TITLE: Verb

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Abstract

The verb is one of the traditional major parts of speech, along with noun and adjective. Verbs can be characterized in terms of morphology, syntax, semantics and pragmatics. Verbs typically have the greatest number of inflections of any word in a sentence. Verbs also influence much of the structure of a clause, because their valency largely determines the occurrence and type of subject, object and oblique phrases. Verbs typically denote actions (processes) Pragmatically, verbs are the core of the pragmatic assertion of a sentence.

Keywords

verb, predication, clause, event, aspect, voice, valency, transitivity, argument structure

Key points

• The prototypical function of a verb is action predication
• As the predicate of the clause, verbs typically bear the largest number of inflections of any part of speech in a language, expressing valency, aspect, voice, tense, modality/evidentiality, polarity, and indexation (agreement) with core arguments denoting event participants

• Verbs also typically change form depending on what role their clause plays in a complex sentence (main/subordinate, adverbial/complement/relative clause)
• Verbal semantics is very rich, varying by semantic domain, force dynamics and aspectual structure
• Verbs determine a significant part of clause structure, particularly argument structure

Glossary (optional)

Nomenclature (optional)

Body:

Introduction

The verb is one of the traditional major parts of speech, along with noun and adjective. Verbs can be characterized in terms of morphology, syntax, semantics and pragmatics. Verbs typically have the greatest number of inflections of any word in a sentence. Verbs also influence much of the structure of a clause, because their **valency** largely determines the occurrence and type of subject, object and oblique phrases—its **argument structure**. Verbs typically denote actions (processes) with their complex temporal and causal structure as well as their valency. Pragmatically, verbs are the core of the **pragmatic assertion** of a sentence. Like other grammatical elements, verbs vary considerably in their grammatical expression across languages. We will survey this variation starting from the function of prototypical verbs, action predication, and then describe the range of verb meanings—**events**—and how verb valency structures clauses.

Characteristics of prototypical verbs (action predication)

Verbs prototypically predicate actions. Verbs as predicates represent the core **pragmatic assertion** of a sentence. That is, they convey the primary new information conveyed in a sentence (Lambrecht 1994). A verb may be the only obligatory element in a sentence. The pragmatically presupposed or nonasserted information, including phrases denoting the participants in the action denoted by the verb, may be only optionally expressed in a language. For this reason, the verb attracts grammatical inflections for many of the categories associated with the clause (see Table 1).

The pragmatic assertion may be qualified by the degree of certainty or confidence that the speaker has in the truth of the assertion (**epistemic modality**), the source of evidence for the assertion (**evidentiality**), whether the assertion is being made for the world that is taken to be the actual world or not (**polarity**), or a world or "mental space" (Fauconnier 1985) that is desired, feared, or imagined in any other way (**deontic modality**). Since the verb is the central part of the pragmatic assertion, these qualifications of the pragmatic assertion are frequently expressed grammatically as inflections on the verb or as **auxiliary** forms or elements grammatically dependent on the verb.

Verbs as actions are semantically complex entities. Actions unfold in different ways over time, grammatically expressed as **aspect**. Actions can be decomposed into phases, including the start, middle (central process) and result state of an action (*The cake is all eaten*). Not all actions arrive at a result state, either inherently—the verb meaning, such as *rise*, does not entail a "natural endpoint"—or because the action is terminated before it reaches a natural endpoint. An action may also be iterated, either as a sequential or in a recurring, habitual fashion. Since aspect is intimately connected to the semantic structure of actions and events, it is often expressed as inflectional or derivational forms of verbs, or as independent words grammatically dependent on the verb. Differences in aspect may also be manifested simply as polysemy of a verb form: *The door opened/The door is open*.

Actions are also located in time, grammatically expressed as **tense** or as expressions locating the action in time (*yesterday, now*). Location in time is one way to distinguish one instance of an event from another (eating yesterday vs. eating now), and hence allowing the pragmatic assertion to be evaluated by the hearer. As with modality, evidentiality and polarity, temporal location applies to the entire situation, but the centrality of the verb, plus the fact that tense is historically usually derived from aspectual inflections, means that tense is normally expressed as a verbal inflection. This set of grammatical categories — tense, aspect, modality/evidentiality and polarity — are often called **TAMP** (or just **TAM**) categories.

