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Formal and Semantic Hierarchy of Turkish Transitive Verbs

Türkçe Geçişli Fiillerin Biçimsel ve Anlamsal Hiyerarşisi

Nuh DOĞAN[a]

ABSTRACT

In Turkish, transitivity is defined according to both syntactic and semantic criteria. However, the types of transitional verbs and sentences, determined by the semantic and syntactic criteria, often contradict each other. Sometimes, a verb or sentence which meets the semantic condition may not satisfy the syntactic or vice versa. There are two reasons cause this contradiction. The first is due to the reason for adherence of transitivity to strict syntactic qualification and not taking the specific encoding situation of prototype transitivity [NOM-ACC] into account or ignoring the frames out of valency-related verb-meaning codification. The second is the restraint of transitivity in prototype transitivity as a rigid semantic concept. However, transitivity is a gradual and multifactorial concept. Therefore, it is not possible to talk about a single transitivity, hence a single verb type and a single case frame in which transitivity is encoded. There are different degrees of transitivity, and they can be labeled in the range of high degree to low degree transitivity. The degrees of transitivity in Turkish are formally coded up to a point with different case frames. It has been investigated which phases of transitivity in Turkish and how far different degrees of transitivity can be coded with variable case frames in this work. Turkish transitive verb hierarchy and related classes are proposed based on semantic and syntactic parameters. The transitivity scale of Turkish and the semantic map of verb classes will be formed as the final stage of this study.

Keywords

Transitivity Hierarchy, Transitive Verbs, Case-Frames, Turkish Verbs, Valency

ÖZ

Türkçede geçişlilik hem söz dizimsel hem de anlamsal ölçütlere göre tanımlanır. Ancak anlamsal ve söz dizimsel ölçütler aracığıyla belirlenen geçişli fiil ve cümle tipleri çoğunlukla birbiriyle çelişir. Anlamsal koşulları sağlayan bir fiil ya da cümle kimi zaman söz dizimsel koşulları, söz dizimsel koşulları sağlayan bir fiil ya da cümle de bazen anlamsal koşulları sağlayamamaktadır. Bu çelişkinin iki sebebi vardır. Birincisi geçişliliğin katı söz dizimsel koşullara bağlanmasından ve prototip geçişliliğin kodlandığı [YALın-YÜKlüme] durum ya da istem çerçevesinin dışındaki fiil anlamı kodlama çerçevelerinin dikkate alınmamasından ileri gelir. İkinci ise geçişliliğin katı semantik bir kavram olarak kabul edilmesi ve prototip geçişlilikle kısıtlanmasıdır. Oysa geçişlilik aşamalı ve çok faktörlü bir kavramdır. Bu nedenle tek bir geçişlilikten, dolayısıyla tek bir fiil tipinden ve geçişliliğin kodlandığı tek bir durum çerçevesinden söz etmek mümkün değildir. Geçişliliğin farklı dereceleri vardır ve fiil sınıfları geçişlilik ölçeğinde yüksek ya da prototip geçişlilikten düşük geçişliliğe doğru sıralanır. Türkçede geçişliliğin dereceleri bir noktaya kadar formal olarak farklı durum çerçeveleriyle kodlanır. Bu çalışmada Türkçede geçişlilik derecesinin hangi aşamalardan oluştuğu ve geçişliliğin farklı derecelerinin nereye kadar farklı durum çerçeveleriyle kodlanabildiği araştırılmıştır. Anlamsal ve söz dizimsel parametrelerden hareketle Türkçe geçişli fiil hiyerarşisi ve sınıfları önerilmiştir. Çalışmanın sonunda Türkçe geçişlilik ölçeği ve fiil sınıflarının anlam haritası oluşturulmuştur.

Anahtar Kelimeler

Geçişlilik Hiyerarşisi, Geçişli Fiiller, Durum Çerçeveleri, Türkçe Fiiller, İstem

[a] Doç. Dr. Ondokuz Mayıs Üniversitesi İnsan ve Toplum Bilimleri Fakültesi Türk Dili ve Edebiyatı Bölümü. Atakum-Samsun. Email: nuhdogan55@hotmail.com.
(Sorumlu Yazar/Corresponding author)

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1. Introduction

Transitivity has an important place in Turkish as in many other languages. Transitivity is generally defined and determined by both syntactic and semantic criteria in Turkish. In Turkish language studies, transitivity has long been treated as a concept related to voice category and syntactic phenomenon (see Dizdaroğlu 1963; Bilgegil, 1982; Gencan, 1983; Ediskun, 1999; Kükey, 1972; Korkmaz 2009; Hacıeminoğlu, 2016). Verbs are divided into two categories, transitive and intransitive, depending on whether they take an object or their relationship with the object. In most of the studies in the field, Turkish transitivity has been regarded as the semantic category of the verb and has been approached as such (see Lübimov, 1963; Banguoğlu, 2000; Ergin 1993; Yücel, 1999). As to afore-mentioned studies, verbs containing outward motion and affecting an entity other than the agent are considered transitive, whereas verbs that contain internal and self-directed motion and do not affect an object are considered intransitive (Banguoğlu, 2000: 409; Ergin, 1993: 282). A clear-cut syntactic criterion has been applied to determine in/transitivity in Turkish. Generally, verbs are considered to be transitive if they take an accusative case or object in sentences; in the opposite situation, it's treated as intransitive in the case of the absence of an accusative case and object. This kind of non-inclusive transitivity approach has not been adopted by some researchers who proposed the inclusion of other case situations from time to time. Based on the affectedness of the object, Banguoğlu (2000) argues that the object can also be encoded with a dative case, Boz (2004) with the ablative case, and Üstünova (2015) with all other state markers. In Turkish, transitivity has been seen as a semantic category and has been tried and determined by strict syntactic criteria. This contradictory approach has led to confusion. On the one hand, all the verbs are considered to be transitive in the case that they come up with a complement clause and are encoded by accusative case. On the other hand, it has been claimed that there are various object options coded by non-acc cases, regardless of whether the second argument of the verb is coded by the accusative. The most prominent point of view of this approach is that transitivity is a concept related to the affectedness of an object. In the literature, this has led to great confusion about transitivity. Today, it has an ambiguous basis for defining what is an object and what is a transitive verb in Turkish.

