

A Semantic Discussion on Generic Operator and Modal Suffix *-Ar*

0. Introduction

In both linguistics and logic studies many semantic operators functioning on the components of language have been defined. The eldest ones of these are the universal (\forall) and the existential (\exists) quantifiers. The universal quantifier refers to all of the elements of the set without any exceptions while existential refers to only some of the elements of the set and leaves the others out. These two quantifiers have been used in logic and in natural language studies being adopted from logic. However, human language has some differences from the language of logic. One of these is that you can make generalizations on the objects and situations. That is, humans may refer to only the sum of prototypical objects or a total sum of actual (and/or factual) situations leaving the exceptions out. Thus, neither the universal nor the existential quantifier can be used to define such a function. In consequence, another operator, *the generalized quantifier*- or as we are going to label it in this study *the generic operator (GEN)*- has been defined to refer to this kind of functions in natural language.

As a semantic operator, GEN inevitably influences the semantic properties of the sentence in which it functions, more specifically on different components of the sentence. Within this in mind, among the many questions to appear in linguistics, the study mainly focuses on the answers to the following questions:

1. What is the role of the GEN in determining the semantic denotations of a sentence marked with the modal suffix *-Ar*?
2. What difference does it make when the GEN operator is on the NPs in the sentence or on the situations?
3. Depending on the scope of GEN, what are the possible modality subtypes that may be expressed by *-Ar*?

Being motivated by these questions, our study aims at defining the modal values specified by *-Ar* and the role of GEN on these sentences.

We basically claim that GEN is affective on the modal value of the sentence with *-Ar*, more specifically that the scope of the operator is determinant on the modal values.

1. Generic Operator (GEN)

The generic operator is a semantic operator in the same way as the existential or universal quantifier. However, different from these operators, the generic operator is not one that functions in logic. It rather seems to be a product of the human language system which can make statements about situations that can be denied, falsified or the truth will not be affected by the exceptional cases. In that sense it is different from the universal quantifier in that it allows exceptions. And different from the existential in that it behaves like the universal by making reference to all of the situations, which have occurred and/or has some possibility to occur. Among the possible other ways, we abbreviate the operator as GEN in our representations following Krifka et. Al. (1995). Carlson (1989: 167) distinguishes between the *characterizing sentences, particular predications (or episodes)*. The characterizing sentences are the ones that “report a kind of *general property*, that is report a regularity which summarizes groups of particular episodes or facts” (1995: 2). They are marked as necessarily true. Particular predications are sentences where the NP is kind referring and the sentence “expresses specific episodes or isolated facts”. In this study we will be dealing with the basic generic sentences.

GEN may take both NPs and the predicates under its scope. Although non-specific kind referring NPs may seem to be more easily made generic, the studies have shown that such a generalization is not valid (Krifka et. al., 1995: 11, 19). That is, GEN may operate on any type of NPs. As for the predicates, GEN is less frequent on the statives. When the predicate is stative, the sentence type changes. The four different types of basic generic sentences are habitual sentences (1), lexical characterizing sentences (2), episodic dynamic sentences (3), and episodic statives (4) (Krifka et. al., 1995: 18).

1. The lion roars when it smells food.

2. The lion weights more than most animals.
3. The lion disappeared from Asia.
4. The lion is in the cage next to the tiger.

A significant property of GEN is that it influences the semantic properties of the NPs and predicates. When GEN operates on an NP, it makes the NP gain the property of kind referring, i.e. it refers to the prototypical examples (e.g. *The lion disappeared from Asia.*) In (3) NP lion is not kind referring by itself, rather the GEN operating in the sentence makes it so. Similarly, when GEN is on the predicate it becomes an individual level predicate, i.e. the predicate refers to a sum of actual events where the exceptions are eliminated.

To highlight an important point here, we are not going to use the term predicate to refer to the events mentioned in the sentences where GEN operates on the predicate. Since GEN makes reference to all of the prototypical occurrences of the event. That's why the operator seems to be working on situations rather than the syntactic or semantic element in the sentence (see Barwise and Perry (1993) for a detailed description of the term situation). This label is preferable due to the fact that it as well explains the real world reference of the events, which is claimed to exist for the generic sentences by different scholars (Krifka et. al., 1995: 3).

The main questions on GEN in the literature are generally about its relation with a particular type of linguistic item (NPs, predicatives etc.); its scope, whether it is a monadic or a dyadic operator; its truth value; and its relation to any particular item in a single language (bare nouns, verbal suffixes etc). The syntactic position of it is also a frequently asked research questions on GEN. Since the literature has its own discussion about GEN, it may be useful for us to define what we understand when we say the generic operator. That is; we take GEN as a dyadic operator which operates on NPs and/or situations. Among the various points of views to these questions, we accept that the truth value of the sentence where GEN functions depends on the scope of GEN, and that it is acceptable for only in a few cases it is directly related to a single part of the sentence.