More important for grammatical structure, actions are **relational** concepts: they inherently make reference to other entities, usually persons or things, that are **participants** in an action. Actions often involve multiple participants that interact with each other. Participants are expressed by **argument phrases**, such as subject, object and various types of oblique phrases.

The participants in an event also provide another way to distinguish one instance of an event from another (e.g. my eating a cookie from her eating a sandwich). This fact, along with the inherently relational character of events, is a likely motivation for the verb to **index** (**agree** with) its core arguments, subject and object (and even sometimes a second object). These inflections, most commonly expressing grammatical person and number, originate in independent pronouns but, like the other semantic categories described here, often grammaticalize into verbal inflections.

Otherwise similar events, in terms of what changes and who or what is affected by the event, may involve additional participants, such as an external agent that causes the event to happen (*They rolled the barrel into the cellar* vs. *The barrel rolled into the cellar*), or someone affected by an action (*He baked a cake for his sister* vs. *He baked a cake*). Expression of these similar but not identical events is referred to as **valency change**. Languages may express these related events with a single verb form, as in the English examples given above; by derivational affixes (**causative, applicative**, etc.), and by periphrastic constructions such as *She got the shopkeeper to sell the sheets for a discount.* Closely related to valency is grammatical **voice**, in which participants differ in topicality from their prototypical expression (e.g., in passives, the agent is less topical but the patient is more topical), and this difference is often expressed by a change in argument structure and often a derived verb form.

TABLE 1 AROUND HERE

Thanks to these many grammatical semantic categories that are frequently expressed as verbal inflections, verbs are commonly the most morphologically complex part of speech in a language. These inflections are sometimes discrete, and sometimes merged (**cumulation**). There is a cross-linguistic universal governing the relative distance of the grammatical inflection from the verb root, from closest to most distant: inflectional aspect < tense < mood < person/number indexation (Bybee 1985). Valency and lexical aspect are derivational categories, which generally occur closer to the root than inflectional categories (Greenberg 1966, Universal 28).

A final aspect of the centrality of verbs to clause structure is that many aspects of the word order of clauses appear to be correlated to varying degrees with the position of the verb, especially with respect to the object argument phrase (VO vs. OV word order; Dryer 1992). The ~90% of languages with a single dominant order of verb and object divide more or less evenly between VO and OV. Almost all OV languages are verb-final, that is, the verb follows both subject and object. Only around a quarter of VO languages are verb-initial in the same sense; the others are subject-initial (i.e. have SVO order); see Table 2. The great majority of verb-final languages are rigidly verb-final, that is, not just the object phrase but all other phrases precede the inflected verb in almost all cases (based on a large unpublished database of word orders maintained by Matthew Dryer; Dryer, personal communication). In rigidly verb-final languages, the inflected verb serves as the terminal element of the clause. In a subset of these languages, even subordinate clauses precede the main verb, and so the inflected verb serves as the terminal element of the sentence.

TABLE 2 AROUND HERE

Non-prototypical verbs and verblike constructions

All of the above properties of verbs apply to the prototypical semantic and pragmatic combination: predication (pragmatic assertion) of an action—a **main clause**. However, not all actions are pragmatically asserted, and not all verbs denote actions. Languages vary considerably as to how non-prototypical combinations are expressed. Some combinations are expressed just like the prototypical action predication, while others are expressed by constructions that differ from prototypical action predication to different degrees (see Table 3).

Actions that are not pragmatically asserted include **complement clauses** (arguments of a predicate), **relative clauses** (modifiers of a referent such as an argument) and **adverbial clauses** (expressing relations between events of the same type as coordinated clauses, the latter all being pragmatically asserted). If these constructions are expressed by a construction identical to a main clause they are **balanced**; if the verb form is derived, they are **deranked** (Stassen 1985). Deranked verb forms come under a wide variety of names in traditional grammar: infinitives, participles, gerunds, nominalizations, subjunctives, converbs and so on. Deranked clauses often lack the typical inflections of main clause verbs described above (Cristofaro 2003), and often encode the arguments of the verb differently (Koptjevskaja-Tamm 1993).

TABLE 3 AROUND HERE

Concepts other than actions may be predicated, including stative concepts, property concepts and even object concepts (see Table 4). Some or all of these concepts are expressed like main clause verbs in many languages, in which case they are sometimes also called "verbs" (or sometimes "stative verbs"). There is a hierarchy of how "verby" these concepts are: actions < properties < objects (Croft 1991, Wetzer 1995, Stassen 1997). "Verby" property predication occurs only in the absence of a past-nonpast tense inflection (Stassen 1997).