Transitivity is not a static and uniform phenomenon. In linguistics, transitivity is accepted as a multi-factorial, semantic concept with different degrees, in which verbs or sentences are ranked on the transitive scale (see Hopper & Thompson 1980; Tsunoda, 1985). Languages can differ in terms of coding of transitivity. Some languages formally encode transitivity as much as possible. There are various alternatives to denote transitivity in languages. Some languages use formal ways to encode different values of transitivity. Some languages encode different degrees of transitivity by different case frames. It has been propounded that transitivity in Turkish is coded with NOM-ACC case frame, which is most likely the influence of Arabic and Western languages. In this case, transitivity must be coded by limited formal structures. However, Turkish transitivity cannot be unrefinedly limited by the transitivity coding possibilities of languages with limited coding systems. In comparison to other languages, Turkish has much more possibility of coding transitivity. With the influence of Western and Arabic grammar, verbs in Turkish are superimposed on their transitive and intransitive columns. In this article, it is proposed that various values of semantic transitivity can be distinguishably coded in formal way in Turkish. A verb that is transitive in other languages can be intransitive in Turkish, and a verb that is intransitive in other languages can also be transitive in Turkish. Meanwhile, it is a

universal concept in terms of semantics, the formal types of Turkish transitivity differ from those of other languages. The criteria is not merely related to Turkish case. It can be used to distinguish transitive from intransitive universally. It has been argued that the strict syntactic criterion applied to determine transitivity is not suitable for either Turkish or the nature of transitivity. This study is based on the transitivity approach of Hopper and Thompson (1980), Tsunoda (1985), and Malchukov (2005), aiming to clarify the transitivity scale of two-place verbs and Turkish transitive verb types and their coding frames.

2. Transitivity Hierarchy and Verb Types

The concept of transitivity is traditionally understood as the transmission of action from an agent to an affected entity, and this action requires at least two participants. In other words, transitivity is not a monotonous and monolithic concept. Transitivity can be divided into different sub-groups within itself with regard to its range of degrees and stages. First, further definition for that of the transitivity is needed to fully determine the semantic degrees and syntactic structure of it. Givon (1985) has distinctly proposed three basic features related to the Agent, Patient, and verb.

- For the Agent, a transitive sentence has a volitional, distinct, clear, and controlling Agent-cause that initiates action.
- For the Patient, a transitive sentence has a visible, obvious, involuntary, non-controlling, affected argument that changes the case.
- A transitive sentence carries verbal semantics such as tense, aspect, and modal.

Accordingly, it can be said that the transitive semantics of verbs can be defined in terms of the semantic roles of the arguments of the verbs. There is a general consensus that the transitivity prototype denotes the semantic roles of its arguments (Malchukov, 2005: 87). It is generally taken for granted that the typical two-argument verb is transitive (Haspelmath, 2015). Based on Tsunoda (1985: 387), the prototype transitive and transitive verbs can be defined as follows:

"prototypical transitive verbs are defined as those verbs which describe an action that not only impinges on the patient but necessarily creates a change in it"

Transitivity defines verbs that express the action of two-place verbs that Agent argument touches both Patient argument and creates a change of state on Patient argument. The verbs such as *kırmak* "break", *öldürmek* "kill", *ezmek* "crush", *bükmek* "crankle" express such an action.

Moreover, according to Lazard (2002) "In most of languages, the major two-actant construction [= the transitive construction] is not limited to the expression of prototypical actions [= 'break'-type actions], and not even to actions as such". Hence *benimsemek*, I embrace the definition of Haspelmath (2015: 136) who has also adopted the point of Lazard (2002):

> A verb is considered transitive if it contains an A and a P argument. A and P are defined as the arguments of a verb with at least two arguments that are coded like the 'breaker' and the 'broken thing' micro-roles of the 'break' verb.

Hopper and Thompson (1980) see transitivity as a gradual concept, in which different semantic components or parameters are effective. In terms of transitivity parameters, sentences are ranging from high to low transitivity on the transitivity scale. It is counted that the transitivity of the verb decreases in the absence of parameters related to transitivity (eg, affected) and

increases in the presence of all parameters. Therefore, it is accepted that two-place verbs have a hierarchy of two-place verbs ranging from the more transitive to the less transitive.

In Hopper and Thompson's (1980) transitivity hypothesis, transitivity has ten (10) different components. In terms of the presence or absence of semantic components. A verb can be evaluated according to high or low in transitivity. The transitive verbs have following components.

Table 1: Transitivity Parameters of Hopper and Thompson (1980)

	High	Low
a. Participants	2 or more participants: A and O [2]	1 participant
b. Kinesis[3]	action	non-action
c. Aspect[4]	telic	atelic
d. Punctuality[5]	punctual	non-punctual
e. Volitionality[6]	volitional	non-volitional
f. Affirmation[7]	affirmative	negative
g. Mode[8]	realis	irrealis
h. Agently[9]	a high in potency	a low in potency
i. Affectedness of O[10]	O totally affected	O not affected
j. Individuation of O[11]	O non-individuated	O non-individuated

Transitivity generally refers to the transfer or transfer of an action from one participant to another. This transfer process differ in intensity, speed and tone of action. It is thought that languages can mark these different facets of verb with semantic components of transitivity and the transitivity can be separated in terms of these semantic components. Affectedness parameter is the most important and distinctive tool in determining transitivity and constructing the transitivity hierarchy. In comparison of following sentences, the verb *kırmak* "break" in 1a is more transitive than the verb *sevmek* "like" in 2. This is duo to the reason that the sentence

[2] "O" refer to the term "Patient", "A" to the term "Agent".

