

On the cognitive nature of verb transitivity in English

*Tatiana Gulevich**

Pyatigorsk State University, 357532 Kalinin Ave. 9, Pyatigorsk, Russia

Abstract. The traditional view of the transitivity of a verb as its ability to have a direct complement in the accusative case does not reflect the core essence of this verb characteristic. Therefore, the existing dichotomy of verbs into transitive and non-transitive verbs should be revised with the introduction of additional types of transitivity. The traditional classification of complements into direct, indirect and prepositional also requires a critical reconsideration due to its inconsistency. The study of the properties of English verbs using the methods of cognitive linguistics and through the prism of event theory suggests that only monovalent predicates of action or process are truly non-transitive. All other verbs should be considered transitive. The transitivity of a verb is directly related to the notion of profiling. The profile boundaries of a transitive verb include all participants in the force-dynamic chain, from the agent to the object, which undergoes a complete change of state. A non-transitive verb profiles only the agent as the source of force. Both transitive and non-transitive verbs can display variation of their transitivity characteristics as a result of their meaning evolution, associated with shifting the boundaries of the verb's profile to represent a new kind of event.

1 Introduction

Transitivity as one of the inherent characteristics of the verb lies at the heart of a variety of grammatical phenomena in many languages of the world. A large number of studies are devoted to investigating the problem of verbal transitivity from different points of view. The focus of research is on the nature of transitivity and various transformations of transitivity.

Traditional linguistics adopts a formal understanding of transitivity as the ability of a verb to have a direct complement [1]. The presence of a prepositional complement in a verb phrase is seen as a kind of non-transitivity. This view does not seem logical, because the purpose of any complement is to extend and clarify verbal semantics. The traditional classification of complements into direct, indirect and prepositional ones can hardly be called consistent, since the first two types of complements are distinguished on the basis of their semantic characteristics while the prepositional complements are defined in terms of their structure [2]. In addition, the indirect object can hardly be considered an independent type of complement, since there are no constructions in which the verb has only an indirect

*Corresponding author: tan323@yandex.ru

complement (without a direct one). An indirect complement always comes “bundled” with a direct complement:

- 1) *I **showed** him the contents of the Green Box. (BNC, A08) →*
I **showed him [...].*

It is evident that in the absence of the direct complement the sentence becomes ungrammatical and semantically incomplete without a wider context. The omission of the object in such constructions is only possible if the object expressed by the direct complement is understood by default and therefore remains in the implication [2]:

- 2) *He **proposed** to me, and I said yes. (BNC, AE0)*

In this example, the implied object is conventionally understood as “marriage” and does not need explication. In addition, this example demonstrates that the indirect complement in English (in the dative case, in the semantic role of the beneficiary in the situation) can also be prepositional in structure. Moreover, some English verbs allow for a change in the order of the direct and indirect complements in relation to the verb predicate in English (*show*, *give*, *send*, etc.). In this case, the non-prepositional complement – all of a sudden – becomes prepositional:

- 3) *The headmaster **gave** him the letter. (BNC, AMB) →*
*The headmaster **gave** the letter to him.*

In other words, the generally accepted division of complements into direct, indirect and prepositional ones is very stipulative and illogical. The toolkit of traditional syntax does not help to eliminate such contradictions (neither does it set such a goal).

In this sense, the semantic-syntactic approach based on predicate logic seems more correct [3, 4]. From this point of view, the structure of the verbal predicate as the semantic and syntactic center of the sentence can include obligatory and optional arguments. The obligatory components include the agents and complements of the verb, which can be attached both with and without a preposition. The optional components – adjuncts – are arguments of instrumental and circumstantial semantics. Transitivity within this approach is directly related to the notion of valency [3, 4]. A monovalent verb is not transitive; transitivity reflects the presence of a complementary argument in the verb predicate.

