancellor for the election in September.’⁹

Similarly to (8) and (9), the boldface DP in (10) is grammatically feminine. Since Scholz is a man (i.e., conceptually masculine), and Baerbock is more generally the only female (i.e., conceptually feminine) candidate for chancellor in the election, the only

⁸Rosales & Scherkamp (2021)

⁹Steffen (2021)

way to parse Baerbock as the ‘second’ candidate is if the feminine suffix *-in* is left uninterpreted and the grammatically feminine form is understood generically.

This phenomenon of uninterpretable gender on role nouns with gender-changing morphology is not limited to (10). A similar example is given in (11).

- (11) *Auch deshalb ist sie es, die nun*
 also therefore is 3.F.SG.NOM 3.N.SG.NOM RELZ.F.SG.NOM now
Kanzler-kandidat-in *der Grün-en wird*
 chancellor-candidate-F.SG.NOM the.PL.GEN green-PL.GEN become.PRS.3SG
und nicht ihr Co-Chef Robert Habeck
 and not POSS.3.F.SG>M.SG.NOM co-leader[M.SG.NOM] Robert Habeck
 ‘That’s also why she’s the Greens’ candidate for chancellor and not her co-leader
 Robert Habeck.’¹⁰

In (11), the personal pronoun *sie*, ‘she’ (referring to Annalena Baerbock), and the role noun *Kanzlerkandidatin*, ‘candidate for chancellor’, are both grammatically feminine. The latter, however, must have uninterpretable grammatical gender for Robert Habeck to be a potential referent.

German therefore exhibits both interpretable and uninterpretable gender features even within the distribution of a single gender-marking morpheme. In addition to the choice of semantic agreement on personal pronouns in the agreement hierarchy, then, German also allows morphologically marked grammatical gender features to be left uninterpreted in favor of a gender-generic semantic interpretation. More significantly, this conclusion runs counter to some previous work on role noun gender. Both Gygax et al. (2008, 465) and Kučerová (2018, 828) write that feminine forms refer to women only, while masculine forms may refer only to men or be used generically. The data on uninterpretable uses of *-in* in this section also conflict with the range of acceptable data in Luke James Adamson’s observations of subject/predicate agreement in German (2022, 4-5), although I make no claims about acceptability in the other three environ-

¹⁰Berbermeier (2021)

ments Adamson examines.

In German, the situation is more complex. The data in this section have shown that the interpretability of German role nouns' gender features is closely related to discursive context. The key discursive context seen here is one in which a specific female referent is an individual in a discursively relevant mixed-gender set of referents. In this context, the feminine form is interpreted generically despite being more morphologically marked than the masculine.

4 Distribution of 'Gender Gap' Forms

This section returns to gender gap forms, outlining the interactions that their as-yet undetermined gender features have with other ϕ -features. Section 4.1 demonstrates the limits of acceptability in the singular while attesting for gender gaps in at least one singular environment. Section 4.2 shows that gender gap forms are acceptable in all plural German case environments.

4.1 Number Interactions

One of the most notable aspects of spoken gender gaps' distribution is their apparent acceptability contrast between singular and plural DPs. Michael Wagner (2021) provides examples of this difference. Consider (12) below.

- (12) *Die Antrag-stell-er-:in-nen könn-en jeweils*
the.PL.NOM application-submit-AGNZ-U-PL.NOM can-PRS.3PL respectively
nur ein-en Antrag stell-en
only one-M.SG.ACC application[M.SG.ACC] submit-INF
'Each applicant can only submit one application.'¹¹

¹¹Adapted from Wagner (2021).

The plural gender gap form *Antragsteller:innen*, ‘applicants’, is acceptable in (12). The determiner *die*, ‘the’, is crucial in (12), as plural determiners do not morphologically show gender distinctions. *Die*, ‘the’, is the only nominative plural definite article. As such, it is used in DPs with masculine, feminine, and neuter nouns. Wagner’s data indicates that *die* can also occur with plural gender gap forms. Contrast the relationship between the determiner and noun in (12) with (13), in which the subject DP is singular rather than plural.

- (13) **Der/*Die/*Das Antrag-stell-er:-in* *kann*
 the.SG.M/F/N.NOM application-submit-AGNZ-U.SG.NOM can.PRS.3SG
jeweils nur ein-en Antrag stell-en
 respectively only one-M.SG.ACC application[M.SG.ACC] submit-INF
 ‘Each applicant can only submit one application.’¹²

The singular gender gap form *Antragsteller:in*, ‘applicant’ is unacceptable in (13). In the nominative singular, three distinct definite article forms exist: one for each of German’s grammatical genders. Along with the plural form, these are given in table (14). Note that the plural and feminine singular forms are syncretic. Further syncretisms emerge in other cases, but the specifics are not important here. The relevant fact is that the singular forms are never syncretic across all three genders in a given case.

(14)

<i>Nominative definite articles</i>	
der	the.SG.M.NOM
die	the.SG.F.NOM
das	the.SG.N.NOM
die	the.PL.NOM

Sentence (13) shows that none of the singular definite articles (marked for each of three existing grammatical genders) are acceptable as the determiners of a DP with a singular

¹²Adapted from Wagner (2021).

gender gap. The unacceptability of gender gaps in singular DPs as in (13) suggests that none of the singular definite articles in (14) properly represent the gender features of the gender gap noun.

No overt determiner in (13) is acceptable with a singular gender gap form. However, some speakers allow for singular gender gap forms if no other overt elements in the DP require Agreement with the noun’s gender. Consider the data in (15), which comes from a virtual panel discussion. In introducing one of the panel members, the moderator says the following.

- (15) *Hengameh Yaghoobifarah ist seit 2014* [_{DP} ***Redak-teur-:in***
 Hengameh Yaghoobifarah is since 2014 editing-AGNZ-U.SG.NOM
des Missy Magazine]
 the.N.SG.GEN Missy Magazine

‘Hengameh Yaghoobifarah has been an editor at *Missy Magazine* since 2014.’¹³

No overt determiners or attributive adjectives require Agreement with the gender gap form *Redakteur:in*, ‘editor,’ in (15). Other overt elements, in this case the genitive DP *des Missy Magazine*, ‘of *Missy Magazine*,’ are acceptable. Notably, the gender gap has a specific referent: the nonbinary editor Hengameh Yaghoobifarah. The use of *Redakteur:in* serves the pragmatic end of not misgendering the panel member with either the masculine form *Redakteur* or the feminine form *Redakteurin*. Further research is needed to determine whether and how more generic uses of singular gender gaps arise. In at least a limited range of syntactic and pragmatic environments, however, gender gap forms do occur in the singular.