[3] Verbs express action or state, in other words, action and non-action processes. Action verbs correspond to events that are transferred from one participant to another. Non-action verbs refer to static events that do not involve any transfer.

[4] An action seen from the endpoint is either in a state of completion (telic) or incompleteness (atelic). In the telic sentence, the action is effectively transferred to the patient and the action is effectively completed. In the atelic sentence, the action is only partially completed.

[5] Some actions (like the verb *kırmak* "break") require no transitional phase between inception and completion. The action begins and ends at the same time. Such actions are more effective on the patient than continuous or on-going ones (such as gitme "go").

[6] In some event situations, the Agent may perform the action on the Patient more purposefully or consciously, while in some event situations, it may perform more purposefully or unintentionally. In the sentence *The boy broke the window*, Agent is volitional, but in the sentence *The boy forgot the bag*, Agent is non-volitional.

[7] No explanation has been given for this parameter.

[8] This parameter is based on the distinction between realis and irrealis. Actions that take place in the real world or that do not occur abstractly are thought to be less affected than actions that occur concretely in the real world.

[9]Participant high in Agency can effect a transfer of event but participants low in Agency cannot.

[10] This parameter relates to how much an action is transferred to a patient and whether patient is completely affected by an action. In the sentence Ali keki yedi *Ali ate the cake* and Ali kekten yedi *Ali ate some of the cake*, the patient differs in terms of affectedness. In the first sentence the patient is completely affected; in the other partially.

[11] The component of individuation refers to the distinctness of the Patient both from the agent and other arguments such as itself. Sentences in which the patient is encoded with definiteness markers are considered more transitive than others.

in 2 cannot meet the conditions labeled as kinesis, telic, punctual, affectedness, and individuation as components of transitivity. Therefore, the sentence 2 is considered less transitive. However, Hopper and Thompson's (1980) transitivity parameters cannot be able to directly distinguish the transitivity differences between 1a and 3. Hopper and Thompson (1980: 254) have suggested that one-participant verbs can sometimes be more transitive than two-participant verbs. In 3, the verb *yıkanmak* "wash", whose object is deleted by morpho-syntactic processes, can be regarded as semantically more transitive than the verb *sevmek* "like" in 2. It has emerged a controversy on which level of language the notion of transitivity must be taken into consideration.

1a) Can bardağı kırdı.
Can broke the glass.

2) Can çikolatayı seviyor.
Can likes chocolate.

3) Can yıkandı.
Can took a bath.

Tsunoda (1985) revises Hopper and Thompson's transitivity hypothesis. In particular, he argues that some of the components of transitivity are not distinctive while they have congeniality. He has suggested that the components of transitivity should be separated. To characterize the differences in the affectedness parameter, in particular, it converts it to the affectedness scale. He argues that the P[12] of two-participant verbs has different degrees of affectedness. They constitute a hierarchic transitivity related to the degree of affectedness. The two-place verbs are shown in the hierarchy of verb types in Table 2, on which ten (10) different languages are listed and being compared with each other in terms of transitivity. This hierarchy provides a scale of transitivity ranging from more to less. The verb types above in this hierarchy have a relatively higher transitivity value determined by the influencing condition. The verb *kırmak* (to break) denotes a higher degree of affectedness. Therefore, it takes a higher position in the hierarchy compared to the verb *hatırlamak* (remember). For the reason that the mental verb *hatırlamak* "to remember" possesses higher degree of affectedness, it can present relatively higher transitivity than the verb *benzemek* "to resemble". At the top of the transitivity hierarchy are prototypical transitive verbs, such as *kırmak* "break", *kesmek* "cut". On the other hand, Turkish is different from other languages in terms of case frames selected by the verb classes in transitivity hierarchy.

Table 2: Tsunoda's (1985) Transitivity Hierarchy of English Verbs

1		**2**		**3**	**4**	**5**	**6**
Effective action >		Perception >		Pursuit >	Knowledge >	Feeling >	Relation
1a	1b	2a	2b				
NOM-ACC	NOM-ACC NOM-OBL (ı) NOM-OBL ii)	NOM-ACC	NOM-OBL (ı) NOM-OBL ii)	NOM-ACC NOM-OBL	NOM-ACC NOM-OBL	NOM-ACC NOM-OBL (ı) NOM-OBL (ii)	NOM-ACC NOM-OBL (ı) NOM-OBL (ii) NOM-OBL (iii)

The transitivity hierarchy of verb types is based on measurable linguistic evidences. Hopper and Thompson have suggested that each of the 10 transitive components are unequally

[12] In this article, the A refers to agent and agent-like semantic roles such as actor, experiencer. The P refers to patient and patient-like semantic roles such as stimulus, goal, theme, cognitive content.

conncected to the (morpho-)syntactic properties of transitivity. Tsunoda (1985) has asserted specifically on the (morpho-)syntactic representation of semantic transitivity. For Tsunoda, degrees of affectedness are related to the syntactic representation of transitivity. In other words, the degrees of affectedness or hierarchy are formally reflected in the syntax. The verbs which display similar syntactic behavior or select the same case frames are thought to be semantically similar and form a same class of verbs. It is visible from Tsunoda's (1985) transitivity hierarchy that specific verb classes choose certain case frames or valency patterns and prefer certain case frames primarily. Semantically, prototypical transitive verbs select the prototypical transitive case frame. In languages, the semantics of transitivity is primarily encoded with [NOM-ACC] case frame. It is accepted that the diversity in case-taking affects the level of transitivity.