TABLE 4 AROUND HERE

Finally, predicated action concepts may also be expressed not as simple verbs but as **complex predicates** (see Table 5). Complex predicates come in a wide variety of morphosyntactic forms. Perhaps most common are **auxiliary constructions**, in which an action concept word combines with a word that expresses TAMP categories, or semantically more opaque forms (**support verbs**). In these cases, the action concept word might lack typical verbal inflections, and the auxiliary/support verb inflects instead of or in addition to the action concept word (Anderson 2006, 2011). In some languages, multiple action concept words can be combined to form a **serial verb** construction describing a "single event" (Durie 1997, Aikhenvald 2018). Finally, languages often employ complex expressions in the form of a "verb" plus an "argument" which actually together describe an action, as in Spanish *hacer sol* [lit. 'make sun'] meaning 'be hot'.

TABLE 5 AROUND HERE

Verbal valency and argument structure constructions

Argument structure constructions express the participant roles and event structure associated with a verbal predicate in a single clause (Goldberg 1995, 2006).

Semantically, participants in an event are either central or peripheral. Central participants take roles that are inherent to the event expressed by the verb, e.g., the eater and the food in an eating event). Peripheral participants take roles that are not closely tied to the progression of the event, e.g., the location in an eating event). The **valency** of an event, and thereby the transitivity of the verb that expresses that event, is determined by the number of central participants. Along the information-packaging dimension, participants are more or less salient, depending on their status in the discourse. Prototypically, central participants are more salient in the discourse and peripheral participants are less salient. Central, salient participants are expressed as core arguments (**subject** and **object**); peripheral, less salient participants are expressed as **oblique** arguments (see Table 6).

TABLE 6 AROUND HERE

There are three basic argument structure constructions, classified by the number of core arguments (see Table 7). **Intransitive constructions** have one core argument corresponding to their central, salient participant and prototypically express **monovalent** events. **Transitive constructions** have two core arguments and prototypically express **bivalent** events; and **ditransitive constructions** have three core arguments and prototypically express **trivalent** events. Of these three basic constructions, transitive constructions form the prototype for single-

clause argument structure constructions. Languages tend to have a single transitive construction that is used consistently across the great majority of verbs denoting bivalent events. Intransitive and ditransitive constructions show more variation both within and across languages.

The prototype for the transitive construction across languages—that is, the verb that is almost always found in the general transitive construction—is a change-of-state event caused by an external agent to bring about the change of state of a patient, more specifically, the verb denoting a 'break' event (Haspelmath 2011; Blasí 2015). Although 'break' may involve a third participant, the instrument, the instrument is less central, and is typically coded as an oblique (i.e., peripheral and less salient). Since the transitive construction involves two central, salient participants, it must be further specified that the agent is more salient than the patient to differentiate the basic transitive construction from non-active voices such as the passive and antipassive (Croft 2022).

Intransitive constructions do not show the same level of uniformity across languages, mainly due to a small number of languages that make use of two distinct intransitive constructions: an **active** intransitive construction is used for events where the single participant is more agentive and an **inactive** intransitive construction is used for events where the single participant is more patientive (see Table 7). Although languages vary in terms of which verbs and event classes occur in which intransitive construction, the active intransitive construction is almost always used for motion events, exemplified by 'walk', and the inactive intransitive construction is almost always used for uncontrolled change-of-state events, exemplified by 'die' (Haspelmath 2011; Croft 2022). In languages with a single widely used intransitive construction, the same construction is used for both 'walk' and 'die'.

TABLE 7 AROUND HERE

All languages have constructions with one core argument and constructions with two core arguments. Ditransitive constructions present a complication because many languages do not have a distinct construction with three core arguments, i.e., a subject and two objects, as in the English construction *The teacher gave* [*the girl*] [*an award*]. For this reason, the ditransitive constructions is generally taken to include (some) constructions that have two core arguments and one oblique argument, such as the alternative English constructions *The teacher gave* [*an award*] [*to the girl*], or *The teacher presented* [*the girl*] [*with an award*]. In languages that do have a double object construction, it is most often used for transfer events: an agent transfers a theme to a recipient. This encompasses both physical transfer events, such as 'give', and mental transfer events, such as 'show'.