Despite the logical validity of this understanding of verbal transitivity, within the frame of semantic syntax it is impossible to explain the reasons for the existence of prepositional complements along with non-prepositional ones, let alone the possibility of implementing the same semantic role by both noun phrases and prepositional phrases. It seems possible to explain the mechanism of transitivity and the principles underlying its transformation only within the framework of the cognitive approach and event theory.

2 Materials and Methods

The material for the work comprised a sample of sentences from the British National Corpus (BNC) [5]. The focus of the study was on English verbs demonstrating the ability to function in different distributions, i.e. to actualize events with a different set of participants. The analysis of semantic and structural features of these verbs in relation to the characteristics of the events they represent, using the methods of semantic decomposition, frame analysis and cognitive modeling allowed us to make a number of assumptions about the cognitive basis of transitivity and the mechanism of its transformation.

3 Results and discussion

From the viewpoint of cognitive science, transitivity is the linguistic encoding of basic events (in which the agent has an intentional impact on the object, as a result of which the state of the object changes to some extent), as well as formal and semantic characteristics associated with the encoding of such events [6, 7]. From this position, only a verb encoding an event in which the agent's action is not directed at any object can be considered non-transitive. Such verbs usually include *state* or *process* predicates (4) and verbs denoting *motion* (5) according to C. Fillmore [4] and W. Chafe [3]:

4) *The flowers **bloomed** happily in the soft sunshine...* (BNC, H8F)

5) *For relaxation he **golfed**, **swam**, and **walked**.* (BNC, AJ6)

In sentence (4), the flowers (the patient) experience a certain state without performing any action, which excludes the existence of the object of their influence. In sentence (5), there is action for its own sake, and only the agent is needed for its realization.

When an event is actualized by the predicate of *achievement* (6) or *accomplishment* (7), there is necessarily a participant who is the object of the agent's influence:

6) *Francis had **discovered** a photographer who only **did** trees and did them brilliantly.* (BNC, A0L)

7) *Jay **drank** a smoky oak ruby wine.* (BNC, A0L)

The object of the effect in many cases can be expressed by either a noun phrase (6,7) or a prepositional phrase (8):

8) *The prince **chewed** at a fingernail as he **stared** at the map.* (BNC, CMP)

The similarity of the semantic characteristics of the objects attached by non-prepositional means (6, 7) and with a preposition (8) indicates that in both cases we are dealing with transitive verbs. Yet for verbs with complementary prepositional phrases, this transitivity is "acquired" due to the extension of their semantics to actualize a new type of event. The change in the meaning of the verb occurs through the verb's "appropriation" of some semantic characteristics of the prepositional predicate within the prepositional phrase functioning as a verb complement. In this case, the preposition partially loses its predicate status, becoming an explicator of the extended meaning of the verb. In modern cognitive studies, such verbs are called alternatively transitive [8, 9].

The ability to become alternatively transitive in the process of expanding their meaning is characteristic of both originally non-transitive (9, 10) and transitive verbs (11,12):

9) *The door knob **rattled**, and Mrs. Livesey came in.* (BNC, ANL)

10) *He walked over and **rattled** at the locked door.* (BNC, BPD)

11) *Keith **chewed** his lip, trying to remember.* (BNC, AC4)

12) *Maggie **chewed** at her lip, wondering how to put it to him...* (BNC, HGK)

What is the reason for this transitivity shift, and what is the mechanism of this transformation? The change in the valency characteristics of an initially non-transitive verb (9), whereby the verb acquires the ability to encode an event in which the agent's action is directed at an object, is due to a tendency to linguistic economy. Monovalent verbs actualize the simplest events with a single participant in the role of agent or patient. Such events are negligibly rare compared to events in which there are two or more participants. And at the same time, the "basic nature" of events instantiated by monovalent verbs makes them very convenient for describing more complex events, because such verbs already bear the necessary characteristics of "manner" associated with them. In other words, it makes sense that every verb "aspires" to become transitive. It is much easier for the cognitive apparatus

to use a limited number of linguistic tools to actualize an unlimited set of events than to generate a new verb each time to encode each single kind of event, and then to occupy the memory by storing all this infinite toolkit.