Tsunoda's (1985) transitivity hierarchy in Table 2 shows the nonrandomness of different verb classes in their choice and preference of different case frames or valency patterns. Semantically, prototypical transitive verbs select the prototypical transitive case frame. In languages, semantics of transitivity is primarily encoded by [NOM-ACC] case frame. Classes of transitive verbs differ in their case frames, and we can see this more clearly as they diverge from prototypical transitive semantics. This situation weakens the priority of the [NOM-ACC] case frame and the transitivity begins to be denoted in different state frames. In Turkish, the transitivity degree of the verb kırmak “to break” in (1a) and the verb vurmak “to hit” in (4) can be good example for mentioned situation. In (1), the accusative marker strengthens the state change on the object. In (4a), although there is a physical contact, the change of state on the object is uncertain. Some languages may encode transitivity with various case frames, while others may encode different degrees of transitivity with a single case frame.

1a) Can**NOM** bardağı**ACC** kırdı. [NOM-ACC]
Can NOM *broke* Verb *the glass* NOM

4a) Çocuk**NOM** masaya**DAT** vurdu. [NOM-DAT]
Boy NOM *hit* Verb *the table* DAT.

Tsunado (1985) argues that direct effect verbs in the transitivity hierarchy constitute prototypical transitive verbs, and prototypical transitive verbs require the transitive case frame [NOM-ACC] and that the A and P of prototype transitive verbs prefer the NOM and ACC in their syntax, respectively. Prototypical transitive verbs that have a high degree of Affectedness require the prototype coding frame (NOM-ACC). The verbs would deviate from its prototype transitive meaning alternative and use other frames if they are related to non-prototype case frames, such as [NOM-ABL], [NOM-DAT]. Meanwhile in Turkish, they are defined as intransitive. In sum, verb classes of languages lead to different case selection alternatives. Different case frames are used to encode different classes of verbs in terms of the degree of affectedness. For example, it is perceptible that the verb *vurmak* "to hit" deviates from prototypical transitivity by comparison with verb *kırmak* "to break", which doesn’t encompass that type of change. Therefore, *vurmak* (to hit) marked with the NOM-DAT case. Tsunoda (1985: 388) classified transitive verb classes according to the case frames which encode transitivity. Some languages do it in a different way. They depict the degrees of transitivity with different case frames, while some languages merely use prototypical [NOM-ACC] case frame to encode different degrees of transitivity. For example, in Table 2 English continues to use the transitive case frame [NOM-ACC] along with other case frames to encode six different verb

types of transitivity. This notion is referred by the term *transitivity prominence* in the literature (see Haspelmath, 2015). Unlike many other languages, Turkish exhibits a high degree of transitivity prominence, different degrees of transitivity are denoted by typical transitive case frames [NOM-ACC]. The transitivity prominence varies across languages. Diversity in coding transitivity poses a higher probability in case of languages than others (see Haspelmath, 2015). It's widely accepted that as a case language, Turkish satisfies mentioned diversity by means of more than one case frame.

Tsunoda (1985) has propounded that the degree of transitive verbs can be associated with the processes of passivity, antipassivity, reflexivity, and reciprocal as a part of morpho-syntactic processes. Each process of them can be used as evidence for the transitivity scale. In the Turkish case, the passivity and middle voice, which is not entirely, can form effective evidence. The other processes are not as effective as afore-mentioned two processes. For example, while the verb *kırmak* "to break" can be easily turned into passive form, as in 1b, the verb *andırmak* "to remind of" in 5b and the verb *benzemek* "to resemble" in are not valid for the same situation. In Turkish, the passivation process is not compatible with all verb classes. For example, in 1b, the verb *kırmak* "to break" can be passivized outright, while (4b) *vurmak* "to hit" can only be made impersonal passive.

The argument structure of the verbs *kırmak* "to break" and *andırmak* "to remind of" and the verbs *vurmak* "to hit" and *benzemek* "to resemble" are coded with the same case frame. While a passive voice can be formed with the verbs "to hit" and "to break", the same is not true for the verbs "to remind of" and "to resemble". It can easily be claimed that emerging of this selectivity is due to the degree of affectedness of P.

1a) Can**NOM** bardağı**ACC** kırdı. [NOM-ACC]
*Can*NOM *broke*Verb *the glass*ACC

1b) Cam**NOM** kır-ıl-dı. [NOM]
*The glass*NOM *was broken*Verb.

5a) Çoçuk**NOM** babasını**ACC** andırıyor. [NOM-ACC]
*The boy*NOM *resembles*Verb *his father*ACC.

5b) *Babası**NOM** andır-ıl-ıyor. [NOM]
**His father*NOM *is resembled*Verb

6a) Çocuk**NOM** annesine**DAT** benziyor. [NOM-DAT]
*The child*NOM *looks like*Verb *his mother*ACC.

6b) *Annesi**NOM** benzeliyor. [NOM]
His mother*NOM* *is looked*Verb

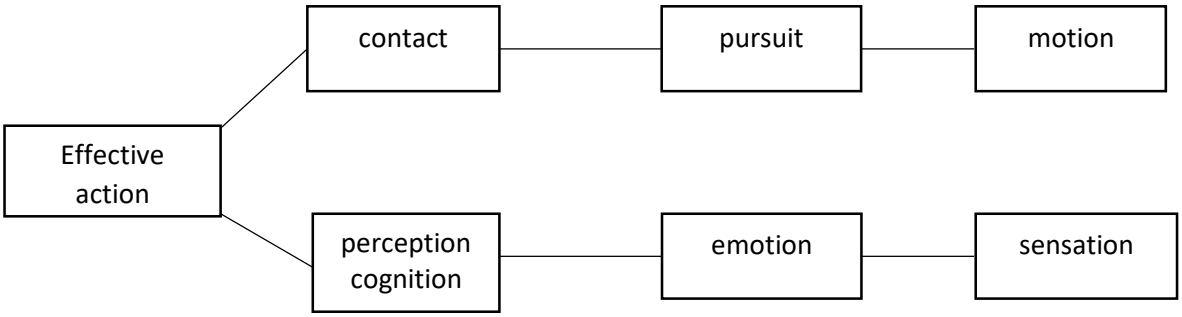
4a) Çocuk**NOM** masaya**DAT** vurdu. [NOM-DAT]
*The child*NOM *hit*Verb *the table*OBL.