4.2 Case Interactions

In contrast to their distribution in both grammatical numbers, gender gaps are widely acceptable in all four cases in German. Another example of a gender gap in the

¹³Gottschalk (2021, 0:03:18–0:03:25)

nominative is given in (16).

- (16) *Die Minister-präsident-:in-nen sind das*
 the.PL.NOM minister-president-U-PL.NOM be.PRS.3PL the.N.SG.NOM
ein-e Thema aber wie würd-est
 one-N.SG.NOM topic[N.SG.NOM] but how AUX.FUT\SBJV-2SG.FAM
du als Kanz-ler jetzt da-mit um-geh-en
 2SG.FAM.NOM as chancellor-AGNZ.M.SG.NOM now there-with around-go-INF
 ‘The governors are one thing, but how would you handle that now as chan-
 cellor?’¹⁴

As in (12), (16) includes the gender-generic plural determiner *die* in the same DP as the gender gap form *Ministerpräsident:innen*, ‘governors’. Other parts of this sentence are unremarkable in German, although we may note the use of the masculine role noun *Kanzler*, ‘chancellor’, which matches the conceptual and biosocial gender of the referent (Robert Habeck, a male candidate for Chancellor of Germany).

Sentence (17) shows the acceptability of a spoken gender gap form in the accusative case.

- (17) *Aber nicht nur für Musik-wissenschaft-ler-:in-nen ist die*
 but not just for music-scholarship-AGNZ-U-PL.ACC is the.F.SG.NOM
Staats-bibliothek so etwas wie ein Tempel
 state-library[F.SG.NOM] such something like a.M.SG.NOM temple[M.SG.NOM]
 ‘But it’s not just for musicologists that the state library is something like a
 temple.’¹⁵

In (17), the preposition *für*, ‘for’, assigns its DP complement inherent accusative case. While the form of *Musikwissenschaftler:innen*, ‘musicologists’, in (17) is morphologically identical to its nominative form, this is not remarkable for German nouns. Feminine and many masculine plural nouns follow the same pattern.

¹⁴Jung (2021, 6:43–6:49)

¹⁵Habermalz (2021, 0:38–0:44)

Sentence (18) shows the acceptability of a spoken gender gap form in the more morphologically complex dative case.

- (18) *Denn das Tübing-er Modell ist*
 because the.N.SG.NOM Tübingen-ADJZ model[N.SG.NOM] AUX.PRF.PRS.3SG
ja eben von Wissenschaft-ler-:in-nen begleitet
 MP MP from scholarship-AGNZ-U-PL.DAT accompany-PTCP.PRF
worden
 AUX.PASS.PTCP.PRF
 ‘For the Tübingen model has been monitored by scientists.’¹⁶

Similarly to (17), the preposition *von*, ‘from’, in (18) assigns its DP complement inherent dative case. Once again, the form of *Wissenschaftler:innen*, ‘scientists’, in (18) is morphologically identical to its accusative and nominative forms. This differs from the masculine form’s morphology, which, as shown in table (19), differs in the dative case.

<i>Masculine forms of ‘scientists’ by case</i>	
Wissenschaft-ler	scholarship-AGNZ.M.PL.NOM
Wissenschaft-ler	scholarship-AGNZ.M.PL.ACC
Wissenschaft-ler-n	scholarship-AGNZ.M-PL.DAT
Wissenschaft-ler	scholarship-AGNZ.M.PL.GEN

Finally, sentence (20) shows that gender gaps are acceptable in genitive DPs.

- (20) *Die Stadt wirk-t wie das*
 the.F.SG.NOM city[F.SG.NOM] function-PRF.3SG like the.N.SG.NOM
Hoheits-gebiet der Invest-or-:in-nen
 sovereignty-area[n.sg.gen] the.PL.GEN invest-AGNZ-U-PL.GEN
 ‘The city acts as the sovereign territory of investors.’¹⁷

Sentences (16–18, 20) collectively show that gender gaps are acceptable in all case environments. Gender gaps are thus distributed in plural, third person DPs of any case, and appear in some limited singular DP environments.

¹⁶Meschkat (2021, 17:36–17:40)

¹⁷Mertz (2021, 21:27–21:31)

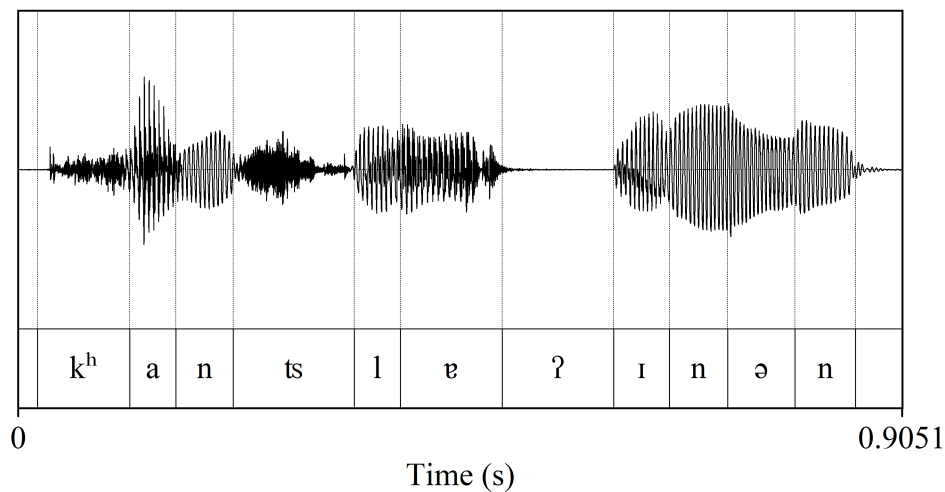
5 Realization of ‘Gender Gap’ Forms

With the broad distribution of gender gap forms established in Section 4, this section provides data on the range of gender gaps’ phonetic variation. Section 5.1 demonstrates the range of realizations within the “standard” claimed in the existing literature, while Section 5.2 shows exceptions to this standard.