The studies about GEN are of course not brand new for the Turkish linguistics literature as well. This way or that way this operator has been analyzed or has been mentioned by previous studies.

Despite not mentioned openly, we suggest that the traditional approaches use the effect of the generic operator while naming the suffix *-Ar* as the “aorist”. We assert that the generic operator on the sentences such as ‘*İki kere iki dört eder*’ is what makes these studies to name the suffix as the aorist (Ediskun, 1984; Ergin, 1986; Banguoğlu, 2000; Gencan, 2000).

Dahl (1995) mentions about the Turkish suffixes while trying to define the relationship between some specific items in different languages and the generic operator. He mainly tries to define whether there is a single item in languages which functions as the generic operator marker or not. Within the many different languages, he uses some Turkish data also. She specifically mentions about the use of *-Ar* and *-Iyor* which seem to mark generic sentences in her terms.

As the last but not the least, the work by Uzun & Erk –Emeksiz (2004) is an important one, considering the subject matter of our study, which shows the relation between *-AR* and GEN. That is, Uzun & Erk-Emeksiz put forward that *-Ar* is a modal suffix, in opposition to the general view saying that it is a TAM marker with different function in different sentences. Further more, they show that the modal value of the sentence with *-Ar* is determined by GEN operating in the sentence.

However, they do not go into further detail of what the scope of the GEN is in sentences with different modal values. That’s why; this study can be thought of as a fine-tuning addition to Uzun and Erk-Emeksiz (2004).

The generic operator can be found in the sentences whose predicates are marked by the verbal suffixes *-Ar* (5), *-Dir* (6), *-mAll*, *-Abil* specifically.

5. Güneş doğudan yükselir.

6. Altın değerlidir.

7. Hasta insan iyi beslenmeli.

8. Menekşe kışın da çiçek açabilir.

Other suffixes are of course not incompatible with this operator but, in opposition to the modal suffixes above, they do not allow the GEN to function on the situations as well as the NPs. In (9a), for example, NP *patates* is operated by GEN, whereas the situation is not. For the situation to be under the scope of GEN there should be a verbal marker such as *-Ar* in (9b).

9. a. Patates Anadolu'da ilk olarak 19. yy.'da yetiştirildi.

b. Patates eskiden sadece Amerika'da yetiştirilirdi.

2. *-Ar*

-Ar is a suffix which has been named as the aorist by both the traditional and many modern grammar studies, as a TAM marker by the studies in Turkish linguistics (Aksu-Koç, 1988; Taylan, 1996; Underhill, 2000; Yavaş, 1980, 1982, etc.)

However, Uzun (1998, 2004), following Cowell, claims that naming *-Ar* as the aorist or a TAM marker can not explain some possible structures in the language. He supports the one morpheme-one function approach which, as he claims, fits more with the nature of the language when the behaviors of the other suffixes, such as the person markers, are considered. After Uzun (1998), Uzun and Erk-Emeksiz (2002) show why it is impossible for *-Ar* to be a tense or aspect marker and present reasons to mark it as a modal marker in detail.

In this study we follow the approach by Uzun (1998) and take *-Ar* as a modal suffix.

Following Uzun and Erk-Emeksiz (2002: 138), we take *-Ar* to have two main modal values: The subjective epistemic (10) and the objective epistemic value (11).

10. Köpekler havlar.

11. Hasan çocukları sever.

However, apart from them, we prefer to use the classification of the modality types suggested by Palmer 2001. Thus, we label the objective epistemic as the realis. More specifically, we accept not all but some of the sentences with *-Ar* to fit in the category of the habitual*.

On the other hand, we put the subjective epistemic sentences under the assumptive which is placed in the category of epistemic modality by Palmer (2001).

Another study by Uzun and Erk-Emeksiz (2004) define the components of the discourse representation, where they define the realis and irrealis in terms of value-loadedness (the term is taken from Barwise and Perry, 1993). Specifically, if an utterance has reference to actual situations and has deictic orientation it is said to be highly value-loaded, and if it does not have reference to actual situations and does not have deictic orientation, they are low value-loaded. The high value-loaded utterances are analyzed under the realis whereas the low value-loaded ones are irrealis.

3. GEN & *-AR*

The generic operator, as previously mentioned, can operate on the NPs and/or on the situations in a sentence. In this section we focus on co-occurrences of GEN with *-Ar*.