4b) Masaya**DAT** vur-ul-du. [DAT]
*The table*NOM *was hit*Verb *by the boy*OBL.

According to Malchukov (2005), Tsunoda's (1985) hierarchy of verb types is not compatible with other languages and should be revised. Based on his argument, in this hierarchy sub-verb types may deviate from the prototype transitivity, but cannot predict which case frame to choose when there is a deviation (Malchukov, 2005: 77). Malchukov (2005) has also claimed that it is possible to constitute a universally applicable hierarchy. For that, he has developed a

new verb type and a transitivity scale based on the argument or role structures of verbs. According to him, it is predictable which verb types will choose which case frames in this hierarchy. Malchukov (2005) rearranged Tsunoda's (1985) transitivity hierarchy in Table 3 and designed a two-dimensional semantic map. Malchukov (2005) proposes the following two-dimensional semantic transitivity map, considering the role structure of verb types, the agentivity potential of A, and the affectedness condition of P.

Table 3: Transitivity Hierarchy and Map of Malchukov (2005)



Malchukov (2005) has also argued, based on the variability in the argument structure of verb types in terms of agentive and affectedness, that the transitivity scale can be determined by the semantic roles of the core arguments of the verbs. He claims that the transitivity of verbs with an Agent-Patient role structure and with an Experiential-Stimulus role structure cannot be distinguished from each other in the same dimension. Effective motion verbs such as *kırmak* "to break" with Agent-Patient role structure are different from cognitive verbs such as *hatırlamak* "remember" in terms of A's agentive and P's affectedness, which has an Experiential-Stimulant role structure. Since A participant of the active verbs is more agentive than the cognitive verbs, and the A participant of the cognitive verbs is likewise more agentive than the emotive verbs. However, the A participant of the emotive verbs such as *kırmak* "to hurt" and *korkmak* "to fear" is less agentive and less controlling than the verbs of cognition and action. For this reason, these verb types are placed after cognition verbs in the transitivity scale. The P participant of the cognitive verbs is considered relatively more affected than the P of the emotion verbs. The verb *sevmek* "to like" since a visual image is obtained in the mind. The right of the transitivity scale marks the low value of both agentivity and affectedness of patient. In Table 3, cognition and emotion verbs such as *görmek* "see" and *duymak* "hear" are placed in the same category. Cognitive verbs are active and sense verbs are inactive. Languages also encode such verb classes with different case frames. The Experiencer of cognition verbs can hear and see involuntarily and unconsciously, but regarding perception verbs, it can be said that the Experiencer is the agentive and performs the mental action more voluntarily and consciously. Alternatively, as in (7) and (8), perception and cognition verbs are not coded with different case frames. These verb types can only be separated from each other in terms of the agentivity of A. However, in Turkish, emotion verbs can be encoded with a different case frame than the case frames in which cognition and perception verbs are encoded. In (9) and (10), the verbs *korkmak* "to be afraid" and *acımak* "to pity on" are coded with a different case frame than the verb *hatırlamak* "remember".

1a) Can**NOM** bardağı**ACC** kırdı. [NOM-ACC]
*Can**NOM** broke**Verb** the glass*ACC

7) Ali**NOM** kapı numarasını**ACC** hatırladı. [NOM-ACC]
Ali NOM *remembered**Verb** the house number*ACC

8) Çocuk**NOM** köpeği**ACC** gördü. [NOM-ACC]
*The boy**NOM** see**Verb** the dog**ACC***

9) Çocuk^{NOM} köpekten^{ABL} korkuyor. [NOM-ABL]
The child^{NOM} is afraid^{Verb} of the dog^{OBL}

10) Çocuk^{NOM} köpeğe^{DAT} acıyor. [NOM-DAT]
The child^{NOM} pity^{Verb} on the dog^{OBL}

According to Malchukov (2005), the hierarchy of verb types cannot predict which case frame each lexical item will select but reveals that if the lower verbs in the hierarchy select the typical transitive case frame, the verb types higher in the hierarchy also share the same case frame. Languages differ to the extent that they stretch from the typical transitive case frame to others. And such extensions are interpreted as metaphorical extensions from one semantic field to another (Malchukov, 2005: 82). From the same viewpoint, it can be said that graded transitivity can be easily determined to the extent that it deviates from the transitive case frame. Languages use the canonical transitive case frame for both transitive verbs and other verb classes. In Turkish, mostly preferred to use a highly transitive case frame. Despite that, the distinctive degrees of transitivity are coded with different case frames. About 50 percent of the verbs in the lexicon use transitivity case frame in Turkish. The different transitivity level are coded in different case frames.