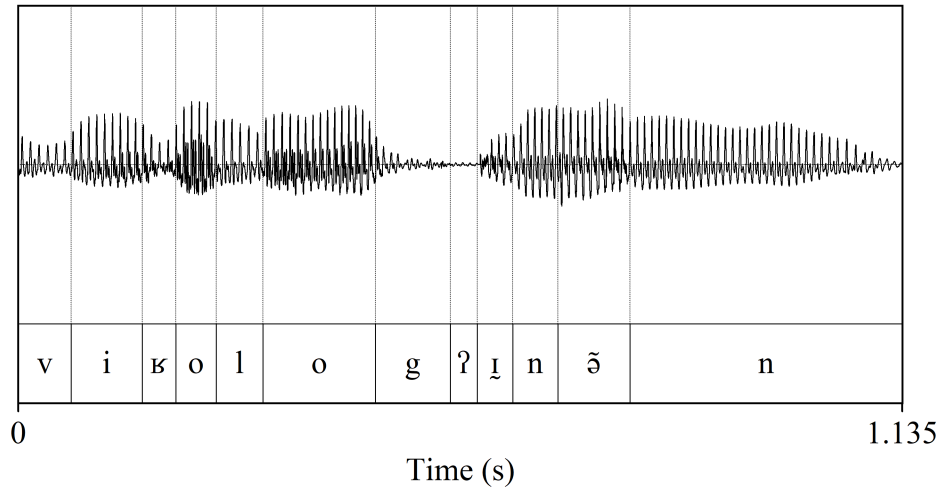
5.1 Standard Realization

Spoken tokens of gender gaps collected for this thesis include examples supporting Wagner (2021)’s claim that many gender gap forms are realized with a glottal stop. The data in (21) and (22) show clear glottal stops in two gender gap tokens.

(21) *Kanzler:innen*, ‘chancellors’ (Schmidt-Mattern 2021)

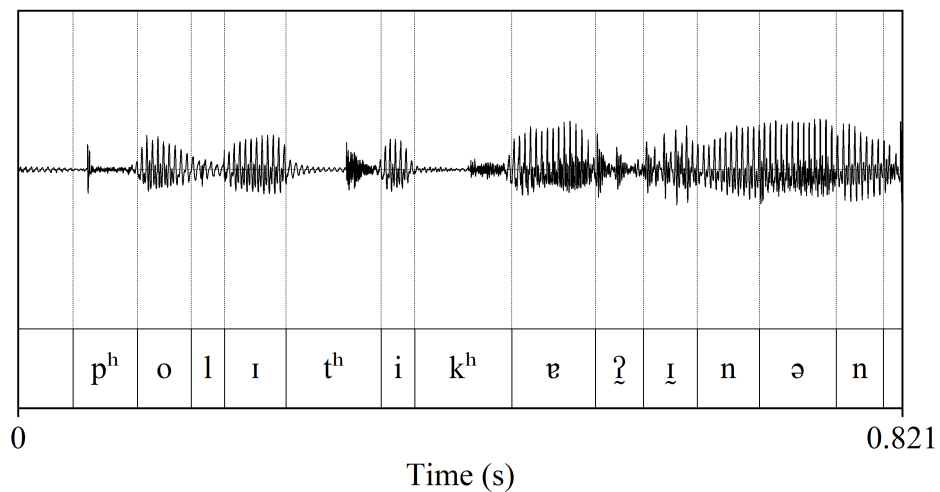


(22) *Virolog:innen*, ‘virologists’ (Jung 2021)



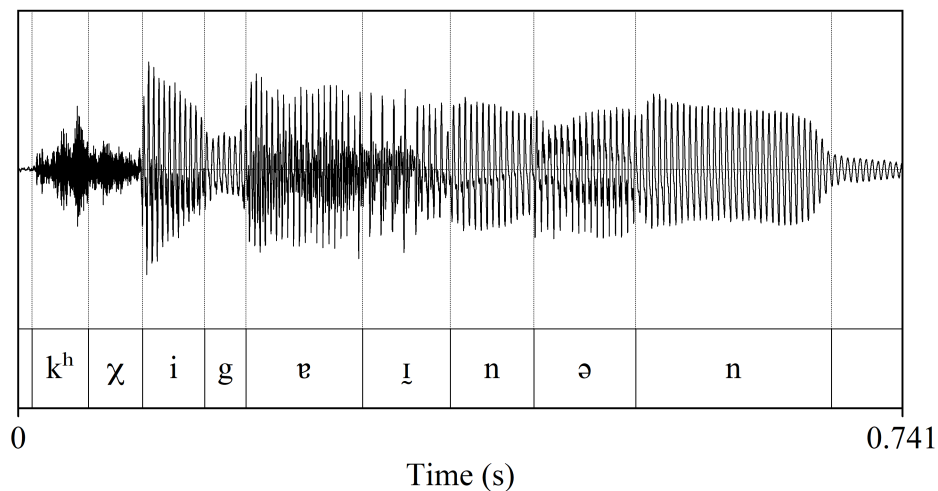
However, many tokens show much weaker realization of the claimed glottal stop. In (23), we see that fluent speech does not always include a full closure of the glottis. Still, (23) includes a clear constriction of the glottis and creaky voicing on the following vowel. The articulatory gesture of closing the glottis is not completed, but evidence of that gesture is clear.

(23) *Politiker:innen*, ‘politicians’ (Barenberg 2021a)



Some tokens show a further departure from a full realization of a glottal stop. In (24), the drop in amplitude from near closure found in (23) is no longer present. The only apparent realization of a possible glottis-closing gesture is the creaky voicing of the following vowel.

(24) *Krieger:innen*, ‘warriors’ (Löffelmann 2021)



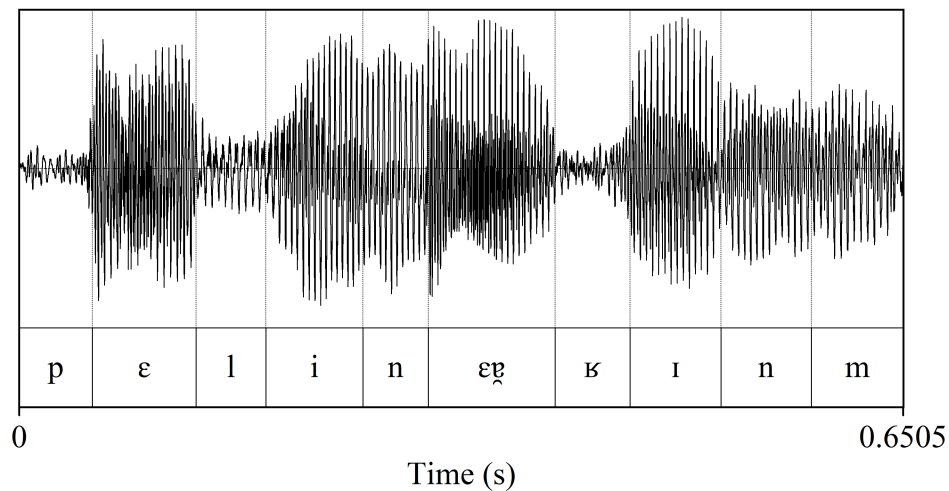
Although the articulatory gestures for the glottal stop and following vowel overlap much more in (24) than in (23), there is still evidence that the speaker realizes the gender gap form with a constriction of the glottis.

