A MORPHOSYNTACTIC APPROACH TO ENGLISH PHRASE STRUCTURE RULES

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Abstract This paper focuses on defining English phrases, targeting most concern on phrase structure rules and examining how they manifest in morphological realizations. Focusing on three key assumptions that posit that 1. phrases are obligatorily headed, 2. morphology reflects syntactic structure, and 3. phrasal heads govern the internal distribution of the phrase, the study tests their validity against linguistic data. Through examples ranging from noun phrase complexity and verbal transitivity to clause-level concord and valency, the analysis demonstrates how phrase structure rules are morphologically realized and syntactically constrained. While traditional grammar often frames such rules as categorical, this paper shows they frequently exhibit gradient behavior and contextual flexibility. The discussion draws on cases of head omission, word-class overlapping, and syntactic ambiguity to argue for a morphosyntactically grounded approach.
Keywords Phrase structure rules, morphological markers, syntactic units, layers of description, form, function.

1. Introduction

Sentence form and structure in all human languages is complex and may vary from language to language. What all languages have in common is the existence of units intermediate in size between words and sentences and the grammatical relations established between them. While this paper puts forth the claim that morphosyntax governs phrase structure rules, it is important to acknowledge an influential strand of syntactic theory that emphasizes the autonomy of syntax. Within classical generative grammar, particularly the early work of Chomsky,[1] phrase structure rules are formulated independently of morphological considerations. Syntax is treated as a discrete computational system that generates abstract hierarchical structures, whereas morphology enters

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[1] Noam Chomsky, *Aspects of the Theory of Syntax* (Cambridge, MA: MIT Press, 1965); *Lectures on Government and Binding* (Dordrecht: Foris, 1981).

only later, at the level of Phonological Form (PF), to provide surface realizations of features already computed syntactically. As Halle and Marantz (1993) argue in their model of Distributed Morphology, morphological operations are "post-syntactic,"[2] applied after the hierarchical structure has been assembled via purely syntactic operations such as Merge and Move. In this view, morphology is essentially interpretive and does not feed back into the syntactic derivation. Lieber (1992) similarly defends syntactic autonomy by asserting that "morphological structure does not constrain the structure of phrases or sentences."[3] These positions collectively maintain that phrase structure rules operate over abstract syntactic categories and positions, with little or no dependency on the morphological form of constituents.

On the contemporary linguistic scene, such premises have come under attack from scholars who argue that purely configurational models of syntax fail to account for the morphologically grounded nature of phrasehood. This critical view is particularly visible in studies that emphasize the interdependence between morphology and syntactic distribution.[4] It is essential to account for both morphological marking and syntactic function in order to even begin to describe with any accuracy the grammar of phrases, especially in languages where inflectional morphology is richly articulated. To a certain extent, this claim squares with work within the functional-typological school of linguistic thought, which has long stressed the importance of form-function mapping,[5] although it has rarely been made so strongly within the confines of phrase structure theory. What distinguishes more recent morphosyntactic accounts is their insistence that morphology not only accompanies syntactic structure but often licenses it, challenging the long-held view of morphology as epiphenomenal or merely phonological in nature.

One of the foundational insights shared across descriptive and formal grammars is that linguistic units are arranged on a rank scale. As Hilde Hasselgård, Stig Johansson, and Per Lysvåg (2007) observe in *English Grammar: Theory and Use*, "[l]anguage has a fascinating structure," and one of its most fundamental features is that it is hierarchical."[6] Thus, "[a]t every level of linguistic analysis – phoneme, morpheme, word, phrase, clause, and discourse – smaller units combine systematically to form larger ones."[7] This paper focuses on the five major phrase types in English: noun phrases, verb phrases, adjective phrases, adverb phrases, and prepositional phrases, henceforth abbreviated as NP, VP, AdjP, AdvP, and PP respectively. These phrase types are central to syntactic analysis, as each one fulfills specific functions within clause structure.

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[2] Morris Halle and Alec Marantz, *Distributed Morphology and the Pieces of Inflection*, in *The View from Building 20*, ed. Kenneth Hale and Samuel Jay Keyser (Cambridge, MA: MIT Press, 1993), 111–176.

[3] Rochelle Lieber, *Deconstructing Morphology: Word Formation in Syntactic Theory* (Chicago: University of Chicago Press, 1992), 11.

[4] William Croft, *Radical Construction Grammar: Syntactic Theory in Typological Perspective* (Oxford: Oxford University Press, 2001); Talmy Givón, *On Understanding Grammar* (New York: Academic Press, 1979).

[5] Hilde Hasselgård, Stig Johansson, and Per Lysvåg, *English Grammar: Theory and Use*, 2nd ed. (Oslo: Universitetsforlaget, 2007), 12.

[6] Ibid.

[7] Ibid.

Within this tradition, phrases are not arbitrary word groupings but structured constituents anchored by a central element, namely the head. This notion, deeply rooted in both pedagogical and theoretical traditions, is often presented as axiomatic: every phrase must have a head, morphology plays a secondary role, and the internal structure of the phrase is determined by the grammatical properties of the head. Burton-Roberts (2016) emphasizes the importance of a central phrasal element in stating that the phrase "inherits its category from its head,"[8] which in turn governs both its internal structure and syntactic role. Such assumptions permeate teaching grammars and formal syntax alike, shaping the way tree diagrams are constructed and interpreted. However, the robustness of these assumptions has not always been tested against language data, particularly with respect to morphological visibility and distributional flexibility.

This article proposes a critical re-evaluation of three foundational assumptions in phrase structure theory. First, it interrogates the claim that phrases are obligatorily headed, not only from a configurational standpoint but also in terms of recoverable morphological marking. Second, it reconsiders the place of morphology within the structure, arguing that inflectional morphology often reinforces syntactic hierarchies rather than merely dressing them up phonologically. Third, it explores the degree to which the head determines not just the presence but also the arrangement and interpretation of subordinate elements in the phrase. Tallerman (2019) points out that phrase-level analysis must be sensitive to "the morphosyntactic behaviour of individual elements,"[9] suggesting a more integrated approach. Rather than proposing a new syntactic model, this article advocates for a functional and surface-aware reassessment of existing phrase structure principles. Such an approach foregrounds the mutual visibility of morphology and syntax, particularly in data-rich languages.

One way to anchor this reassessment is by re-establishing the dual nature of phrases within syntactic hierarchy. Phrases operate as unified constituents at the level of the clause, while simultaneously presenting complex internal structures governed by combinatory rules. In constraint-based grammars such as Head-Driven Phrase Structure Grammar (HPSG), phrases are modeled not as simple aggregates of words but as richly specified feature structures, "each representing information about head properties, valence frames, and semantic content,"[10] all contributing to the syntactic integration of the phrase. Miller (2001) stresses this duality, explaining that "phrases are not simply aggregates of words but syntactically cohesive units governed by the head's properties."[11] Understanding the layered nature of syntactic organization thus requires attention to the rank scale of linguistic units – from morpheme to word, to phrase, to clause, to sentence – a hierarchy that reflects increasingly abstract yet structurally dependent

[8] Noel Burton-Roberts, *Analysing Sentences: An Introduction to English Syntax*, 4th ed. (London: Routledge, 2016), 86.

[9] Maggie Tallerman, *Understanding Syntax*, 4th ed. (New York: Routledge, 2019), 95.

[10] Georgia M. Green, "Elementary Principles of Head-Driven Phrase Structure Grammar," in *Non-Transformational Syntax: Formal and Explicit Models of Grammar*, ed. Robert D. Borsley and Kersti Börjars (Chichester: Wiley-Blackwell, 2011), 13-14.

[10] Jim Miller, *An Introduction to English Syntax* (Edinburgh: Edinburgh University Press, 2001), 25.

levels.[12] In this architecture, phrase structure provides a bridge between lexical units and propositional meaning. The internal structure of phrases also provides the necessary scaffolding for interpreting movement, agreement, and other dependencies within the clause.