Tsunoda (1985) has suggested revising Hopper and Thompson's (1980) transitivity parameters. He proposed his own affectedness parameter and adapted it to the affectedness scale. Malchukov (2005) has also followed Tsunoda's advice refined agently parameters. The agently parameter is defined as a gradual component in a two-dimensional semantic map. The transitivity ranges from the highly agentive to the low agentive in terms of the A participant in the first dimension of the transitivity hierarchy, which includes the verbs of perception, cognition, and emotion. With this approach, Malchukov (2005) resolved the conflicts in Tsunoda's (1985) verb hierarchy in terms of role structures and agently properties. In the transitivity hierarchy, another transitivity parameter that needs to be refined is the concept of individuation, which is also called specificity. In Turkish, the transitivity scale is affected by the specificity of the P participant of the two place verbs. It is a gradual concept. Specificity plays a prominent role in the transitivity hierarchy of Turkish verbs. It can be said that transitivity ranges from high specificity to low specificity in terms of the P participant. In examples, 1a and 4a, the high specificity of 1a is encoded by the [NOM-ACC] case frame, while that of 4a is encoded by [NOM-DAT]. It can be said that the verbs encoded by the [NOM-DAT] case frame have higher specificity than the verbs encoded by the [NOM-ABL] case frame, especially regarding cognition verbs. For example, in 4a, the verb *vurmak* "hit" has more specificity than the verb *korkmak* "be afraid" in (9) does. Hence, transitivity is also high. These examples show that there is a direct relationship between high specificity and prototype transitivity, and the specificity decreases from typical transitivity to low transitivity. Based on these examples, it can be said that different degrees of specificity are reflected in the syntax and are coded with certain case frames.

1a) Can^{NOM} bardağı^{ACC} kırdı. [NOM-ACC]
Can^{NOM} *broke^{Verb} the glass*^{ACC}

4a) Çocuk ^{NOM} masaya^{DAT} vurdu. [NOM-DAT]
Boy ^{NOM} *hit* ^{Verb} *the table* ^{DAT}

9) Çocuk^{NOM} köpekten^{ABL} korkuyor. [NOM-ABL]
The child^{NOM} is afraid^{Verb} of the dog^{OBL}

The degree of specificity is further decreased by O-incorporation in the syntax. The argument which exposed to incorporation can be labeled with {} in the case frame. 11a is a more specific sentence than 11b. That means the verbs incorporating objects are more transitive than the others.

11a) Kadın$^{\mathbf{NOM}}$ köpeği$^{\mathbf{ACC}}$ besliyor. [NOM-ACC]
The woman^{NOM} feeds^{Verb} the cat^{ACC}

11b) Kadın$^{\mathbf{NOM}}$ köpek$^{\mathbf{NOM}}$ besliyor. [NOM-{NOM}]
The woman^{NOM} feeds^{Verb} a dog^{ACC}

3. The Transitivity Hierarchy of Two-place Turkish Verbs

The transitivity-intransitive distinction is mainly related to the valency classes of the verbs. One-place verbs, where only an argument occurs in the NOM case, are considered intransitive, while two-place or three-place verbs, where an argument occurs in the ACC case, are generally considered to be transitive. Two-place transitive verbs are mostly encoded with [NOM-ACC], and three-place ditransitive verbs are encoded with [NOM-AKK-DAT] case frame. [NOM-ACC] is the prototype case frame for typical transitive verbs. In Turkish, [NOM-ACC], [NOM-ACC-DAT], and [NOM-ACC-ABL] case frames are mostly considered transitive. Although, some scholars suggest that there are other transitive encoding frames in the linguistics literature. Dixon (1994) divides verbs into five classes: intransitive (S), transitive (S+O), extended intransitive (S+E), extended transitive (A+O+E), and double-transitive (A+O+O). This distinction suggests three syntactic valency frames in which transitive verbs are encoded. Intransitive verbs are divided into two main classes. The verbs vary from each other in terms of transitivity and intransitivity. In other words, They are different in terms of valency classes and classified in terms of different valency frames. Kishimoto et al. (2015) proposed six different valency frames for Japanese: i) intransitive [XNOM], ii) double-subject [XNOM YNOM], iii) semi-intransitive [XNOM YLOC/ABL], iv) semitransitive [XDAT YNOM], v) transitive [XNOM YACC], vi) ditransitive [XNOM YACC ZDAT/ LOC/ ABL]. In this classification of Kishimoto et al. (2015), it can be said that there are four different valency or case-frames in which transitivity is coded according to the valency classes of the verbs. The transitivity verb classification of Kishimoto et al. (2015) has provided literature that there are quite different types of transitivity in terms of formal as well as semantically.

The valency classes of Turkish verbs have highly diversified syntactic valency-frames or case frames. The valency classes of Turkish verbs draw attention by their syntactic diversity. In Doğan (2011), the syntactic behavior of 534 polysemous Turkish verbs have been analyzed in 2250 valency frames. It has been determined that the verbs are coded with 40 different case frames sensitive to meaning, including alternative syntactic valency frames (see, Table 4). It has determined that Turkish verb meanings and meaning classes are coded with 12 different basic valency or case frames, and other syntactic behaviors of verbs that are marked with ( ) in Table 4 mostly emerge with the metaphorical extension of 12 basic valency-frames. More than 50% of two-place verbs marked with the [NOM-ACC] case-frame. This indicates that transitivity is highly encoded with [NOM-ACC] case frame. The Transitivity case frame is used more frequently than other case frames in Turkish. However, transitivity is also coded with other case-frames according to the degree of transitivity. The transitivity hierarchy also has a formal hierarchy in Turkish. It can be argued that transitivity follows a formal hierarchy such as

[NOM-ACC] > [NOM-NOM] > [NOM-DAT] > [NOM-ABL] > [NOM-INS]. The verbs can be intransitive with [NOM], semi-transitive with [NOM-NOM], transitive with [NOM-ACC], semitransitive with [NOM-DAT], semitransitive with [NOM-ABL], semitransitive with [NOM-INS]. In addition, it can be said that case-frames resulting from metaphorical expansions in Table 4 are alternative coding-frames in which transitivity is coded.