5.2 Potential Exceptions

While many gender gap tokens are realized with a glottal stop or more broadly constriction of the glottis, some tokens appear not to follow this pattern. Wagner’s work here is on the forefront, finding that some speakers realize gender gaps with “a duplicate of the stem-final consonant” or “no onset” (Wagner 2021). Of particular interest in this thesis’ data are tokens where the glottal stop is replaced by a voiced uvular fricative (25).

Notably, this realization’s voiced uvular fricative makes it much harder to distinguish from the feminine plural form, which is realized with a voiced uvular fricative in the same position (5).

(25) *Berliner:innen*, ‘Berliners’ (Deutsche Wohnen & Co Enteignen 2021a)



The data for this thesis thus support Wagner (2021)’s account of gender gap realization, which often but not always involves a glottal stop. With the distribution and realization of gender gap forms established, I turn in Section 6 to analyzing gender gaps’ morpho-syntactic structure.

6 Syntactic Analysis of ‘German Gap’ Forms

In this section, I compare several analyses of gender gap forms, arguing for a morpho-syntactic account in which two *n* heads Merge with each other to enter the derivation. Wagner (2021)’s prosodic account of gender gaps is first examined before three possible syntactic structures are compared.

6.1 Ellipsis & Asyndetic Coordination

In addition to describing the realization of gender gap forms as seen in Section 5, Michael Wagner proposes that gender gaps “involve ellipsis and (asyndetic) coordination” (2021). Under this analysis, both the masculine and feminine form are present in the syntactic structure. The masculine form precedes the feminine form, and both are conjuncts. However, a phonological process deletes the stem of the feminine form that is shared between the two forms, leaving only the masculine form and the feminine and plural suffixes from the feminine form. These suffixes remain a full phonological word “due to a general phonological constraint on adjuncts” (Wagner 2021). The small phonological word then motivates the stress and glottal stop seen with gender gap forms. Importantly, Wagner (2021) finds a similar pattern of realization with other instances of asyndetic coordination in German. Finally, since no singular determiner in German can Agree with both a masculine and feminine noun, the pattern of acceptability in the plural but unacceptability in the singular (with an overt determiner) (12 & 13) is accounted for.

Wagner (2021)’s proposal provides a valuable account of gender gaps with a focus on their realization. Wagner’s coordination-based analysis also finds support in some of this thesis’ data. Consider the data in (26).

- (26) *dass* *viel-e* **Wähl-er-in-nen** *und* **Wähl-er**
 that[COMP] many-PL.NOM vote-AGNZ-F-PL.NOM and vote-AGNZ.M.PL.NOM
sich *Alternative-n* *such-en.* *Und dies-e*
 REFL.3PL alternative[F]-PL.ACC seek-PRS.3PL and DEM-PL.NOM
ent-täusch-t-en **Wähl-er-:in-nen**
 de-deceive-PTCP.PRF-PL.NOM vote-AGNZ-U-PL.NOM
 ‘...that many female voters and male voters are looking for alternatives. And these disappointed voters...’¹⁸

Gloss (26) illustrates a speaker initially using both the feminine and masculine forms of ‘voters’ (top in bold) but then using the gender gap form (in this case, *Wähler:innen*).

¹⁸Barenberg (2021b, 4:48–4:57)

For speakers like the one in (26), a phonologically reduced coordination structure as proposed by Wagner (2021) is plausible. The gloss shows that a full coordination and a gender gap form are interchangeable. No new syntactic structure is necessary to account for the data in (26).

However, not all gender gap forms are so near to full coordinations of the feminine and masculine forms: specifically, gender gap forms are used with explicitly nonbinary referents. A simple example is given in (27).

- (27) *mein-e* *nicht-binär-en* ***Freund-:in-nen***
 my-PL.NOM not-binary-PL.NOM friend-U-PL.NOM
 ‘my nonbinary friends’

If *Freund:innen*, ‘friends,’ is syntactically a coordination between the masculine and feminine plurals (*Freunde* and *Freundinnen*, respectively), one might rightly wonder how nonbinary people are included in the set of referents. Section 3.2 showed that the interpretability of German role nouns can vary with context. In (27), then, the coordinated masculine and feminine forms could each have uninterpretable gender features. If one of the forms has uninterpretable features, however, the inclusion of another form to expand the set of referents is poorly motivated. A form with an uninterpretable gender feature already includes people of all genders in its set of possible referents.

Data collected for this thesis supports the claim that gender gap forms are used for nonbinary referents. Examples (28) and (29) show two gender gap forms being used for nonbinary referents. Example (28) provides the discursive context for gloss (29).

- (28) *Also zwei Tausend vor unserer Zeitrechnung gab’s irgendwie schon mythologische Figuren, die irgendwie nicht in der binären Geschlechtskategorie gepasst haben... und dennoch in der Mythologie die wichtigen Rollen eingenommen haben.*

‘So two thousand years before our calendar, there were already mythological

characters who in one way or another didn't fit into binary gender categories... and nevertheless occupied important roles in mythology.'¹⁹

- (29) *Also das war-en teil-weise auch irgend-wie*
 so N.SG.NOM be.PST-3PL part-ADVZ also some-how
Heil-er-:in-nen oder ***Krieg-er-:in-nen***
 healing-AGNZ-U-PL.NOM or war-AGNZ-U-PL.NOM
 'So they were sometimes also healers or warriors of sorts.'²⁰

While I use the term 'nonbinary' for (28) and (29) broadly and do not intend to assign mythological figures a particular conception of human gender, (28) makes clear that the speaker is talking about referents they view as outside the categories of manhood and womanhood or related terms. In other words, the healers and warriors in question are not in the sets referenced by interpretable masculine and feminine forms.

Two examples with more contemporary referents merit discussion. First, the token in (30) demonstrates that gender gap forms are used with a mix of nonbinary and binary referents. In the discourse context for (30), the *Debütant:innen*, 'newcomers,' are two female and one nonbinary writers.