To illustrate the mutual dependency between morphology and syntax, it is helpful to revisit canonical clause patterns in English. These patterns not only offer insight into valency and predicate structure but also show how morphological cues (e.g. agreement, tense, aspect) are distributed across phrasal and clausal levels. Inflectional morphology is not freely assignable; it is conditioned by the syntactic context. Rather than operating as an independent phonological layer, morphological realization often reflects syntactic dependencies encoded within feature structures.[13] As van Gelderen (2010) puts it, "whether a word shows a particular morphological form depends on the syntactic structure in which it is embedded."[14] This observation is based on a broader principle: morphology does not merely reflect syntactic structures. It often reveals and enforces them. In this sense, phrase structure rules become visible not only through constituency tests, but through obligatory inflectional markers that signal head–dependent relations.

Consequently, the morphosyntactic approach offers a particularly powerful lens for investigating phrase structure. Unlike models that compartmentalize morphology as a surface phenomenon or post-syntactic adjustment, this approach treats morphology as an indicator of deeper structural configurations. Burton-Roberts (2016) notes that inflection is "grammatical, not lexical,"[15] and must therefore be explained by rules internal to syntactic structure. Morphological realizations such as subject-verb agreement, modifier stacking, and prepositional selection are tightly bound to syntactic conditions. This makes morphology not an afterthought, but a central locus for syntactic reasoning. Thus, phrase structure analysis that ignores morphological visibility risks missing the very evidence that supports its own theoretical premises.

Rather than focusing solely on the internal composition of words – each governed by its own morphological conventions – we now turn to the structural mechanisms by which these grammatical units are assembled into phrases. This transition from morphology to syntax is not merely terminological. It reflects a shift in scale and complexity. Syntax, as its etymology suggests (from the Greek *syntaxis*, meaning "arrangement"), concerns itself with the systematic organization of words into larger structures. These structures form a linguistic rank scale: the sentence is composed of one or more clauses, a clause is composed of one or more phrases, and a phrase of one or more words.[16] While each of these units is recursively embedded within the

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[11] Maggie Tallerman, *Understanding Syntax*, 4th ed. (New York: Routledge, 2019), 27.

[13] Georgia M. Green, "Elementary Principles of Head-Driven Phrase Structure Grammar," in *Non-Transformational Syntax: Formal and Explicit Models of Grammar*, ed. Robert D. Borsley and Kersti Börjars (Chichester: Wiley-Blackwell, 2011), 15–16.

[12] Elly van Gelderen, *Introduction to the Grammar of English* (Amsterdam: John Benjamins, 2010), 54.

[13] Noel Burton-Roberts, *Analysing Sentences: An Introduction to English Syntax*, 4th ed. (London: Routledge, 2016), 90.

[14] Elly van Gelderen, *Introduction to the Grammar of English* (Amsterdam: John Benjamins, 2010), 20; Maggie Tallerman, *Understanding Syntax*, 4th ed. (New York: Routledge, 2019), 26.

next, the phrase and the clause function as structurally distinct intermediate levels. Phrases are projected from a lexical head – frequently called a "H-word" in pedagogical terms – whereas clauses are built around verbs, whose valency and transitivity determine the number and type of required elements.[17]

This multilayered organization of language is perhaps best captured by the metaphor of Chinese boxes: each syntactic unit, when opened, reveals further nested subunits within it. From a top-down perspective, we can say that a text consists of sentences, which consist of clauses, which in turn contain phrases, and so on. From the opposite direction, a word is made up of one or more morphemes, which are composed of phonemes – a bottom-up model of linguistic assembly. This bidirectional nesting reveals the highly systematic and recursive nature of language structure. Such structural organization allows linguists to model "the regularities of sentence construction across typologically diverse languages."[18] The rank scale is, therefore, both theoretically and typologically valuable. The building blocks of syntax are not discrete or flat units, but interconnected levels of abstraction.

As David Crystal memorably observed, "[g]rammar is the business of taking a language to pieces, to see how it works."[19] The grammar enthusiast reader prepared to parse sentences should, however, be immediately warned against the belief that such dissection is plain-sailing. The problem of taking something to pieces is that it will probably stop working. This paradox lies at the heart of syntactic analysis. While segmentation and categorization are necessary for understanding structure, they must be complemented by an awareness of how these parts recombine to produce meaning. It is not enough to identify the components of language; one must also understand their integration. This paper proceeds on precisely that premise: it takes language apart to examine the internal configuration of clauses and phrases, and then puts it back together to account for their interaction. Since clauses consist of phrases, and phrases correspond structurally to the major parts of speech in English, this level of analysis provides a crucial link between grammatical categories and syntactic function.

2. Basic Clause Patterns

A survey of basic English clause patterns reveals that despite surface-structure variation, these units are governed by highly systematic principles of organization. The examples listed above capture similarities among a range of different clauses. We do not speak English by merely stringing words together in some random fashion. Instead, we carefully arrange our words, for the most part unconsciously, into patterns.

The examples below include the labels for the phrases discussed henceforth, together with a condensed, rough-and-ready note on the function of each higher up in the hierarchy. I will

[15] Noel Burton-Roberts, *Analysing Sentences: An Introduction to English Syntax*, 4th ed. (London: Routledge, 2016), 113–115.
[16] Elly van Gelderen, *Introduction to the Grammar of English* (Amsterdam: John Benjamins, 2010), 33.
[19] David Crystal, *Rediscover Grammar* (London: Longman, 1988), 6.

not take time to investigate the vagaries of such patterns, but a glance at a few examples – which I will focus on later on – might prove instructive, since a recognition of clause patterns – which constitute differentially fleshed out instantiations of phrase grouping – is indispensable to anything approaching an adequate, fine-grained description. At the core of the English clause lies the verb phrase (VP), whose valency determines the number and type of constituents it combines with. The VP is the only type of phrase which has a one-to-one realization: it only realizes the Verbal function, whereas the other phrase types can have multiple syntactic realizations. To illustrate this, the present section includes a numbered series of ten clause examples, each annotated for phrasal type and syntactic function. Normally, function labels (S, V, dO, iO, oC, aC, sC, A) are represented as superscripts placed before brackets and individual constituents, while form labels (e.g., NP, VP, AdjP, AdvP, PP) are represented as subscripts placed before brackets and individual constituents. These examples, graphically elaborated upon below, in a simplified linear notation (i.e., without the regular subscripts and superscripts), for the sake of simplicity, serve not only as pedagogical illustrations but as empirical support for the structural predictability of phrase combination in English. They include intransitive (1, 2, 3, 5), monotransitive (4, 6), ditransitive (7), copular (9), and complex-transitive (8, 10) patterns, ranging from minimal to morphologically marked clauses.

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1.    The man over there (NP) stopped (VP).
       |----------S-----------|      |----V----|

2.    He (NP)              stopped (VP)              suddenly (AdvP).
      |----S----|            |----V---|                |-----A----|

3.    The little girls living next door (NP)     ate (VP)      immediately (AdvP).
      |- - - - - - - - S- - - - - - - - - - - |      |-V-|         |------A------|

4.    They (NP)    may have lost (VP) their way (NP).
      |--S--|        |-------V-------|      |---dO---|

5.    Did (op) the scent (NP)    break (VP)?
      |-v-|      |---S---|          |--V--|

6.    They (NP) prefer (VP)      cool drinks (NP).
       |--S--|     |---V---|          |----dO----|

7.     He (NP)   showed (VP)    her (NP)      his own invention (NP).
      |--S--      |--V--|          |--iO--|       |--------dO--------|

8.     The smell of roast veggies (NP) made (VP) her (NP) hungry (AdjP).
       |---------------S-----------|          |--V--|    |--dO--|     |--oC--|

9.     Cool drinks (NP)          are (VP)      available (AdjP).
      |------S------|             |--V--|        |----sC----|