Table 4: Case Frames of Turkish Verbs

	Basic Case Frames		**Metaphorical Extensions**	
1.	[NOM]	(227)	[NOM-ADJ][13] [NOM-OBL] [NOM-LOC]	(27) (10) (44)
2.	[NOM-ACC]	(298)	[NOM-(ACC)] [NOM]-ACC-ADJ] [NOM-ACC-LOC]	(12) (17) (4)
3.	[NOM-NOM]	(78)	[NOM-(NOM)] [NOM-NOM-(INS)] [NOM-NOM-LOC]	(5) (16) (3)
4.	[NOM-DAT]	(31)	[NOM]-(DAT) [NOM-DAT-ADJ] [NOM-OBL-(DAT)] [NOM]-[ADJ]-(DAT)]	(35) (6) (2) (1)
5.	[NOM-ABL]	(58)	[NOM-(ABL)] [NOM-ABL-ADJ]	(16) (2)
6.	[NOM-INS]	(29)	[[NOM-(INS)] [NOM-INS-(DAT)]	(7) (1)
	Basic Case Frames of Three-place Verbs		**Metaphorical Extensions**	
7.	[NOM-ACC-DAT]	(93)	[NOM-NOM] [NOM-ACC-LOC-(ABL)] [NOM-ACC-ADJ-(DAT)]	(68) (11) (1)
8.	[NOM-ACC-{NOM}]	(51)	[NOM-NOM-(DAT)] [NOM-NOM-DAT-(INS)]	(40) (1)
9.	[NOM-ACC-INS]	(8)	[NOM-ACC-(INS)]	(35)
10.	[NOM-ACC-ABL]	(27)	[NOM-ACC-(ABL)]	(19)
11.	[[NOM-NOM-ABL]	(8)	[[NOM-NOM-(ABL)]	(9)
12.	[NOM-DAT-ABL]	(4)	[[NOM-ABL-(DAT)] [NOM-DAT-(ABL)]	(7) (10)

The formal hierarchy of Turkish transitivity is a projection of the semantic transitivity scale. The transitivity scale, however, is not strictly constrained by this case-frame hierarchy. Different degrees of transitivity can be encoded with the same case-frames as in other languages. Nevertheless, the nature of semantic transitivity can be described more clearly through the transitivity parameters, transitivity scale, and semantic maps proposed by Hopper and Thompson (1980), Tsunoda (1985) and Malchukov (2005). Table 5 depicted two-place verbs in Turkish and their semantic hierarchy. This hierarchy is organized and regulated by a two-dimensional semantic map based on transitivity, affectedness, and role structures of the verb classes. Among the semantic parameters, punctual/ non-punctual, volitional/ non-volitional, and high agently/low agently components were considered.

The transitivity hierarchy was found to range from effective action verbs to non-effective action verbs. In the first sub-dimension of the hierarchy, there are contact verbs, goal verbs, motion

[13] [ADJ] refers to adjunct argument.

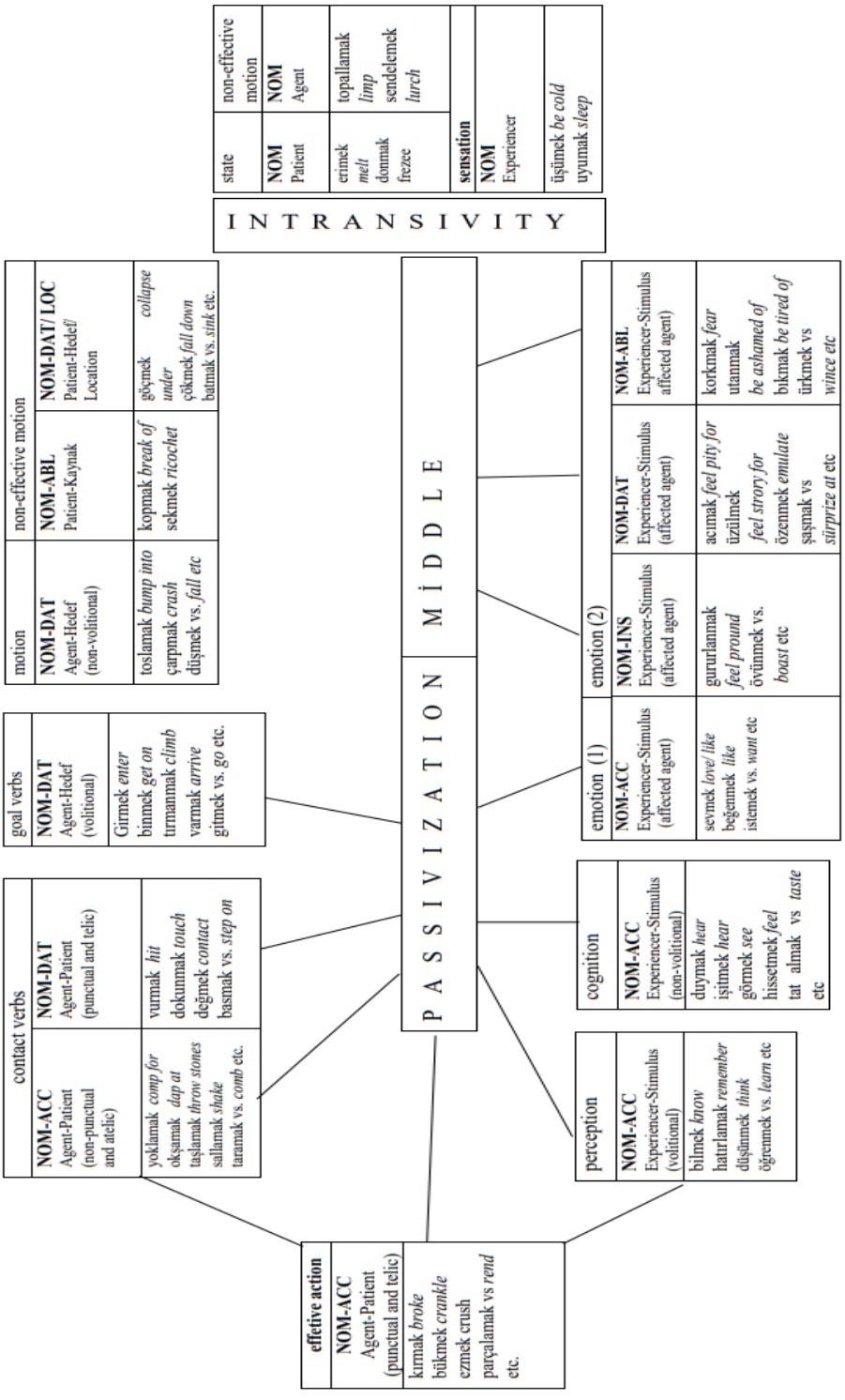
and non-volitional motion verbs. It can be argued that these verb classes are compatible with the formal transitivity hierarchy. The different degrees of transitivity select different case frames. Different classes of transitive verbs can sometimes deviate from the formal hierarchy and may be coded with the same case frame. In this case, different verb classes that select the same case frame differ from each other either in terms of semantic role structure or transitivity parameters. Contact verbs with same role-structure are classified into two classes in terms of their semantic components. One of them is non-punctual contact verbs and the other is punctual contact verbs.