- (30) *Herz-lich willkommen zu=m taz-Talk Die*
 heart-ADVZ welcome to=the.M.SG.DAT taz-talk[M.SG.DAT] the.PL.NOM
Debüt-ant-:in-nen
 debut-AGNZ-U-PL.NOM
 'Welcome to this *taz* talk: "The newcomers"'²¹

Second, the gender gap in (31) shows that gender gap forms are used to encompass referents with a wide range of biosocial genders.

¹⁹Löffelmann (2021, 7:26–7:47)

²⁰Löffelmann (2021, 7:26–7:47)

²¹Gottschalk (2021, 0:00:10–0:00:17)

- (31) *Wir könn-en gemein-sam sicher-stell-en, dass*
 1PL.NOM can-PRS.1PL common-ADJZ certain-put-INF that[COMP]
die Bund-es-republik Deutsch-land
 the.F.SG.NOM federation.GEN.republic[F.SG.NOM] German-country[N.SG.GEN]
ihr-e trans- und inter-geschlecht-lich-en
 POSS.3.F.SG-PL.ACC trans- and inter-sex-ADJZ-PL.ACC
Bürg-er-:in-nen end-lich so akzept-ier-t und
 castle-AGNZ-U-PL.ACC end-ADVZ thus accept-VBZ-PRS.3SG and
respekt-ier-t, wie sie sind
 respect-VBZ-PRS.3SG how 3PL.NOM be.PRS.3PL

‘Together, we can ensure that the Federal Republic of Germany finally accepts and respects its trans and intersex citizens as they are.’²²

Between nonbinary, trans, and intersex people, the data clearly show that gender gaps refer to people in a broad array of gender and sex categories. The range of referents encompasses more than just the set of men, the set of women, and the union of those two sets. Consequently, an analysis that relies on two interpretable masculine and feminine noun forms cannot account for the breadth of gender gap data. In the following section, three morphosyntactic analyses are compared and contrasted.

6.2 Gender Feature Valuation

In this section, I compare possible derivations of gender gap forms, ultimately arguing for an analysis based on the Merger of two *n* heads. All three derivations assume that gender gaps have both masculine and feminine gender features. This set of features is previously unattested, as illustrated in table (32).

(32)

<i>German gender feature sets</i>		
	[+masc]	[-masc]
[+fem]	gender gap	feminine
[-fem]	masculine	neuter

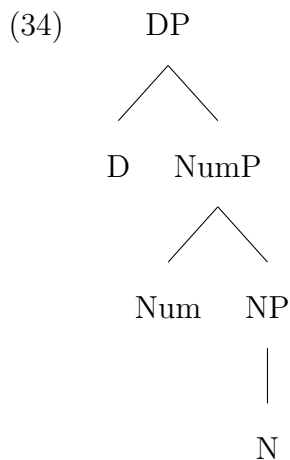
²²Emmerich & Arndt (2021, 00:39–00:49)

With two binary features, four possible combinations arise. Three are already accounted for by masculine, feminine, and neuter grammatical genders. Gender gaps represent the fourth combination. They cannot represent any of the others, because (13) showed that attempted Agreement with each of the three German grammatical genders results in unacceptability. Neuter is analyzed as having neither masculine nor feminine gender instead of both because it can act as an elsewhere/default gender. Consider (33).

- (33) *aber das gib-t es eigentlich schon seit 2008*
 but 3.N.SG.ACC give-PRS.3SG 3.N.SG.NOM actually already since 2008
 ‘...but that actually existed as early as 2008.’²³

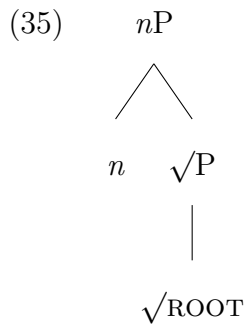
In (33), the neuter pronoun *das* emerges when no particular gender information of the referent or antecedent is available or relevant.

With the feature paradigm established, I now discuss the syntactic background to the three derivations for evaluation. Kramer (2016) provides an overview of the syntax of gender features. First, a separate functional projection for gender features is rejected in favor of the standard nominal analysis with a NumP projection between DP and NP. The structure for this analysis is given in (34) below (adapted from Kramer 2016, 665).

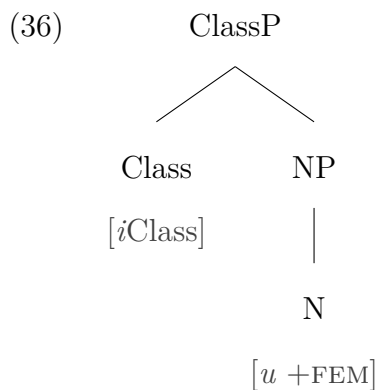


²³Emmerich & Arndt (2021, 10:14–10:35)

Kramer shows how analyses of gender features at the N head or a decomposed n functional head are most successful in accounting for descriptive data. The lexical decomposition structure is given in (35) below (adapted from Kramer 2016, 665).

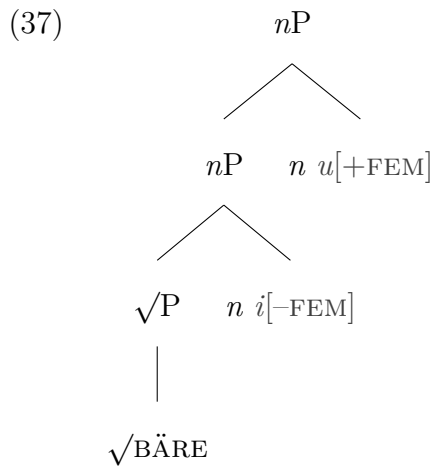


Kramer also discusses two proposals that gender is located at multiple positions in the hierarchy. The first of these proposals involves an unvalued higher feature that probes for the value of a lower goal feature at N (36) (adapted from Kramer 2016, 669). Kramer argues against this analysis, writing that the proposals of probe and goal systems “have difficulty accounting for the correlations between gender and semantic interpretation” (Kramer 2016, 670).



The second bilocation proposal is motivated by processes like diminutive formation that can impose a gender on the resulting derivation (37) (adapted from Kramer 2016, 671). Here, the imposed gender feature is located at a second, higher n head. Because this head is structurally higher, agreement and possible interpretation will follow its

value rather than the lower one. This restriction follows a locality constraint on Agree outlined in Citko’s work, in which “The Goal has to be in a local relationship, where locality is closest c-command” (2014, 21).