10.    Such efforts (NP)  must have put (VP) a huge strain (NP) on him (PP).
      |-----S------|       |------V-------|          |-----dO----|         |----aC---|
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3. Layers of linguistic description

The hierarchical organization of linguistic units can be made readily available to language users via tree diagrams (as shown in Fig. 1 below). Although visually counterintuitive – since the tree appears to branch downward rather than upward! – this representational format allows for the simultaneous encoding of multiple levels of grammatical information. It makes explicit not only the bottommost elements of a clause (e.g. individual words that can be further divided into morphemes, which are made up of phonemes) but also the intermediate and topmost levels, such as various phrasal elements (determiners, modifiers, heads, complements) and the functions phrases realize higher up in the hierarchy. Crucially, such diagrams reflect more than just surface arrangement; they expose the different syntactic forms constituents take as part of individual English sentences – in other words, their *surface structure*, while also pointing to a deeper syntactic reality. *Deep structure* constitutes "an abstract level of structural organization in which all the elements determining structural interpretation are represented."[20] This distinction is further reinforced by syntactic configurations that cannot be accounted for by surface structure alone, such as morphologically legitimate but syntactically ill-formed strings that must be filtered post-transformationally.[21] Thus, syntactic trees provide an interface between surface form and deep-level grammatical relations, showing the strata of encoding that underlie syntactic and interpretive complexity.

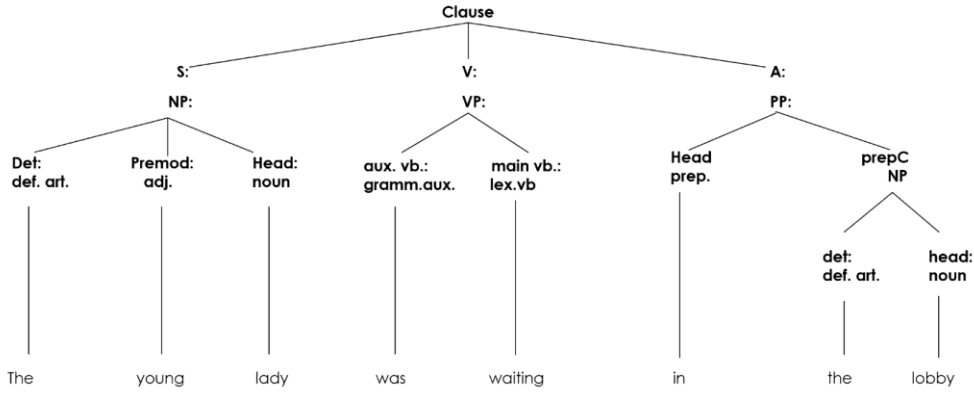

Fig. 1. Levels of description

In what follows, the focus narrows to phrasal constituents, which occupy a pivotal position in mediating between word-level information and clausal architecture.

[20] George Yule, *The Study of Language*, 5th ed. (Cambridge University Press, 2010), 98.
[21] David M. Perlmutter, "Surface Structure Constraints in Syntax," *Language* 46, no. 1 (1970): 153–157.

4. Words and phrases

While words occupy the most granular level in the syntactic hierarchy, their combination into larger units – that is, phrases – does not occur arbitrarily. Instead, phrases are generated by rule-governed operations that constrain not only what constituents may co-occur but also how they are ordered and interpreted. These operations are formalized as phrase structure rules – a central component of generative grammar – which dictate the internal structure of phrases, including constituent hierarchy, linear order, and head-dependent relations.
Three principles underlie phrase structure rules:

> Rule 1: Phrases are governed by heads (H), which are obligatory.
> Rule 2: Phrase structure rules are reflected in the morphological realizations of phrasal constituents. Inflectional endings, agreement markers, and derivational affixes often provide overt evidence for the internal structure and hierarchical organization of phrases, revealing how syntactic categories are distributed and how dependency relations are encoded morphologically.
> Rule 3: The H-element determines the distribution of other elements within the phrase and regulates the presence and placement of phrasal components within the clause.

It is important to note here that these rules intersect and overlap and partly defy any strict comparison. The structural composition of phrases frequently depends on category-specific rules[22] – e.g., noun phrases may admit extensive premodification, whereas verb phrases may require auxiliary stacking or complementation. The examples previously analyzed – ranging from simple S–V clauses (*He stopped*) to complex-transitive S-V-dO-oC constructions (*The smell of roast veggies made her hungry*) – illustrate how phrase structure rules function across a spectrum of clause types, supporting both basic and elaborated syntactic configurations while maintaining internal coherence and functional predictability.

English phrases fall into five main types: noun phrase (NP), verb phrase (VP), adjective phrase (AdjP), adverb phrase (AdvP), and prepositional phrase (PP). Each of these phrase types can contain more than one word and is constructed around a head, which determines the grammatical category of the entire phrase. For instance, in the NP *their new tables in the hall*, the noun *tables* functions as the head; in the VP *may have eaten*, the main verb *eaten* is the head, accompanied by two auxiliaries – one modal and one perfect(ive); the AdjP *rather unfortunate* is headed by the adjective *unfortunate*, premodified by the adverb *rather*, while *too seriously* is an AdvP headed by

[22] Maggie Tallerman, *Understanding Syntax*, 4th ed. (New York: Routledge, 2019), 119.

seriously, which is premodified by yet another intensifying adverb, namely *too*. Similarly, in the PP *into the wild*, the preposition *into* acts as the head, introducing the NP *the wild*. These examples show how phrase types function as cohesive syntactic units, each governed by internal rules of constituency and order. If the head word is a noun – or a pronoun, the group is a noun phrase. Verbs name verb phrases, adjectives – adjective phrases, adverbs – adverb phrases and prepositions – prepositional phrases. The following section will illustrate each phrase type individually, preceded by a brief discussion of the general properties of the word classes that function as heads.

The different words or lexemes can be used to create micro- and macro-level messages. This fundamental observation prompts a structural distinction between lexical word classes and function word classes, which plays a pivotal role in syntactic and morphological analysis. The former classes include nouns, lexical verbs, adjectives, and adverbs – categories commonly referred to as open-class words. These classes have a comparatively large membership and are open to the continuous addition of new lexical items, either through morphological derivation or borrowing from other languages.[23] In contrast, function word classes – pronouns, determiners, auxiliary verbs, conjunctions, prepositions, and others – belong to the closed classes. These are relatively fixed in their membership and primarily serve grammatical rather than lexical purposes. For example, the demonstratives *this*, *that*, *these*, and *those* have retained their forms with minimal change since Early Modern English.[24] Function words contribute to the syntactic structure by indicating relationships between lexical elements, marking grammatical categories such as tense, aspect, number, definiteness, and modality. They provide the scaffolding that supports syntactic cohesion, linking content words into larger meaningful units and determining clause structure and phrase boundaries.[25] Without function words, the structural integrity of sentences would be compromised, as these elements guide the interpretation of relations such as coordination, subordination, and quantification.