The first is encoded with the [NOM-ACC] case-frame, and the second with the [NOM-ACC] case-frame. In the first class, some verbs touch an object continuously or more than once, and in the second class, verbs touch an object only once. As for other verb types, punctual contact and goal verbs select the same case-frame, but the role structures of the verbs are different. Although punctual contact verbs contact something, goal verbs do not contact anything, the action is performed in one direction. Goal verbs roughly correspond to the pursuit verb type of Tsunoda (1985) and Malchukov (2005). Since the verbs perception and cognition are used metaphorically with the meaning of pursuit verb type in Turkish, such a verb type is not classified in the semantic map. Non-punctual contact verbs and effective action verbs are also coded with the same case-frame. However, effective action verbs are a telic verb type, but non-punctual contact verbs are an atelic verb type. In the transitivity scale, verb classes differ from each other with semantic parameters when their case-frames are the same, and with case-frames when their semantic parameters are the same. However, the predominant criterion of transitivity is the [NOM-ACC] case-frame encoding the affectedness condition. However, semantic parameters are also a distinguishing criterion when the case frame and role structure of transitive verb types are the same. However, semantic parameters are also a distinguishing criterion when the case frame and role structure of transitive verb types are the same. Although the goal and motion verbs are coded with the same case frame and role structure, their semantic parameters are different. Goal verbs indicate that the action is done consciously by the A itself, that is, A is volitional, while motion verbs mean that A performs the action involuntarily (ie non-volitional). Therefore, motion verbs are intransitive verbs. This can also be understood from the fact that verbs cannot be passive. Non-effective motion verb classes that fail to satisfy the case frame, role structure, and semantic parameter conditions are also intransitive and cannot be passive.

In the second sub-dimension of the Turkish transitivity hierarchy, the verb classes of perception, cognition, and emotion were classified according to volitionally and affected agent criteria. The verb classes as perception and cognition select the same case-frame and share the semantic role structure, but they are distinct in terms of the volitionally parameter. While A participant of perception verb type is volitional, the cognition verb type is non-volitional. In terms of this parameter, the verbs in question are listed in the hierarchy. Emotion verbs are at the end of the transitivity scale and are encoded with different state frames. Emotion verbs have four different degrees of transitivity. They have a hierarchy in themselves in terms of the high agentivity of the A participant and the degree of controlling. Different degrees of transitivity of emotion verbs according to the criterion of the affected agent are coded with different case frames in Turkish. However, the first type of emotion verbs, perception and cognition verbs are encoded with the same case-frame. Although they have same case-frames and role structure. the degree of transitivity differs in terms of semantic parameters. A participant of the first type

of emotion verbs is more affected. Therefore, it can be argued that the verbs of perception and cognition are more agentive than those of the first type of emotion verbs. However, the second type of emotive verbs have uncertainty in the regard. The reason is that the first type of emotion verbs can be passive, the second type of emotion verbs only allow middle alternation. The middle voice in Turkish is a sign of lexicalization. The middle voice in Turkish depends only on certain grammatical and lexical conditions. Therefore, the middle voice is also a sign of intransitiveness. It's opem to question that the second type of emotion verbs, which only allow middle alternation, are low intransitive.

Table 5: Transitivity Map of Turkish Two-Place Verbs



4. Conclusion

Transitivity is a gradual and multifactorial concept, and different degrees of transitivity in Turkish can be coded with different case-frames up to a certain extent. The hierarchy of case-frames, which encodes transitive verbs, is formed in parallel with the transitive scale in Turkish. In other words, Transitivity is a formal scale. Transitivity has a formal hierarchy of [NOM-ACC] > [NOM-NOM] > [NOM-DAT] > [NOM-ABL] > [NOM-INS]. [NOM-ACC], by which encode state-frame prototype transitivity. However, while semitransitive verbs are coded with [NOM-NOM], other semitransitive verbs are coded with [NOM-DAT], [NOM-ABL], [NOM-INS] case frames. However, different degrees of transitivity and classes of verbs are not always formally distinguishable from each other. Verb types with different degrees of transitivity may share the same case frame. Some verbs can even be coded as prototype transitive verbs, even though they are not semantically transitive. Even the transitivity in itself can be distinguished from each other by the role structures of verbs and certain semantic parameters. Turkish two-place transitive verbs are divided into 6 different types in a two-dimensional hierarchy based on the case frames in which the meaning of the verb is encoded, the role structure of the verbs, and semantic parameters. The syntactic and semantic features of transitive verb types are described in the semantic map in Table 5. However, transitivity is not just a property of two-place verbs. Three-place verbs can also be transitive and multi-factorial. Future research will determine the degree of transitivity and coding frames of three-place verbs. This will provide a holistic understanding of transitivity.

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