Given that, the question naturally arises why should there be alternative transitivity for verbs that are already conventionally transitive, such as *stab*, *cut*, *shoot* or *grab*? Let us consider the following examples:

13) *I **cut** the cheese with the Lappish knife....* (BNC, A6T)

14) *The Keeper of Secrets **cut at** him with his great claw.* (BNC, AT7)

15) *Lee had **grabbed** the bag and was pulling things out of it.* (BNC, ABX)

16) *She **grabbed at** his shoulders for support as her head swam.* (BNC, HA5)

Objects of transitive verbs (13,15) are conceived as fully involved, i.e., they undergo a final change in their state (the cheese was cut (13)) and/or location (the bag changed its location as a result of the agent's influence and came under his control (15)). The objects of the same verbs designated by the prepositional phrase are perceived as having changed either partially (14) or not at all as a result of the agent's influence (16): the agent only wounded the object (14), the shoulders did not change possession and did not come under the agent's control (16). In sentence (16), the agent's original motive is to make contact with the object not to control the object's state, but rather to keep one's own state unchanged through such contact.

The interpretation of events actualized by verbs, which are characterized by their ability to operate in both transitive and alternatively transitive distributions, can be explained by the differences in the nature of verb profiling. The profile of a transitive verb in the encoded event includes all the stages of force impulse transmission – from the agent as the source of impulse to the object as the final point of force application [10,11,12]. In this case, it is understood that the state of the object changes completely. Alternatively transitive verbs profile only the initial stage of the event, in which the agent performs an action, the purpose of which is to change the state of the object, but the effect of this action and the fact of actual change of state are outside the verb profile.

When an initially transitive verb becomes alternatively transitive, it gains the ability to leave the object outside the verb profile in the actualized event and, therefore, acquires the power to objectify another kind of event, just like originally non-transitive verbs do in the alternatively transitive distribution [8, 9].

In other words, in cognitive terminology, the transitivity of a verb is directly related to the boundaries of its profile: a non-transitive verb profiles only one participant of the event, since the impulse of force from the agent either terminates on the agent itself or is not directed at a specific external object. Conventional transitivity of a verb means the ability to profile all the stages of the force impulse dynamics from the agent as a source to the object – the final point of application, within the boundaries of the verb's profile. Acquired alternative transitivity is a way to expand the profiling boundaries of a non-transitive verb or, on the contrary, to reduce the profiling zone of an initially transitive verb.

The changes in the valency characteristics of the verb and the shift in transitivity are based on the phenomenon of cognitive compression. The nature of this phenomenon lies in the effect of centripetal forces in the verb phrase [13]. The semantics of the verb predicate takes in the meaning of the components located maximally close to the center of the verb profile, as a result of which these components are understood as present by default and remain in implication, while the peripheral components of the verb phrase become closer to the verb profiling zone.

The cognitive approach also accounts for the “transformation” of the non-prepositional indirect complement of an English verb into a prepositional one when it moves from the post-verb to the post-object position (and vice versa). As already mentioned, some trivalent verbs

of English allow for alternation of their non-agentive arguments (*show*, *give*, *send*, etc.) and, therefore, are able to function in two distributions:

17) *Generously, Ryan sent him £100.* (DNC, AJ8)
(beneficiary, object)

18) *Then I sent the money to Giulia.* (BNC, HGF)
(object, beneficiary)