Although the lexical-function word class distinction appears straightforward at first glance, it is important to note that English exhibits significant category fluidity. Many words can occupy more than one word class, depending on syntactic context. This is particularly evident in conversion processes (e.g., *text* as a noun vs. *to text* as a verb), which blur categorical boundaries.[26] For this reason, linguistic classification must rely on dual criteria: morphological form and syntactic function. Morphological markers such as inflectional endings or derivational affixes provide insight

[23] Ibid., 87.
[24] William B. McGregor, *Linguistics: An Introduction* (London: Continuum International Publishing Group, 2009), 42.
[25] Noel Burton-Roberts, *Analysing Sentences: An Introduction to English Syntax*, 4th ed. (London: Routledge, 2016), 104.
[26] Maggie Tallerman, *Understanding Syntax*, 4th ed. (New York: Routledge, 2019), 89.

into the grammatical potential of a word, while syntactic distribution – its position relative to other constituents – clarifies its structural role within the phrase or clause.[27] These two dimensions must be considered together to determine accurate class membership, especially when dealing with ambiguous words (e.g. *late* may be an adverb, as in *She arrived late*; however, it may also be an adjective, as in *She likes late mornings*; likewise, *that* may function as determiner in a noun phrase, as in *That doll/is/ expensive*, but it may as well be recognized as a pronoun heading a full-fledged noun phrase, as in *I/ don't like/ that*). Semantic content, though intuitively useful, often lacks the precision required for formal classification and plays only a secondary role in structural analyses.[28] Understanding this interaction between word class membership and syntactic realization is essential to phrase structure theory. In particular, it reinforces the notion that only lexical, open-class items typically serve as heads of phrases – NPs, VPs, AdjPs, AdvPs – while prepositional phrases, though headed by a preposition, represent a unique case where a function word assumes head status.[29] Such distinctions are not merely taxonomic but reflect how grammar encodes structural relationships between constituents and regulates syntactic behaviour at phrase and clause level. They reveal the organizing principles that govern head-dependent relations, distributional constraints, and the projection of phrasal categories from lexical or functional heads. This structuring function is central to theories of syntax that prioritize constituency and hierarchy over linear order.[30] Moreover, the classification of word classes informs not only phrasal structure but also morphological agreement, movement, and syntactic ambiguity, thereby linking the various grammatical categories displayed by word classes to broader clausal configurations.

Lexical class membership may be established on the basis of a combination of semantic, morphological, and syntactic criteria. These three dimensions – typical meanings, typical endings, and the grammatical environment or distribution – form the analytical basis for identifying word classes. Nouns, verbs, adjectives and adverbs can be established and recognized on the basis of morphological, syntactic and semantic criteria. Rather than offering fixed definitions, what follows is a feature-based outline intended to anticipate the upcoming discussion on phrase structure. Since the semantic features of lexical word classes fall outside the scope of this section, the focus will remain on their 'external' syntactic properties – namely, their distribution and function within

[27] Elly van Gelderen, *Introduction to the Grammar of English* (Amsterdam: John Benjamins, 2010), 52.
[28] William B. McGregor, *Linguistics: An Introduction* (London: Continuum International Publishing Group, 2009), 68.
[29] Elly van Gelderen, *Introduction to the Grammar of English* (Amsterdam: John Benjamins, 2010), 65.
[30] Noel Burton-Roberts, *Analysing Sentences: An Introduction to English Syntax*, 4th ed. (London: Routledge, 2016), 112; Elly van Gelderen, *Introduction to the Grammar of English* (Amsterdam: John Benjamins, 2010), 48.

phrases – as well as their 'internal' morphological properties, with emphasis placed on inflectional and lexical morphology.

Nouns, for instance, characteristically function as the head of noun phrases, which in turn may serve as subject, object, complement, or adjunct within the clause. One distinguishing feature of nouns is the wide range of dependents they accept, including adjectives and determiners (articles, quantifiers), as well as relative clauses. Morphologically, nouns are typically inflected for number (e.g., *one table – two tables*) and often for case (e.g., *John's book*). They also serve in nominal functions and refer to either concrete or abstract entities. Examples include *table, John, iron, rage*. Verbs, by contrast, exhibit robust inflectional morphology – prototypically, English verbs have six inflectional forms, distinguishing tensed (e.g., *takes, take, took*) and non-tensed forms (*take, taking, taken*). Verbs function as heads of verb phrases, and denote actions, processes, or states (*they dug a hole, we adore him*), also establishing relationships between clause participants. Examples include *love, build, say, adore, select*. Adjectives head adjective phrases and show a clear syntactic distribution, either as attributive modifiers within noun phrases (*a happy child*) or as predicative complements (*the child is happy*). Most adjectives are gradable and take degree modifiers (*very tired, rather unusual*). Morphologically, many adjectives inflect to express degrees of comparison, either inflectionally (*round, rounder, roundest*) or analytically (*more intelligent, most intelligent*). They denote gradable qualities, such as *round* or *guilty*. Examples include *round, dark, important, guilty, eager*. Adverbs, finally, function as the head of adverb phrases and typically modify verbs, though they may also modify adjectives, other adverbs, or entire clauses. Many are morphologically derived from adjectives via the *-ly* suffix (*guiltily, honestly*), and a limited subset can undergo inflectional comparison (*sooner, soonest*). Adverbs convey information about manner, degree, time, frequency, or speaker stance, and have a characteristically mobile distribution. Examples include *guiltily, honestly, very, soon*.

5. Rule 1: Phrases are governed by heads (H), which are obligatory constituents.

This is the first phrase structure rule: the head (H) is the only word that has the same distribution as the entire phrase. Wherever the whole phrase can occur, it is possible to substitute just the H. For instance, we could say either *<u>The man over there</u> stopped immediately* or simply *<u>He</u> stopped immediately.* In *The little girls living next door ate immediately* (example 3 above), the noun phrase (NP) headed by *girls* is a syntactic unit – it performs the function of subject (S) within the clause. The non-finite clause *living next door*, structurally higher in the hierarchy of linguistic units, has the function of a modifier within the NP.

Determining the number of phrases in a sentence may be more challenging in this third example than in a simpler one, such as example 2, which contains three single-word phrases. The key lies in identifying which words group together into meaningful units. One diagnostic tool is the substitution test — also known as the pro-form test — where a string of words is replaced with a single word: *they / ate / somehow*. The fact that one word (*they*) can replace *[NP the little girls living next door]* suggests that these words form a phrase. Conversely, we cannot replace strings such as *"the little"*, *"living next"*, or *"door ate"* with a single word, indicating that these are not phrasal units. It follows that the H cannot be omitted. To construct a phrase of any kind, we minimally require the presence of a head. According to phrase structure rules, the phrase may also contain dependent elements – these are often optional, and they function as modifiers or complements. In practice, we seldom construct phrases that are spare and bony; instead, we tend to flesh them out with syntactic material that adds descriptive richness.

Noun phrases (NPs) can be identified based on two key factors: the word class of their head (noun or pronoun) and the characteristic arrangement of dependents around the head. Despite their surface complexity, phrases such as *both the girls who are wearing a black dress* or *his every success* can be replaced by a single noun or pronoun without altering the overall syntactic structure of the sentences in which they may appear. This substitution proves the syntactic unity of the NP and reaffirms the structural necessity of the head. Pronouns generally function independently as NPs, yet certain categories, especially indefinite and interrogative pronouns, may host modifiers.

The head (H) remains the indispensable component – while most accompanying elements can be omitted without destroying the grammatical status of the phrase, their omission may radically alter the referential meaning. Determiners function as the primary specifying elements and can be grouped into pre-determiners (e.g., *both*, *all*), central determiners (e.g., *the*, *his*, *a*), and post-determiners (e.g., *every*, *few*). Their role is to anchor the head noun in relation to grammatical features such as number, definiteness, distance, and ownership. For example, the definite article (*the*) implies shared knowledge of the referent, while the indefinite article (*a*) selects a single item from a class. Demonstratives such as *this* and *that* signal proximity, and possessives like *his* and *John's* indicate association with speech participants. Numerals and quantifiers narrow referential scope through quantification. Beyond determiners, the head may be recognized by its being crucially involved with pre-modifiers and post-modifiers, which are often optional and serve elaborative or restrictive functions. Pre-modifiers typically include adjectives (e.g., *sophisticated words*), adjective phrases (e.g., an *unusually interesting book*), and noun phrases (e.g., *secondary school system*). Less common are adverbials and prepositional phrases. Post-modifiers frequently take the form of prepositional phrases (e.g., *a school close to the city*), relative clauses (e.g., *girls who are wearing a black dress*), or non-finite verb constructions (e.g., *an unusually interesting book*

to read at home). Adjective phrases and adverbs may also occur postnominally. These examples collectively illustrate the syntactic richness and flexibility of the noun phrase.