Verbs and events

Verbal semantics represents events, that is, which entities are evoked as participants in an event and how they interact with each other. The most common ways in which participants interact with each other in an action are causal—one participant causes another participant to undergo a change—and spatial—one participant is located, moves, or is caused to move, with respect to another participant which serves as the reference point for the motion event. These are not the

only ways in which participants interact with each other. These interactions can be described under the broad category of **force dynamics** (Talmy 1985; Croft 2012).

Verbal semantics have been researched in great detail by different scholars in the field of linguistics (e.g., Dowty 1991, Van Valin and LaPolla 1997, Levin 1993, Levin and Rappaport Hovav 2005). The classification of verb classes that follows represents a common categorization, and is based on the force-dynamic interaction between participants (see Table 8). Depending on the identity of the participants and the nature of their interaction, three major event categories can be identified.

TABLE 8 AROUND HERE

Physical causation verbs describe how entities in the physical world interact with each other on a causal level by using physical force. In force and contact events, the core participant may or may not undergo a change in their physical property when it comes into contact with another entity. In application, removal, (un)covering, and filling events, the core participant mereologically (part by part) changes its location with respect to a ground entity. In motion events, the core participant moves holistically with respect to a ground entity. In change of state events, the central participant undergoes change in its physical property or state. In creation and emission events, the core participant comes to exist via some process. In location events, the core participant is in a stative relation relative to a ground entity (Croft et al. 2016).

Mental causation or **experiential verbs** describe events in which an entity with mental capacities, i.e. a human, interacts with the environment around them, i.e. a stimulus, on a mental level (Verhoeven 2007; Croft et al. 2018). In events of affect, a mental entity undergoes a change in their mental state by being exposed to a stimulus. In experience events, the experiential relation between the mental entity and the stimulus is stative. In attending events, the mental entity initiates the experiential relation by volitionally directing their attention towards a stimulus In judgement events, the experiential relation requires active cognitive reasoning in order for the experiencer to form a judgment of some property belonging to the stimulus.

Social causation verbs describe various types of interactions between human entities, their roles, and institutions (Kalm 2022). In communication events, a meaningful signal is generated to communicate a message to an addressee. In transfer of possession events, an object is assigned ownership through some social action. In social role events, a human entity becomes associated with or disassociated from a social role within an institution our a socially defined group. In interaction events, two or more humans interact with each other on an interpersonal level.

Some verbs do not fit into these three broad semantic categories, such as verbs that denote conceptual relations between entities (e.g., *differ, symbolize, indicate)* (Kalm 2022) and verbs that specify some quality or action of a participant thereby not introducing a separate participant in the event, such as *quit* in *He quit smoking* (Croft et al. 2018).

Conclusion

Verbs are in many ways the central and most important element of a clause. Verbs tend to inflect not only for categories directly related to the events they denote (voice and aspect) but also categories relevant to the pragmatic assertion that the clause as a whole expresses (tense, modality, evidentiality, polarity). The occurrence and expression of argument phrases (subject, object, oblique—argument structure) is largely dictated by the event that a verb denotes and its valency. Many word order patterns in the clause (and also some in the phrase) are determined by the verb's position relative to its object argument. The semantics of verbs in terms of temporal, causal and spatial structure is particularly rich and complex.

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PropBank: http://propbank.github.io/
Unified Verb Index: https://uvi.colorado.edu/
ValPaL: https://valpal.info/
World Atlas of Language Structures Online: https://wals.info/
Comparative Concepts database (includes many concepts related to verbs):
https://github.com/comparative-concepts/cc-database

Tables

Inflectional category	***Subcategories (if any)***	***Short description***	***Common values***
modality	epistemic modality	speaker's commitment to truth of the proposition expressed by the clause	possible, probable, certain
	evidentiality	source of knowledge for the proposition expressed by the clause	sensory (visual, auditory, other); hearsay, inferential
	polarity	whether the proposition is being asserted or denied	positive, negative
	deontic modality	the status of the state of affairs with respect to individual desires or intentions, or cultural expectations	permission, obligation, desiderative
aspect		how an event unfolds over time	perfective, imperfective, progressive, iterative, habitual, inchoative, inceptive, resultative
tense		time of an event relative to the speech event time	past (remote, hesternal, hodiernal), present, future
indexation (agreement)		person/number/gender of central participants in the event denoted by the verb	subject, object, indirect object
voice		relative topicality of participants in the event denoted by the verb	active, passive, middle, antipassive
valency change		number of participants in the event denoted by the verb	causative, anticausative, applicative