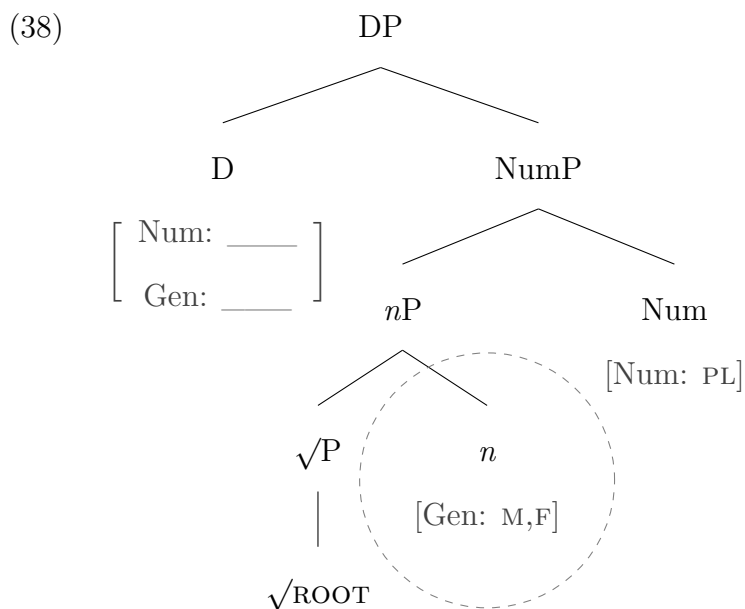
While Kramer generally argues for analyses that include only one gender feature location, she also states that multilocation analyses have some advantages for gender imposition and hybrid agreement. The latter of these describes a mix between syntactic and semantic gender agreement within the DP (Kramer 2016, 672).

The building blocks of DP-internal structure outlined in Kramer (2016) can be used to evaluate potential morphosyntactic structures for gender gaps in German. There are three basic ways to model the syntactic structure yielding [+masc, +fem] for gender gap forms. These trees are derived from the baseline DP structure given in (34), incorporating the lexical decomposition structure outlined in (35). Following Bjorkman (2017) and Konnelly and Cowper (2020), I analyze features as privative: they are either present in the derivation or not, rather than being positively or negatively valued. Bjorkman (2017) states that a contrast is achieved when the absence of some feature [F] is interpreted as $\neg F$. This is how I analyze feature contrasts in German.

Lastly before comparing potential gender gap derivations, I assume the core elements of Distributed Morphology as outlined by Harley & Noyer (1999). I assume

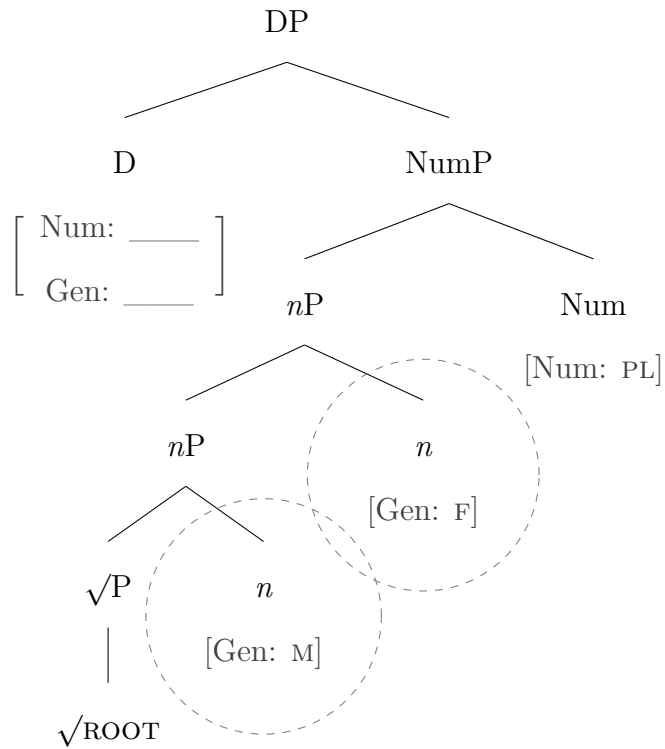
that the Lexicon is composed only of roots and morphosyntactic features. The syntax operates on these roots and features, but I assume that no phonological information is included. At Spell-out, Vocabulary Items, or the phonological expression of the roots and features, are inserted (Harley & Noyer 1999, 4). Terminal nodes in the syntax represent morphemes, and syntactic and morphological structure are closely aligned (Harley & Noyer 1999, 3). Accordingly, *n* and Num are analyzed below as right-branching in German to align with the position of gender and number suffixes on German nouns.

With that morphosyntactic background in mind, I compare three possible gender gap derivations. In the first model (38), both gender features are present on a single *n* head (circled). Note that D hosts unvalued number and gender features that will probe the rest of the DP for a valued counterpart.



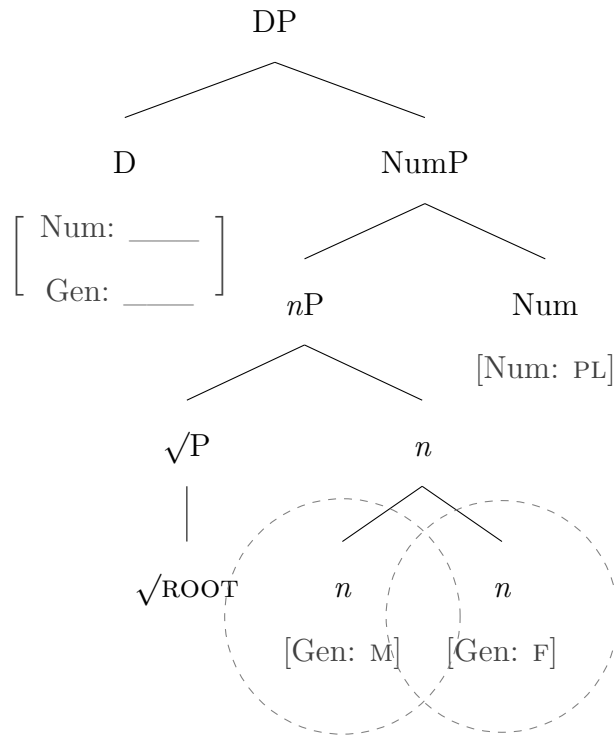
In the second model (39), a second *n* head Merges with the first *nP* in the derivation, forming a stacked structure of two *n* heads. Each *n* head has one gender feature.