There are important structural differences between the verb phrase (VP) and other phrasal categories. Unlike NPs or AdjPs, whose dependents may vary significantly in placement and type, the dependents of the VP must be drawn exclusively from the class of auxiliary verbs. These auxiliaries occur before the main verb and in a strictly fixed order, a feature that distinguishes the VP as syntactically more rigid. The verb phrase encodes four major grammatical categories – tense, modality, aspect, and voice – through its component verbs. Importantly, VPs are composed solely of verb forms. The head of the VP is the main verb or lexical verb, which may be preceded by several types of auxiliaries: modal auxiliaries (e.g., *can, may, must*), grammatical auxiliaries (e.g., *be, have, do*), auxiliary equivalents (e.g., *be able to, be supposed to*), and catenative verbs (e.g., *start, stop, keep*). Each category contributes semantically and syntactically to the interpretation of the verbal complex. It is also worth noting that in this analysis, the term VP is used in a narrower sense than in many traditional grammars. Here, it refers specifically to constructions comprising a main verb and its auxiliary components. In broader grammatical frameworks, VP may refer to the verb of a clause plus any postverbal clausal elements. This broader sense aligns more closely with the notion of the predicate, which encompasses the entire verbal projection within the clause.

In adjective phrases (AdjPs), the head (H) – an adjective – cannot be omitted, as it determines the syntactic identity of the entire phrase. AdjPs may include premodifiers, postmodifiers, or both. The premodifying element is typically an intensifying adverb expressing degree (e.g., *extremely happy*, *very good*). More exceptionally, postmodifiers can also indicate degree, as in *good enough*. Additionally, adjectives are frequently followed by postmodifiers such as prepositional phrases (*happy with the result*), non-finite clauses (*happy to help*), or finite clauses (*so obnoxious that she had to be expelled*). In some cases, adjectives require complements, especially when they are semantically incomplete without additional specification: *busy with my term paper*, *guilty of a crime*, *slow to respond*, or *subject to approval by the authorities*.

Adverb phrases (AdvPs), similarly, are headed by adverbs, and only the head is obligatory. Their structure largely parallels that of AdjPs but typically involves a more limited range of dependents. As with adjectives, adverbs can be premodified by intensifiers such as *very*, *fairly*, or *extremely* (e.g., *very quickly*), and they may be postmodified as well—common postmodifiers include adverbs like *indeed*, *enough*, or *else* (e.g., *slowly indeed, well enough*, *somewhere else*). Although both pre- and postmodification are permitted, these structures are less frequent in AdvPs than in AdjPs, reflecting the adverb's more syntactically constrained role in the clause. There are important structural differences between the verb phrase (VP) and other phrasal categories.

The last major phrase type – the prepositional phrase (PP) –, as explained previously, is structurally distinct from the others in that it is headed by a preposition, a closed-class item that functions as the obligatory core of the phrase. A PP is composed of two primary components: the head (H), which is always a preposition, and a complement, which is often realized by a noun phrase (NP) (or by a nominal constituent). This complement may be referred to either as prepositional complement (pC) or as the object of the preposition. Prepositional phrases (PPs), thus, are an exception. While NPs, VPs, AdjPs, and AdvPs are organized around an inwardly-focused syntactic centre – the head – which determines the internal structure and permissible dependents, PPs are outwardly focused or "exocentric"[31]. They function primarily as relators, linking their complement to a larger structural context and thus serving a connective role rather than building internal complexity. The designation of this element as a "complement" emphasizes that it completes the semantic content of the preposition; the term "object of the preposition" stems from the fact that this syntactic environment is recognized as "object territory."[32] Accordingly, personal pronouns appearing in this slot typically take the objective case (*e.g., to her*, *for him*), reinforcing the argument for morphological realization as a marker of syntactic function.

A distinctive feature of the PP, in contrast to other phrase types, is that the prepositional head cannot stand alone – it requires the presence of its complement to constitute a complete phrase. While NPs, AdjPs, AdvPs, and even VPs can sometimes appear in reduced forms without dependents, PPs demand both structural and semantic completion. For example, in combinations such as *towards her*, *on the table*, or *from under the bridge*, the preposition determines the semantic relation, while the complement anchors it referentially. PPs do rarely include modifiers or specifiers, such as the adverb *right* in *right towards her*, which intensifies or narrows the directional meaning of the head.

Although Rule 1 of phrase structure theory posits that phrases are obligatorily headed, s-genitive constructions provide a series of compelling exceptions. Typically functioning as determiners, s-genitives are expected to precede and limit the reference of a head noun. Yet in actual usage, particularly in elliptical and stylistically marked contexts, the head noun may be omitted or replaced – without invalidating the syntactic integrity of the phrase. For instance, in *(1) She has read all of Dickens' novels, and most of Thackeray's*, the head noun *novels* is omitted in the second clause, yet recoverable from prior discourse. The phrase *most of Thackeray's* thus functions independently, relying on contextual inference to complete its reference. Such independent genitives often surface in comparative or copular constructions, as in *(4) Bob's is the better paper*. Here, the genitive *Bob's* stands in place of the full NP *Bob's paper*, and the construction emphasizes

[31] Peter Collins and Carmella Hollo, *English Grammar: An Introduction*, 3rd ed. (London: Palgrave Macmillan, 2017), 37.
[32] Maggie Tallerman, *Understanding Syntax*, 4th ed. (New York: Routledge, 2019).

either the possessor or the comparison. This pattern is echoed in *(3) Maggie's is a miserable government. Ours is a life full of toil and suffering*, where possessive pronouns like *ours* substitute for full referential expressions, enhancing stylistic variation and cohesion.

A particularly idiomatic set of exceptions involves local genitives, seen in *(5) Yesterday we had lunch at my brother's* and *(6) Don't forget to go to the butcher's*. These phrases denote habitual or culturally salient locations and do not permit easy recovery of an overt head noun. The noun (e.g., *house*, *shop*) is implied, but remains syntactically absent. Such genitives function fully as noun phrases in their own right, reinforcing the idea that the presence of a head may be structurally assumed rather than overtly realized. Together, these constructions illustrate how even the first and most basic rule of phrase structure – that a phrase must be headed – is subject to nuanced reinterpretation in actual language use, where ellipsis, emphasis, idiomaticity, and context allow for expanded syntactic flexibility.

Likewise, while the lexical verb typically serves as the head of a verb phrase (VP), determining both its syntactic structure and its contribution to the clause, certain constructions challenge the obligatory presence of this head element. These exceptions often involve auxiliaries functioning independently of a lexical verb, particularly in cases of ellipsis or substitution. Auxiliaries such as *do*, *have*, *be*, and modal verbs (*can*, *might*, should, etc.) are not used as full verbs in their own right. However, they may stand in for previously stated lexical material, enabling substitution for a verb phrase already mentioned. For example, in (2) *He ate an orange and so did I*, the auxiliary *did* substitutes the entire predicate. Similarly, *I can drive and so can he* uses *can* as a syntactic placeholder for *drive*.

In some contexts, auxiliaries may also appear in responses where the content of the VP is implied: e.g., Q: "Are you going to play?"; A: "Yes, I am." Here, *am* represents the VP *going to play*, and the construction remains fully grammatical due to prior discourse providing recoverable content. However, constructions in which an auxiliary appears without clear recoverable reference often produce incomplete or ungrammatical utterances. Consider *?I could yesterday*. Without a clear antecedent or lexical verb, the auxiliary could cannot stand alone coherently, despite being grammatically marked for tense and modality. In such cases, the utterance is perceived as elliptical and requires contextual support to be interpretable. These exceptions reveal that while the lexical verb usually functions as the structural and semantic core of the VP, its absence may be licensed under certain syntactic and discourse-driven conditions. The auxiliary thus assumes a functional prominence that, while not independently sufficient for full propositional meaning, enables syntactic economy and cohesion across clauses.