Such verbs can profile a situation with one set of actors in two different ways. The situation involves an agent acting on an object in such a way that the object changes its location and/or state, coming into the possession of the beneficiary. The impulse of force from the agent in any case initially goes to the object, with which the agent needs to cease contact before the object comes into contact with the new owner – the beneficiary (the final point of force application). Therefore, the object, being maximally involved in the situation, is thematic and therefore closest to the center of the verb profile, which explains its tendency to occupy the position adjacent to the verb (18) [14, 15]. In such a case, the beneficiary acquires the features of a locative argument, towards which the object's location changes, and, consequently, it is forced out of the verb profile, which explains the necessity to include it with the help of a preposition as the center of additional predication. In the case where the beneficiary is so thematic that it is even encoded by the pronoun (17), on the other hand, it is drawn into the boundaries of the verb profile, occupying a position immediately adjacent to the verb predicate. This proximity to the center of the verb profile allows the beneficiary to be attached without preposition, as well as the object.

It is worth noting, though, that in the situation when both right-hand arguments are maximally thematic, which is expressed in their parallel pronominalization, it is the object, but not the beneficiary, that will occupy the immediate post-verb position:

19) *I hold out my hand for the hat and he **gives** it to me.* (BNC, A74 1534) →
I hold out my hand for the hat and he **gives me it.*

20) *I picked up The Times and **showed** it to her.* (BNC, CKF 101) →
I picked up The Times and **showed her it.*

This feature can also be explained in terms of verb profiling. Other things being equal, the object is always closer to the agent, and hence to the center of the verb profile, than is the beneficiary, because before it literally or metaphorically comes into the possession of the beneficiary as a result of the agent's causative action, the object must initially be under the agent's control.

4 Conclusion

To summarize, we conclude that the nature of verb transitivity is far more complex and much deeper than its representation in traditional grammar. Transitivity is not just a syntactic-functional characteristic of a verb, which is associated with its ability to take a complement in the accusative case. Transitivity is a manifestation of the basic relationship between the participants in the event denoted by the verb. This allows us to reconsider the conventional syntax classification of verbs into transitive and non-transitive and to propose a more detailed classification. From the perspective of the cognitive approach, English verbs can be non-transitive (monovalent), conventionally transitive (with a direct complement in the accusative case), ditransitive (with a direct and indirect complement) and alternatively transitive (with a prepositional group as a complement). This understanding of transitivity makes it possible to correlate semantic and syntactic aspects of linguistic units more correctly. The change in the valence of a verb, and consequently in the characteristics of its transitivity, is nothing but

a change in the profiling boundaries of a verb in the course of the evolution of its meaning, when the verb acquires the ability to encode new types of events.

References

1. D. Bolinger, *Linguistics at the crossroads*. Transitivity and spatiality: The passive of prepositional verbs, 57 (1977)
2. T.S. Gulevich, D.A. Axelrood, Univ. readings, **2**, 17 (2021)
3. W.L. Chafe, *Meaning and the structure of language* (1970)
4. C.J. Fillmore, *Valency: Theoretical, descriptive and cognitive issues*. Valency issues in FrameNet, 129 (2008)
5. The British National Corpus, Retrieved from: <http://www.natcorp.ox.ac.uk/>
6. K. Jerro, J. Linguist., **2**, 365 (2020)
7. A. Williams, Key Top. in Syntax, 212 (2015)
8. T.S. Gulevich, *Cognitive-semantic characteristics of the prepositional group in the function of complement in English* (2020).
9. T.S. Gulevich, *Prepositional group in the function of complement in English (Morphology. Syntax. Semantics)* (2022).
10. W. Croft, *Verbs: Aspect and argument structure* (2000)
11. W. Croft, D. Cruse, *Cognitive Linguistics* (2004)
12. L. Talmy, Cognitive Sci., **12**, 409 (2000)
13. D.A. Axelrood, M.S. Brodskaya, Nauchnyi dialog, **1**, 9 (2020)
14. O. V. Dolmatova, Nauchnyi dialog, **10**, 110 (2019)
15. O. V. Dolmatova, M.Y. Getmanskaya, A. V. Razduyev, Research Result. Theor. Appl. Linguistics, **8(4)**, 90 (2022)