Table 1. Typical inflectional categories of verbs

Order of Subject (S) and verb (O), and of object (O) and verb	***N***	***%***
Verb-final (SV and OV)	676	45.6%
flexibly verb-final (OV, and VS or no dominant order)	19	1.3%
Verb-initial (VS and VO)	180	12.1%
flexibly verb-initial (VO or VS, and no dominant order)	59	4.0%
Verb-medial/Subject-initial (SV and VO, or SVO)	457	30.8%
flexible subject-initial (SV and no dominant order	51	3.4%
No dominant order of either V-S or V-O	42	2.8%
Total	***1484***	***100.0%***

Table 2. Position of verb with respect to subject and object phrases in a clause. (Data from Dryer 2013a, b)

	Constructions	***English Example***
Prototypical verb function: predication (pragmatic assertion)	Declarative main clause	*She left the room.*
Nonprototypical functions involving verblike forms denoting events		
Adverbial	balanced/finite adverbial clause	*After she **left** the room,...*
	deranked adverbial clause, gerund, converb	*After **leaving** the room,...*
Modification	balanced relative clause	*the letters that **fell** onto the floor...*
	deranked relative clause, participle	*the letters **fallen** onto the floor...*
Complementation	balanced complement clause	(*She thought*) *that the cat already **ate**.*
	deranked complement clause, infinitive, nominalization	(*She wanted*) *the cat **to eat**. The cat hates **eating** out of the dish.*

Table 3. Verblike and non-verblike constructions in contexts other than pragmatic assertion.

	Construction	***English and other examples***
Prototypical verb meaning: action concept	declarative main clause	*She left the room.*
Nonprototypical verb meaning: stative concept	copula	*She is sick.*
	stative verb	*Ona bole-et* [Russian] she be_sick-3SG 'She is sick.'
Nonprototypical verb meaning: property concept	copula	*She is tall.*
Nonprototypical verb meaning: object concept	copula	*She is a professor.*

Table 4. Verblike and non-verblike constructions for non-action predications.

Complex predicate construction	***English example***
Auxiliary construction	*She* ***will come*** *tomorrow*. [future tense auxiliary]
Support verb construction	*They* ***performed an operation****; He* ***underwent an operation***
Serial verb construction	***Go get*** *the paper!*
Verb-"argument" idioms	The performance ***brought down the house***.

Table 5. Common complex predicate constructions.

Functional description of participants	**Grammatical role**	**English example**
Central, more salient participants	subject	***They*** *ate.*
	object	*They ate* ***a pizza***.
Peripheral, less salient participants	oblique	*They ate a pizza* ***in the kitchen***.

Table 6. Events (verbs) and participant roles (arguments).

Valency construction	***English example [arguments in brackets]***
Intransitive construction	[*They*] *ran.*
Transitive construction	[*I*] *broke* [*the glass*].
Ditransitive construction	[*The teacher*] *gave* [*me*] [*this book*].
Active/inactive language constructions	***Lakota examples with 1st person singular***
Transitive construction	**wa**-kákša-šni **1SG.AG**-coil-NEG '**I** didn't coil it up.'
	o-**má**-le ST-**1SG.PAT**-seek 'he/she/it looked for **me**.'
Active construction	**wa**-psíce **1.SG.AG**-jump 'I jumped."
Inactive construction	**ma**-kákiže **1SG.PAT**-suffer '**I** suffer.'

Table 7. Transitivity of verbs (Lakhota examples from Pustet 2021:9, 24-25)

Verbs of physical causation	Verbs of force and contact	*hit, touch, stab*
	Verbs of application, removal, (un)covering, filling	*load, strip, cover, pour, fill*
	Motion verbs	*run, enter, come, arrive*
	Change of state verbs	*dry, tie*
	Verbs of creation and emission	*paint, grow, gush*
	Location verbs	*stand, kneel, stay*
Verbs of mental causation	Affect verbs	*scare, amuse*
	Experience verbs	*fear, see*
	Attending verbs	*look at, listen to, examine*
	Judgement verbs	*evaluate, measure*
Verbs of social causation	Communication verbs	*say, tell, report*
	(Transfer of) possession verbs	*give, buy, take, have*
	Social role verbs	*work, hire, serve*
	Interaction verbs	*fight, meet, bully*

Table 8. Major semantic classes of verbs.