6. Rule 2: Phrase structure rules are reflected in all the morphological realizations of phrasal constituents.

The second rule states that phrase structure rules are reflected in the morphological realizations of phrasal constituents. Theoretically, any noun can occur in many different grammatical surroundings. Each may impose slightly different meanings on the head noun. Yet there is nonetheless a tight relationship between the morphological properties of the specifying elements and the head noun. These specifying elements, as can be seen in examples like *I like coffee* versus *I'd like two coffees, please*, make a world of difference to how we interpret H-nouns. One important specifying element in the noun phrase is inflection for number. Common nouns may be countable or uncountable. Yet there is no simple relationship between things in the world and the countable vs uncountable distinction. In the second example, *coffee* is used with a countable sense when preceded by a determiner (*two coffees*); the zero article (in *Ø coffee*), by contrast, signals uncountability – that is, generic reference.

A great many nouns can be used both as countables and uncountables, with a difference in reference. In *A boy drowned* and *The boy will play*, the noun appears with and without a definite article, thus with and without a determiner, which subtly shifts the specificity of reference. The sense of the H remains fairly constant in all grammatical environments, but reference is altered. Similarly, we think of *rain* as a non-discrete, mass noun, as in *Don't go out in the rain*. However, when paired with an indefinite article, as in *A sudden rain drums on our tent*, or given a plural ending, as in *Pretty soon the rains would set in and everything would be flooded*, there is a conceptual shift: *rain* is now treated as a countable event, marking discrete and separate manifestations of the same phenomenon. These variations confirm that morphosyntactic cues play a crucial role in shaping the meaning and distribution of lexical items, and that the relationship is not simply a matter of singular versus plural but of interpretive nuance grounded in form.

Oppositions relevant to H-nouns tend to be presented in binary terms – countable vs uncountable, common vs proper. A complication is that, often, the oppositions belong to different levels of description. The singular versus plural distinction is morphological and syntactic, the definite versus indefinite distinction is syntactic, and the generic versus specific reference is a matter of semantics. For example, collective nouns such as *family* show a two-way conception of collectivity that impacts syntax. In *His family is old. It goes back to the 17th century*, we observe the unit reading: both verb (*is*) and co-referent pronoun (*it*) appear in the singular. In *His family are old. They are all in their sixties*, we find the distributive reading: verb agreement and pronoun number shift to plural. Such variation illustrates that (personal, possessive, and relative) pronouns vary with the number and gender of the coreferential noun. Similarly, proper nouns – traditionally seen as

referring uniquely to persons and places – exhibit variation when contextually modified. While they generally appear without determiners, modification enables their combination with determiners and variation in number. Consider *June is a month for weddings* versus *The June in which she was married was warm* and *It was a June to remember*. In these examples, *June* functions first as a unique referent, then as a referent identified by modification, and finally as one instantiation of a category, showing countable use. Thus, proper nouns may participate in more syntactically complex structures than their definition might initially suggest.

Phrase structure rules extend beyond individual phrases and operate at the level of the entire clause, where they govern grammatical concord – also referred to as agreement. In English, this typically refers to agreement in person and number between the subject and the verb, particularly in the present tense. Standard grammar prescribes that the verb must reflect the number and person of the subject noun phrase (NP). However, this agreement is not always strictly formal; exceptions arise that highlight different principles of concord, namely *notional concord* and *proximity concord*. Notional concord occurs when the verb agrees with the meaning of the subject rather than its form. This is evident in phrases like *The nursing staff were against the change*, where the plural verb form *were* agrees with the understood plural meaning of *staff*, even though the lexeme is morphologically singular. By contrast, *The nursing staff was against the change* reflects formal agreement. Both are acceptable, but convey slightly different nuances. Proximity concord, on the other hand, reflects agreement with the nearest element in the subject NP, rather than with the head noun. In the pair *A number of accidents have escaped media attention* and *A number of accidents has escaped media attention*, the verb may agree with either *accidents* (proximal NP) or *a number* (head NP). This ambiguity arises because the semantics of the construction are distributive, but the syntax can be interpreted either way.

Some of the most debated examples arise from phrases that appear to involve false coordination or coordinated elements functioning as singular referents. Consider *Gin and tonic is my favourite drink* versus *Gin and whiskey are often found in many bars*. In the first, the NP is understood as a compound unit, prompting singular agreement (*is*), whereas in the second, the coordinated elements are interpreted as two distinct items, hence plural agreement (*are*). The case of *The TV series is endless* versus *The TV series are endless* illustrates another type of notional concord involving nouns that are invariant in form between singular and plural. The noun *series* can be interpreted as either singular or plural depending on context, and both verb forms can be defended. Together, these examples demonstrate that phrase structure rules at clause level are not purely mechanical. Concord, as a grammatical phenomenon, negotiates between form and meaning, and phrase structure theory must account for this by incorporating semantic interpretation, syntactic proximity, and even idiomatic usage into its rule set. These variations

reaffirm that clausal syntax is inherently flexible, guided not just by rigid structure but by interpretive principles grounded in context.

Another exception lies in the finite versus non-finite verb distinction. Compared with finite clauses, non-finite clauses can be regarded as reduced structures. In terms of meaning, they are reduced in that they lack specification of tense and modality; in terms of form, they are reduced in that they usually lack a subject, or even a verbal element in the case of verbless clauses. While finite verb phrases have full assertive power and contain inflected forms for person, number, and tense, non-finite verb phrases do not assert fully and remain uninflected. This morphological and functional reduction is illustrated in examples such as *Amanda dislikes John/John's watching music videos*, or *Amanda dislikes him/his watching music videos*. In these sentences, the non-finite clause *watching music videos* lacks tense and modality, and the subject (*John / John's*, *him / his*) is realized either in the objective or genitive case. In modern English, the common case is used in most functions. Yet, as these examples show, subjects of non-finite clauses are marked for case – either genitive, as prescriptive grammar would prefer (*John's / his watching*), especially when the -ing form is viewed as noun-like, or objective, which is frequent in less formal registers (*John / him watching*). There is considerable debate in grammatical tradition about which case is preferable. While prescriptivists argue for the genitive (*John's*, *his*), on the grounds that the -ing form functions nominally, actual usage favours the objective case in speech and informal writing. In formal contexts, however, genitive subjects of -ing clauses remain the norm. This dual possibility is also visible in constructions like *What I want is for John/him to leave* or *For him to go home now would be wise*, where the subject of the to-infinitive clause (*him*) is overtly marked for objective case, especially following the preposition *for*. Thus, despite the general trend toward minimal case marking in English, the persistence of case distinctions in the subject slot of non-finite clauses signals the subtle interplay between form and function.

There are also verb subclasses that cut across the open-closed dichotomy. Auxiliary verbs constitute a closed class comprising two main subclasses: the primary auxiliaries (*be, have, do*) and the modal auxiliaries (*can, may, will*, etc.). Grammatical auxiliaries such as *do*, *have*, and *be* are used systematically and obligatorily to express grammatical functions. For example, *She does not like Mondays*, *She has climbed the tree*, and *She was singing* illustrate how auxiliaries are employed when followed by another verb – being used as an operator for negation purposes and as a marker of aspect, first perfect (*has*), then progressive (*was*). However, these same verbs — *do*, *have*, and *be* — can also belong to the lexical word class, serving as the main verb in a clause. In *He does his duty*, *He has a dog*, or *He was a teacher*, they are not followed by another verb and express content meaning in their own right.