3.1. GEN only on NPs

The subject NP of the sentences (12)-(14) are operated by GEN. All of these NPs are non-specific and kind-referring. That is, it is possible that they are operated with GEN. However, the other NP complements *yarın*, *bu kaptaki sütün*, *etleri*, *bugün* all share the common feature of having deictic orientation. Thus, the situations referred to in the sentences can not be specified by GEN. (12)-(14) exemplify non-generic situations. This also hinders the possible generic readings of the NPs. Thus, they gain the property of non-generic.

*The term 'habitual' is frequently used in the literature referring to an aspectual category. However, in our study it refers to the modal category, as defined by Palmer (2001).

12. Kuşlar yarın kafese gelir.
Non-Generic NP + Non-Generic situation
13. Kedi bu kaptaki sütü içer.
Non-Generic NP + Non-Generic situation
14. Aslan etleri bugün yer.
Non-Generic NP + Non-Generic situation

In question of modality, due to the deictic orientation of the complements, these utterances should be in the realis. However, they do not have reference to any actual events. That is, they do not have reference to situations. Having reference to actual situations seems to be a more important feature in the value-loadedness. Thus, the examples (12)-(14) can not be analyzed in the realis. They should be analyzed under the heading of epistemics, as assumptives.

3.2. GEN on situations

Different from (12)-(14), the subject NPs in (15)-(17) are non-generic. They have deictic references to real world entities. They are specific, unique and non-kind referring. However, the situations are operated by GEN.

15. Kedim miyavlar.
Non- Generic NP + Generic situation
16. Rezzan yıllardır fal bakar.
Non- Generic NP + Generic situation
17. (Ben) fal bakarım.
Non- Generic NP + Generic situation

In terms of their modal values, the deictic orientation again can not compete with the reference to actual situations. Although there is reference to more than one situation in the predicates, all of the referred situations are actual situations by nature. This makes the utterances (15)-(17) value-loaded. These sentences should be analyzed under the realis mood. Since they are generalizations about the unique entities, they code habitual mood.

3.3. GEN on NPs and situations

Both the Nps and the situations in the sentences (18), (19) are operated by GEN. The NPs are non-specific, kind-referring and the situations have reference to a total sum of actual situations.

18. Kedi(ler) miyavlar.

Generic NP + Generic situation

19. Patates toprağın altında yetişir.

Generic NP + Generic situation

As clear in the semantic properties above, the utterances (18)-(19) have the modal value realis.

3.4. GEN and Ambiguous Utterances

Ambiguous readings of the modalized utterances make one of the main problems in semantic studies. The problem of ambiguity applies to the utterances modalized by *-Ar* as well. (20) is an example of ambiguous expressions with *-Ar*. The modal vales of the sentence (20) are realis, habitual realis and assumptive as displayed in (20a) (20b) and (20c) respectively.

20. Nevin süt içer.

- a. It is a characteristic feature of Nevin to drink milk.
- b. It is a habit of Nevin to drink milk
- c. Before going to bed tonight, I think that Nevin is going to drink milk.

We suggest that the solution to the ambiguity defined for such sentences is the generic operator. When we analyze the possible readings of (20) we can easily distinguish between the GEN operators having different scopes.

In the first reading of the utterance, (20a), we have a characterization sentence where a general characterization of the specific, unique entity *Nevin* is defined. The object NP and the predicative works as if they form a compound verb, such as *fal bak-* in example (16) does. That is to say, the object NP *süt* can not be

questioned for specificity or genericity. (21) shows the logical representation of (20a).

21. 20a. Non-GEN NP + Generic situation
 GEN [x,y,s;] (x= Nevin & x in s; x iç- y in s)

To get the (20b) reading of the utterance the object NP is evaluated as a generic NP, i.e. a kind-referring NP. The utterance can be paraphrased as “when there is milk in a situation Nevin usually drinks it”. The kind-referring NP triggers the situation to be generic.

22. 20b. Non-GEN NP + Generic NP + Generic situation
 GEN [x,y,s;] (x= Nevin & x iç- y & x in s; x iç- y in s)

As for the assumptive reading, (20c), there is no GEN on any component of the sentence. The situation expressed by the predicate is referring to a single irrealis event which has not happened yet. (23) shows the semantic structure of the assumptive reading of the sentence (20).

23. 20c. Non-GEN NP + Non-Generic NP + Non-Generic situation.
 GEN [;x, y, s] (x= Nevin &x iç- y; x in s, x iç- y in s)

As shown in the examples, the modal value of a sentence hardly depends on the generic operator functioning in an utterance. What determines the modal value of a sentence marked with *-Ar*.