(39)



In the third model (40), two n heads Merge with each other to enter the derivation. This forms a single, compound n head. The third model is distinct from the first (38) in that the two features enter the derivation on separate heads. This allows for each feature to be Spelled-out on a separate morpheme.

(40)



The question for the second model (39) is whether the syntax can access both features. Kramer (2016)'s analysis of a similar stacked structure in diminutives (671) indicates that only [F], the higher feature in the structure which c-commands the lower feature [M] in (39), is accessible to the syntax. Evidence for this comes from the derivation of diminutives. An example from German is given in (41–42).

- (41) *das Freund-chen*
the.N.SG.NOM friend-DIM.N.SG.NOM
'that buster'

7.1 Summary

This project has examined several areas of the German gender system in order to account for innovative noun forms called *gender gaps* that do not belong to German's masculine, feminine, or neuter grammatical genders. After introducing the basics of gender in German and the shape of gender gaps, the interpretability of German role nouns' gender was questioned, revealing a great deal of flexibility to fit discursive context, even with marked feminine morphology.

As there is still very little research on gender gaps, their distribution was outlined with special focus on the interaction between these forms' gender and other ϕ -features. As gender gaps represent an area of innovation in German, future research should re-examine their distribution, particularly in the singular. Phonetic data on the realization of gender gaps was also presented to concur with Wagner (2021)'s research on the topic. Glottal stops are a common but not exclusive realization of gender gaps. As with distribution, the innovations taking place with gender gaps warrant a return to their realization in future research.

Finally, Wagner (2021)'s prosodic explanation was considered for its strengths and weaknesses, especially when nonbinary referents come into play. Three possible syntactic structures were compared for their merits, with a structure based on the Merging of two n heads chosen as the best explanation of the current state of gender gaps.

This project's explanatory power is particularly limited in the link between gender gap syntactic structure and prosody. Future research with a greater emphasis on gender gaps' realization could explore this further, perhaps building a link between the compound structure proposed here and the prosodic boundary explained by Wagner (2021).

7.2 Predictions

The data and analysis given in Sections 4.1 and 6.2 hem the distribution of gender gap forms to plural DPs and singular DPs without any overt determiners or attributive adjectives. As discussed in Section 6.2, one consequence of the syntactic explanation for gender gap nouns is that the derivation for singular DPs with overt determiners crashes not within the narrow syntax but rather at Spell-out. Features enter and are valued without issue in the syntax, but no Vocabulary Items are available for insertion at a D with the features [SG, M, F].

A natural prediction is thus that some speakers may currently or will in the future insert innovative Vocabulary Items at such instances of D. Since Spell-out of gender gap nouns involves existing feminine (i.e., *-in*) and masculine (e.g., *-er*) Vocabulary Items, we might expect gender gap forms of determiners or attributive adjectives to involve existing masculine/feminine Vocabulary Items. If so, the likelihood of innovation may not be equal for all overt items at D. Definite and indefinite articles illustrate the predicted divide cleanly. Using the accusative singular to show the most morphological distinctions between genders, consider the articles given in table (52), which expands on the definite determiners established in table (14).

<i>Acc. sg. definite articles</i>		<i>Acc. sg. indefinite articles</i>	
den	the.SG.M.ACC	ein-en	a-SG.M.ACC
die	the.SG.F.ACC	ein-e	a-SG.F.ACC
das	the.SG.N.ACC	ein	a[SG.N.ACC]

Several possible categorical divisions present themselves, although evaluating between them lies beyond the scope of this section. First, the two types of overt items at D may be described as monosyllabic and generally polysyllabic. Second, a divide between concatenative and non-concatenative morphology may describe the categories. Thirdly, the difference could lie in whether the over items at D have a root.

Preliminary attested data proves promising for the predictions described above. The data comes from Mithu Sanyal’s novel *Identitti* (2021) and the accompanying audiobook read by Cynthia Micas (2021). Both editions include a number of singular gender gap nouns as well as a few tokens of singular gender gap pronoun forms. The latter are given in (53).

	<i>Orthographic form</i>	<i>Phonetic form</i>	<i>Gloss</i>
(53)	jede*r ²⁴	[ˈjɛt̚,ʔɛɐ̯]	‘anyone’
	eine*n ²⁵	[ˈaɪ̯n̚,ʔɪm]	‘one’ (pronominal)

In the orthography, an asterisk marking the gender gap form is placed between an *-e* and an *-r* or *-n*. A form with only the *-e* would be feminine, while a form ending in *-er* or *-en* (no asterisk) would be masculine. The pronunciation differs from the orthography in that a glottal stop is placed following the root *jed-* or *ein-* rather than following the word-final schwa of the feminine forms. The glottal stop acts as an onset for a syllable whose rhyme is a stressed version of the masculine inflectional morpheme *-er* or *-en*. To summarize, the general pattern in spoken tokens is: root → glottal stop → stressed masculine ending. The feminine ending is not directly expressed in the pronunciation.

The data in (53) provide preliminary support for the prediction that the feature set [M,F] should be expressible on something other than the role nouns shown in previous sections. On determiners with concatenative gender morphology and attributive adjectives, masculine and feminine suffixes are exchanged at a single morphological position: they do not co-occur with each other. This differs from many role nouns, where the feminine suffix *-in* co-occurs with the masculine agentive suffix *-er* (e.g., the feminine noun *Politik-er-in*, ‘politician-M-F’). However, the recognizable presence of only one gender morpheme is also attested in gender gap role nouns. On nouns where an overt

²⁴(*Identitti* p. 129, tr. 18 10:07–10:22)

²⁵(*Identitti* p. 96, tr. 13 15:56–16:02)

plural masculine morpheme is realized as a final [-ən], for example, the standard form is: root → glottal stop → feminine morpheme → plural morpheme. This pattern excludes any realization of the plural masculine morpheme and is seen in *Virolog:innen*, ‘virologists’ (22)²⁶. These parallels of phonetic realization between attested gender gap role nouns and the data in (53) are promising. Still, given the controlled environment of an audiobook, the phonetic forms in (53) may differ from any natural speaker innovations.

A final sentence from Sanyal’s *Identitti* (2021) and the corresponding audiobook (Micas 2021) warrants brief discussion here. In it, a singular gender gap of the type discussed in this sections heads a relative clause with a masculine relative pronoun. The sentence is glossed in (54).