As we have noted before, it is the inflectional morphology of verbs that is their most distinctive feature. Six major inflectional categories are typically associated with verb lexemes: present tense (including third person singular, e.g., *eats*), past tense (*ate*), infinitive (*to eat*), present participle (*eating*), and past participle (*eaten*). This morphological variation reflects both tense and aspectual distinctions. The morphology of the verb is considerably more complex than that of the noun. However, certain distinctions — such as regular versus irregular verbs (*dance* → *danced* vs. *cut* → *cut*) — are not governed by their syntactic function within the verb phrase (VP). That is, the distinction between regular and irregular inflection is morphological, not syntactic, and does not influence the phrase structure rules. Furthermore, many grammars use the terms 'finite' and 'non-finite' instead of 'tensed' and 'non-tensed'. Finite verb phrases mark distinctions of tense (present/past) and may be preceded by modal auxiliaries (*She will dance*, *He might leave*). In contrast, non-finite verb phrases — such as *to dance*, *dancing*, *danced* — do not mark tense and cannot co-occur with modals. In a finite clause, the first or only verb is typically finite (*She has been using...*), while the remaining verbs (if any) are non-finite (*been using*). Examples such as *She wanted to leave before dinner* or *He must have been terribly scared* reflect how finite and non-finite forms co-occur and contribute to the hierarchical structure of the VP. Modal auxiliaries like *must* or *can* do not have non-finite forms and always occupy the finite position in the phrase. Thus, the internal structure of verb phrases — whether composed of auxiliaries, lexical verbs, or a mix of both — reflects the interplay between form, function, and inflection, and serves as a cornerstone of syntactic analysis.

The semantics of the verb is quite complicated, as each form may express a range of meanings, and the meanings of tense, aspect and modality markers cannot be sharply separated. The oppositions within the English verb phrase illustrate how grammatical categories such as tense, modality, aspect, and voice interact in systematic and morphologically traceable ways. Tense is commonly realized as a contrast between present and past; modality distinguishes between unmarked and remote forms; aspect is typically subdivided into perfect (e.g., *have + -ed*) and progressive (e.g., *be + -ing*), while voice is marked as either active or passive. These grammatical distinctions are layered and realized sequentially within the verb phrase. For instance, in the clause *The record may have been played all night*, the verb phrase *may have been played* contains a modal (*may*), perfect aspect (*have*), passive voice (*been*), and the main lexical verb (*played*) marked for past participle. The morphological markers are distributed across the phrase: the *-ed* of the perfect appears on the passive auxiliary *been*, while the *-ed* of the passive appears on the main verb *played*. Even in a more elaborate construction like *The record may have been being played*, the same logic holds: a modal initiates the phrase, followed by auxiliaries for perfect and progressive aspect, with the passive again realized through the final participial form. What emerges is a clear interlocking pattern — each auxiliary verb selects and constrains the form of the next, creating a chain that

reflects phrase structure rules through the morphological realization of its verbal constituents. This pattern is consistent with the theoretical accounts provided in canonical works on English syntax,[33] which emphasize the hierarchical and compositional nature of verb phrases in English grammar.

Adjectives typically denote qualities that can be graded, and as such, they frequently occur in structures that express comparison. This is evident in examples like *as drunk as a lord* or *so obnoxious that she had to be expelled*, where the degree is realized through a combination of premodifying and postmodifying elements. The two most distinctive grammatical properties of adjectives in English are their characteristic gradability and their syntactic functions. Most adjectives are gradable, in that they describe properties which may be present to varying degrees — this capacity being reflected in their ability to take degree modifiers as dependents (e.g., *very kind*, *extremely rude*). Not all adjectives are gradable, however. Some express absolute qualities and resist such modification—*dead*, *alive*, and *faulty* are among the most common examples. A specific subtype of gradability is known as comparison, which is morphologically realised through three inflectional forms: the absolute (e.g., *tall*), the comparative (e.g., *taller*), and the superlative (e.g., *tallest*). Regular adjectives, such as *tall*, form comparatives and superlatives via suffixation (*-er*, *-est*), whereas irregular adjectives like *good* and *bad* yield *better/best* and *worse/worst*, respectively. In addition to inflection, adjectives may also signal comparison analytically, through the use of degree adverbs such as *more* and *most* (e.g., *more careful*, *most careful*). With certain adjectives, there is variation, and both inflectional and analytic patterns are available (*cleverer/more clever*). This pattern extends beyond adjectives to include many adverbs, which likewise exhibit gradability. Yet, in contrast to adjectives, adverbs typically mark comparison analytically, rather than inflectionally. Thus, while we may say *very quickly* or *more honestly*, the comparative and superlative forms are almost never created via suffixation in contemporary English. This shared capacity for comparison underscores the functional parallels between adjectives and adverbs in the grammar of modification.[34]

7. Rule 3: The H-element determines the distribution of all the other elements within the phrase and of other phrasal elements within the clause.

[33] Geoffrey K. Pullum and Rodney Huddleston, *The Cambridge Grammar of the English Language* (Cambridge: Cambridge University Press, 2002); Douglas Biber et al., *Longman Grammar of Spoken and Written English* (Harlow: Longman, 1999).

[34] Randolph Quirk et al., *A Comprehensive Grammar of the English Language* (London: Longman, 1985); Geoffrey K. Pullum and Rodney Huddleston, *The Cambridge Grammar of the English Language* (Cambridge: Cambridge University Press, 2002).

Although evidence from morphology can often be used to distinguish different word classes that realize functions within phrase-sized units, such evidence is not always available. When morphological distinctions are lacking, syntactic evidence becomes indispensable. Each word class fits into certain syntactic slots unique to it and co-occurs with specific other word classes. Moreover, each word class performs distinct functions within the phrase. For instance, the category of nouns shows how the head of the phrase determines both form and the distribution of dependents. A key distinction is that between count and mass nouns. Though both can occur with the definite article *the*, only count nouns can co-occur with the indefinite article *a* or *an* (*a fish*, *an accident*), and only count nouns can be pluralized, either through regular suffixation (*climbs*, *jumps*) or through irregular inflection (*geese, women, lice*). Mass nouns like *fish* (when referring to the food) remain unmarked for plurality. This difference also affects the choice of quantifiers: *many* is used with count nouns (*many climbs*), while *much* is used with mass nouns (*much love*).

In another revealing set of examples, we observe double word-class membership. Words such as *climb*, *jump*, *love*, *fish*, and *walk* can function both as nouns and as verbs, depending on the context. Compare *The climbs were difficult* (noun) with *He climbs the mountain every summer* (verb). These examples show how the syntactic distribution of elements — what comes before and after the word—helps to disambiguate its category. These distinctions are crucial for understanding the third rule, which states that the head of the phrase governs the distribution of its dependent elements and, by extension, influences the structure of the clause. One compelling case illustrating this rule is found in headlines or ambiguous constructions like *Union demands increase*. Without a determiner or auxiliary to clarify the word class, *increase* becomes ambiguous: is it a noun or a verb? Inserting *an* (*an increase*) signals that *increase* is a noun; inserting *will* (*will increase*) shows it is a verb. Determiners and auxiliaries are function words, selected by the head, and do not carry a heavy semantic load — but they are syntactically critical in shaping meaning and structure.

This dynamic also becomes evident in structures like *Flying planes is/are dangerous*, where interpretation hinges on the function of the H-word. Is *flying* a noun or part of a verb phrase? The verb agreement with *is* or *are* reflects differing structural analyses: either *flying planes* as a non-finite -ing clause (*Flying planes is dangerous*) or as a plural subject involving a noun phrase with a premodifying adjective (*Planes that fly are dangerous*). Thus, head elements not only determine syntactic slots but also condition the syntactic and semantic interpretation of the phrase and the clause as a whole. These examples collectively illustrate the centrality of the head in syntactic structure, reaffirming the third rule: The H-element determines the distribution of other elements within the phrase and other phrasal elements within the clause.

The same principle applies across categories. Adjectives, for example, function either attributively –modifying nouns within NPs (*a <u>pleasant</u> man*)—or predicatively, functioning as

subject complements (*He is pleasant*) or object complements (*I find him pleasant*). Some adjectives, however, are restricted in distribution: *afraid* and *asleep* are used only predicatively (*The boy is afraid*), while *main* and *nuclear* occur only attributively (*the main point; nuclear war*). Likewise, adverbs function at multiple levels. At the phrase level, they serve as premodifiers within AdjPs (*unusually quiet*) or AdvPs (*unusually slowly*). At the clause level, they function as adverbials (e.g., *luckily*, *yesterday*, *just*, *now*). In these cases, morphological realization becomes less relevant – position and function within the structure dictate category membership.