4. Conclusion

We have tried throughout the study to show that there is a close relation between the generic operator and the modal value of the sentences marked with *-Ar*. The examples have proved that the existence of GEN is affective on semantics of the sentence. What matters especially is that the scope of GEN is determinant on the modal value to be code in the sentence marked by *-Ar*. In addition to that The analysis of GEN in the sentence guides us in disambiguating the sentence with *-Ar*.

In the analysis in our study we can easily draw the conclusion that the most Generic sentences in Turkish are the ones where GEN

operates both on NP and the situations. Then comes the ones where GEN operates on the situations only. However, GEN operating only on NPs can not be as generic as the others. The situations having reference to a single type of event rather than the sum of actual events hinders realis reading, but irrealis.

As mentioned shortly at the end of section 1, *-Ar* is not the only suffix to be specified by GEN. The study here presents that analysis of other modal suffixes in relation to GEN may lead to further insights to the system of modality. In addition to that the scope relation of GEN with different parts of the sentence makes a valuable study matter for the future. Further more, this study also guides us towards the fact that other semantic operators should be analyzed in detail to define how the modal values of sentences are influenced by them. Triggering all these questions, our study motivates for further research on the phenomena, and asserts that these questions are worth further research.

References

- Aksu-Koç, A. 1988. *The Acquisition of aspect and modality: The case of past reference in Turkish*. Cambridge: CUP.
- Banguoğlu, Tahsin. 2000. *Türkçenin grameri*. Ankara: TDK
- Barwise, J. & J. Perry. 1983. *Situations and attitudes*. London: MIT Press.
- Carlson, G. N. 1989. On the semantic composition of English generic sentences. In Chierchia, G. & B. H. Partee & R. Turner (eds) *Properties, types and meaning, Volume II: Semantic Issues*. Dordrecht, Boston, London: Kluwer Academic Publishers. 167-192.
- Carlson, Gregory N. 1995. The truth conditions of generic sentences: Two contrasting views. In Gregory N. Carlson & Francis Jeffrey Pelletier (eds) *The generic book*. Chicago: Chicago University Press. 224-237
- Ediskun, Haydar. 1984. *Türk dilbilgisi*. İstanbul: Remzi.
- Ergin, Muharrem. 1986. *Türk dili*. İstanbul: Boğaziçi Press.
- Erguvanlı- Taylan, Eser. 1996. On the parameter of aspect in Turkish. In Ahmet Konrot (ed) *Modern studies in Turkish linguistics: Proceedings of the 6th international conference on Turkish linguistics*. Eskişehir: Anadolu University. 153-168
- Gencan, Tahir Nejat. 2001. *Dilbilgisi*. Ankara: TDK
- Krifka, M. & F. J. Pelletier & G. N. Carlson & A. ter Meulen & G. Chierchia & G. Link. 1995. Genericity: An introduction. In G. N. Carlson & F. J. Pelletier (eds.) *The generic book*. Chicago: Chicago University Press. 1-124.
- Palmer, F. 2001. *Mood and modality (second edition)*. Cambridge: CUP.

- Underhill, Robert. 2000. *Turkish Grammar* (2nd Edition). Oxford: Oxford.
- Uzun, Leyla & Zeynep Erk-Emeksiz. 2003. Türkçe’de –Ar biçimbiriminin anlamsal ve sözdizimsel yapısı üzerine. In Güray König & Nalan Büyükkantarcıoğlu & Firdevs Karahan (eds.) *XVI Dilbilim Kurultayı Bildirileri, 23-24 Mayıs 2002*. Ankara: Hacettepe University. 127-145.
- Uzun, Leyla & Zeynep Erk-Emeksiz. 2004. Irrealis modality and discourse structure, In Semiramis Yağcıoğlu & Ayşen Cem Değer (eds) *Advances in Turkish linguistics*. Dokuz Eylül Press: İzmir. 279-287.
- Uzun, N. E. 1998. Türkçe’de görünüş/ kip/ zaman üçlüsü. *Dil Dergisi* 68.
- Uzun, N. E. 2004 *Dilbilgisinin temel kavramları: Dünya dillerinden örnekleriyle*. İstanbul: Mehmet Ölmez Yayınları.
- Yavaş, Feryal. 1980. *On the meaning of tense, aspect, mood markers in Turkish*. Unpublished PhD. Thesis, Kansas, Kansas University.
- Yavaş, Feryal. 1982. The Turkish aorist. *Glossa* 16:1.