- (54) *dass* [_{DP}**jed-e:r** [_{CP}**der** *nicht mit dir*
that each-U.SG.NOM RELZ.M.SG.NOM not with you[FAM.SG.DAT]
ein-er *Meinung* *ist*]] **Faschist-:in** *ist*
a-F.SG.GEN opinion[F.SG.GEN] is fascist-U.SG.NOM is
‘that anyone who doesn’t agree with you is a fascist’

Sentence (54) appears to show that while the feature set [M,F] is present at the head of the relative clause (following Section 6.2’s analysis of gender gap forms), only [M] is present on the relative pronoun. Given that the predictions laid out above place a monosyllabic, rootless, non-concatenative word like *der* into the category least ripe for innovation, this may not be surprising. More surprising, perhaps, is that a mismatch of gender features between the head and the relative pronoun did not result in the derivation crashing. Recalling the agreement hierarchy discussed in Section 2, Corbett himself asserts that syntactic agreement is required for the relative pronoun position in German (1979, 205) (see also example (6b)). Given that *der* does not c-command *jede:r*, however, unvalued gender feature(s) in the relative pronoun position could not probe

²⁶Besides the phonetics, it is interesting to note that the orthographic form *Virolog:innen* reflects the lack of the of the plural masculine suffix *-en* ([-ən]) seen in the masculine plural *Virologen*.

jede:r for its gender features. Instead, (54) indirectly supports the view of gender feature evaluation advanced by Conrod (2019, 214). Rather than the phase head C context-scanning to assign a gender feature a value in line with Sigurðsson (2019), the phase head only evaluates the pragmatic appropriateness of an already-present gender feature. Thus, the [M] associated with *der* in (54) enters the derivation valued, and the phase head C deems it pragmatically appropriate. The less strict pragmatic evaluation does not achieve strict feature matching. Exactly how the phase head C deems the gender feature set [M] appropriate in (54) is a subject for future research.

7.3 Implications

In the preceding sections, I largely treat *n* as merely a bearer of gender features. However, there are different types of *n* present in the data presented here. Specifically, some *n* heads plainly nominalize a root and introduce a gender feature. That type of *n* head occurs in German words like *Freund*, ‘friend.’ In role nouns with interpretable gender on this basic *n*, the first *n* head that selects the root is masculine and is not expressed at Spell-out with a Vocabulary Item. When a second, feminine *n* head is present (in either the stacked or compound structure), a Vocabulary Item *-in* is inserted at Spell-out. In other words, there is an overt feminine morpheme (or neuter in the case of diminutives), but no overt masculine morpheme.

Other types of *n* heads introduce semantics not already indicated by the root. Section 6.2 looks specifically at the agentive nominalizer *-er*. The semantic information added by the *n* head corresponds with Vocabulary Item insertion at Spell-out, although the degree to which this can be generalized in German is not addressed here. Different nominalizing morphemes are associated with different gender features. For example, *-er* (M.AGNZ) is always associated with a masculine gender feature; *-chen* (N.NMLZ.DIM) with a neuter feature; *-ung* (F.NMLZ) with a feminine one (Donahue 2009, 107-108).

These and other gender-associated nominalizers are quite productive. However, only *-er*'s associated masculine feature is often interpretable. The lack of productive, interpretably feminine nominalizers may explain the lack of 'reverse gender gaps,' in which a masculine equivalent to the feminine *-in* would compound with feminine nominalizers.

Between plain *n* and semantically specific *n* types like *-in*, then, it appears that any German role noun of interpretable gender has a masculine *n* with or without an additional feminine *n*. More accurately, this is limited to those interpretable role nouns that have both masculine and feminine forms. I do not posit that there is a hidden masculine *n* in an interpretably feminine word like *Frau*, 'woman[F]'. One question for further research is whether speakers can always derive a feminine form from a masculine role noun (namely those whose standard feminine equivalents use separate roots) and how such forms are pragmatically used. Deriving the feminine *Väter-in*, 'father-F; mother(?)' from *Vater*, 'father[M]' yields a few easily found written tokens. Interestingly, several are used to refer to trans parents with quite different meanings. One interviewed trans mother calls herself *Väterin*, although the journalist later takes it upon herself to distinguish this from *Mutter*, 'mother[F]' — apparently based on reproductive anatomy (Westerhaus 2018). An earlier author uses *Väter-in-nen*, 'father-F-PL,' to instead refer to trans fathers (Schrupp 2016). In any case, the merger of a feminine *n* to a masculine *nP* seems quite common in German.

Thinking beyond German, we can suppose two basic ways to derive separate noun classes with *n*: (1) the method often seen in German, where a base noun class is either left alone or overridden by the merger of a higher *n*; (2) and a method without stacking in which equivalent *n* heads exist for each noun class (including any other semantic information like agent status) and are exchanged rather than stacked. This second method better fits some Romance languages like the noun class and gender system of Italian as described in Kučerová (2018).

Considering what might appear in other languages, I would not expect the compound structure seen in Section 6.2 to occur in a language that does not make extensive use of n stacking. If a language does not already regularly allow multiple n heads stacked in a derivation, the marked compound structure would be comparatively even more marked. In languages where n stacking is common, however, the compound structure allows for morphemes that already co-occur in the language to enter new syntactic relations (e.g., allowing the gender feature normally asymmetrically c-commanded by the other in the stacked structure to be expressed).

In looking for other compound n structures, we should look for environments where something about Agreement with existing morphemes is unexpected. An innovative morpheme might be better analyzed as a single n structure. Compound n structures fundamentally involve unmarked morphemes behaving markedly.

Appendix: glossing abbreviations

\	next element realized by ablaut
›	follows possessor elements, precedes possessum elements
:	strictly orthographic, no technical meaning
1	first person
2	second person
3	third person
ACC	accusative
ADJZ	adjectivizer
ADVZ	adverbializer
AGNZ	agentive nominalizer
AUX	auxiliary
CIRC	second element of a circumfix
CMPR	comparative
COMP	complementizer
DAT	dative
DEM	demonstrative
DIM	diminutive
F	feminine
FAM	familiar register
FOR	formal register
FUT	future register
GEN	genitive
INF	infinitive
M	masculine
MP	modal particle
N	neuter
NDEF	indefinite
NFIN	non-finite
NMLZ	nominalizer
NOM	nominative
ORD	ordinal
PASS	passive
PL	plural
POSS	possessive
PRF	perfect
PRS	present
PST	past
PTCP	participle
REFL	reflexive
RELZ	relativizer
SBJV	subjunctive
SUP	superlative
U	unspecified (gender gap form)
VBZ	verbalizer

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