In situations involving multiple word-class membership (for instance, with *green*, *Norwegian*, or with participial forms like *trying* and *calculating*), syntactic context is the decisive factor. If a word modifies a noun, it functions as an adjective (*a green dress*); if it heads a noun phrase or serves as the object of a preposition, it is a noun (*She is a Norwegian; on the green*). Similarly, -ing and -ed participles may function as adjectives or verbs. The form *trying* in *a trying experience* is adjectival (modification test: a very trying experience), whereas in *I was trying to help*, it is part of the VP functioning as Verbal. To determine the word class and structural role of such elements, we rely on distributional patterns, syntactic testing, and their interaction with the H-element – the central organizing force in phrase and clause structure.

Since the defining criteria for word classes are grammatical, in cases of category overlap the only reliable method of classification is to consider the grammatical context — specifically, phrase structure rules. As Collins and Hollo explain, "the syntactic class of a unit is determined by the grammatical properties that it shares with other forms, while the syntactic function is the grammatical role of a unit within the construction that contains it"[35]. For example, *kindly* is an adjective in *He's a kindly person* because it modifies the noun *person*; however, in *He behaved kindly*, *kindly* is an adverb, modifying the verb *behaved*. This identification depends entirely on syntactic function and position, not morphological form. Adverbs that share forms with adjectives—such as *pretty*—do not typically inflect for comparison (*prettier*, *prettiest* exist for adjectives, but not for adverbs). As uninflected forms, they are considered homophones of adjectives and functionally identified as adverbs when they operate as verb modifiers. In *That dress is pretty* vs *That dress is pretty expensive*, *pretty* shifts from an adjective to a degree adverb. The word class here is determined not by morphology, but by syntactic placement and the role it plays within the phrase.

This rule — the head determines the distribution of other elements within the phrase and the clause — also clarifies cases where form alone is insufficient. One should also consider the overlap between prepositions, adverbs, and subordinators. In *He walked past the bank*, *past* functions as a preposition because it selects a prepositional complement (*the bank*). In *John walked*

[35] Peter Collins and Carmella Hollo, *English Grammar: An Introduction*, 3rd ed. (London: Palgrave Macmillan, 2017), 14.

past, the absence of a complement means *past* now behaves adverbially, expressing a spatial relation without syntactic dependency. Similarly, in *They left before the speech*, *before* functions as a preposition, taking the NP *the speech* as complement. But in *They left before the speech began*, it introduces a dependent, subordinate clause (*the speech began*) after the main, independent clause (*they left*), marking its use as a subordinating conjunction.

This interplay between syntax and function is especially evident in the role of the H-word in determining distribution. For example, in the NP *cool drinks*, it is the noun *drinks* that functions as head, determining the capacity of the NP to act as subject in [$_{NP}$ *Cool drinks* ^{S}] [$_{VP}$ *are* ^{V}] [$_{AdjP}$ *expensive* ^{SC}] or as direct object in [$_{NP}$ *They* ^{S}] [$_{VP}$ *prefer* ^{V}] [$_{NP}$ *cool drinks* ^{O}]. The premodifier *cool* cannot fulfil these roles independently. Likewise, in the sentence *They may have lost their way*, the ability of [$_{VP}$ *may have lost*] to govern the object *their way* stems from *lost* being a transitive verb. If an intransitive verb such as *escape* had been used instead (*They may have escaped*), the selection of a direct object would not have been permitted. These examples confirm that it is not merely the obligatoriness of the head that defines it, but its distributional control over the syntactic environment — a principle central to phrase structure theory and the grammatical analysis of word class membership.

This interplay between syntax and function is especially evident in clause patterns governed by the transitivity of the verb. Consider *They offered him a place* — a ditransitive pattern involving both an indirect (him) and a direct object (*a place*). In contrast, a monotransitive pattern such as *She cleaned the room* only requires a single object, while in *They slept late*, the verb is intransitive and does not require an object at all. Such examples show that the type of verb – not just its lexical identity – determines the clause structure. Here, the term *valency* refers to the number of elements the verb attracts, while *transitivity* describes the types of clause elements it combines with (DO, IO, SC, OC, A). This syntactic behaviour is central to understanding word class roles within phrase structure grammar.

8. Conclusion

The five phrase types this paper has briefly touched upon – namely, NPs, VPs, AdjPs, AdvPs, and PPs – fulfil specific syntactic functions at the clause level: subject, verbal, object, complement, and adverbial. The head of each phrase governs these functions, controlling how the phrase is integrated formally and functionally within a larger clause. This principle offers a powerful explanation for the generative capacity of natural language, as a limited set of phrase structure rules, to enable the creation of countless grammatical constructions. These rules specify not only the internal makeup of each phrase but also how phrases are sequenced and structured within the

clause, with verbs functioning as central organizing units. This distributional logic demonstrates the elegance and economy of syntactic patterning in English grammar.

In conclusion, the discussion returns to the initial theoretical orientation, drawing connections between the core principles addressed throughout. Foundational rules of word-formation (morphology) and sentence-formation (syntax) have been outlined, and their interaction has been demonstrated. These rules govern both the combination of meaningful elements into complex phrasal structures and the morphological changes these elements may undergo. They also regulate the linear sequencing and hierarchical grouping of linguistic units within larger constituents. Alongside morphological processes, syntactic rules constitute the central organizational system of grammar.

Among the more abstract concepts considered, hierarchy emerges as fundamental to syntactic analysis. Syntactic inquiry entails the identification of the layered, constituent structure of sentences, clauses, and their subunits. A recurring pattern in this analysis is the presence of gradient distinctions and indeterminacy within grammatical rules. As Edward Sapir famously remarked, unfortunately – or, better said, luckily – "all grammars leak", since no language is completely grammatical or "tyrannically consistent", otherwise it would become a mere "engine of conceptual expression"[36]. While discrete contrasts do exist, language users often manipulate them to express refined or creative shades of meaning. For example, the poetic phrase "a grief ago," famously coined by Dylan Thomas, places *grief*, ordinarily a head noun, in a premodifying position, thus exemplifying the productive and flexible nature of English phrase structure. Though such creativity is more overt in literary contexts, similar "fuzzy edges"[37] underpin ordinary usage. This helps explain the permeability of grammatical categories. Nevertheless, the rules surveyed here—especially phrase structure principles and their morphological realizations – provide a coherent account of the syntax of English. Ultimately, an understanding of the structural patterns of language enables deeper insight into the semantic richness enabled by grammatical variation.

The assumptions that phrases are obligatorily headed, that morphology is a mirror of syntax, and that heads regulate internal distribution are often taken for granted in syntactic theory. This article has revisited these foundational principles, showing that their empirical and descriptive validity depends largely on how they are contextualized within actual linguistic data. English, despite its relatively impoverished morphology, provides numerous instances in which structural relationships are reflected through surface forms. The current analysis has not sought to invalidate the foundational rules of phrase structure, but rather to refine their scope and

[36] Edward Sapir, *Language: An Introduction to the Study of Speech* (New York: Harcourt, Brace & World, 1921), 38.
[37] Hilde Hasselgård, Stig Johansson, and Per Lysvåg, *English Grammar: Theory and Use*, 2nd ed. (Oslo: Universitetsforlaget, 2007), 16.

reinterpret their theoretical import. Throughout this paper it has been shown that forcing a purely syntactic model on to the different configurational possibilities of phrase structure leads to false generalizations and to oversimplification of the real subtleties of English grammar. Morphology, far from being marginal, functions as a structural signal – enabling the recognition of phrasal heads, revealing phrase boundaries, and constraining possible combinations. By revisiting phrase structure from the perspective of morpho-syntax, we open the possibility of a syntax that is not only formally coherent but also empirically accountable. The challenge ahead is to develop analytical tools that do not treat morphology as an afterthought, but as a crucial key to understanding how language organizes and articulates structure.