Frame Semantics of Russian and Italian Verbs: Advantages and Limitations*

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Abstract

This paper aims to analyse the process of creating a frame that reflects the semantics of Russian and Italian verbs. During the creation of the frame, a number of questions arose about the role and position of concepts in the cognitive representations of Russian and Italian verbs. As a consequence, compromises have to be sought, thus showing the advantages and limitations of frame analysis. As an example, two slots, Aspect and Mood, are illustrated.

Keywords: *frame semantics, translation studies, translation quality assessment, verbs of motion, Italian, Russian*

1 Introduction

As far as classic literature is concerned, there usually exists a significant number of translations into Italian. Čechov and Russian classic literature in general are no exception. I was able to retrieve five different translations into Italian of A. Čechov's short story The Duel which were published by different publishing houses over a 50-year span: from 1963 (Bietti publishing house) to 2014 (Bur publishing house). The wide range of existing translations creates the urge to find a tool for comparing the source text and the translations in addition to assessing objectively the quality of the translations and the degree of equivalence between the source text and their translations. The importance and the need for such a tool is predicated by the following blatant problem: the translations were published by different publishing houses in different periods of time and, clearly, they differ from each other. Let's consider the following excerpt from the short story: *V gorode nevynosymaja žara, skuka, bezljude, a vyjdeš' v pole,*

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tam pod každym kustom i kamnem čudjatsja falangi, skorpiony i zmej, a za polem gory i pustynja. In the town you have insufferable heat, boredom, and no society; if you go out into the country, you fancy poisonous spiders, scorpions, or snakes lurking under every stone and behind every bush, and beyond the fields — mountains and the desert. [Čechov, 2013] The verb *vyjdeš'* (the infinitive form is *vyjti, to go out*) was translated as follows:

- Translation n.1, m'inoltravo (inoltrarsi, to venture into, reflexive verb in the imperfect)

- Translation n.2, andartene (andarsene, to go away, pronominal verb in the infinitive)

- Translation n.3, te ne vai (andarsene, to go away, pronominal verb in the present)

- Translation n.4, andavi (andare, to go, in the imperfect)

- Translation n.5 the verb was omitted.

As E. Kovalčuk [2010] discussed the translation quality control, the key approaches towards the assessment of translation quality 'may be divided into two types: theoretical and practical (quantitative) models. Quantitative models have an advantage over theoretical ones in evaluation practice, but they also leave many controversial issues associated mainly with the selection of parameters of translation quality. What is needed is a new break-through approach to the problem capable of eliminating these difficulties'.

2   Theoretical Grounds

One of the most prominent fields in contemporary linguistics, cognitive semantics, investigates the meanings of linguistic units as the result of human beings' cognitive activity and as an instrument for knowledge representation [Plotnikova, 2006]. The distinctive trait of cognitive semantics lies in its dynamic approach to meaning which is understood not only as a structure of hierarchically organised semes – originally given – but also, and mostly, as an assemblance – formed during human beings' cognitive process – of objective reality [Ibid.]. The basis of my proposal is the notion of frame. Frame semantics is used to describe the conceptual meaning of terms structurally and informatively. In the most generalised view, frames are considered cognitive structures of knowledge which are located in our memory. Arranged in an ordinate hierarchy, they contain the most important chunks of information and are linked to various concepts or concept systems [Ivanova, 2008]. According to Minsky, 'a frame is a data-structure for representing a stereotyped situation, like being in a certain kind of living room, or going to a child's birthday party. Attached to each frame are several kinds of information. Some of this information is about how to use the frame. Some is about what one can expect to happen next. Some is about what to do if these expectations are not confirmed' [Minsky, 1974].

Nowadays, the theory of frame semantics is used in different scientific fields starting from grammatical description and ending with the elaboration of technologies used to organise knowledge. In addition to these, it is applied to the elaboration of the description of functional hybrid nets, and the creation of semantic-syntactic models of natural language, e.g. issues that are directly linked to the problem of creating systems of artificial language [Sineleva, 2014]. It does not come as a surprise, therefore, that since the first definition of frame by Minsky, scholars have been defined the term 'frame' differently (for an excursus on the term, see Sineleva, 2014 and Ivanova, 2008].

In this paper I seek to demonstrate how frames – thanks to their organised, flexible and formulaic structure – can be effectively employed to create an artificial language which can formally describe the proprieties of basically any concept, including grammatical concepts. Also, I analyse the methods of creating a frame and developing its slots further; when comparing two typologically different languages problems arise, for instance, sometimes the number and the variety of slots can differ according to the language and a compromise must be found.

The main purpose of the knowledge representation process, which in the most general form is defined as a set of rules for describing the real world, is building models of its parts and components. The knowledge representation model displays the static and dynamic properties of objects belonging to certain areas of knowledge, the relationships and links between them, the hierarchy of concepts and the change of relationship between objects. A generally accepted way to represent knowledge is to describe a process or an object by using the previously defined terms of natural language and then create a suitable mathematical model. Then a correspondence between the characteristics of knowledge concept elements and a suitable mathematical model is established [Sineleva, 2014].

Before moving to the practical part, let's comment on the terminological framework of this study. By grammatical category I imply the union of two or more grammatical forms which are opposed or linked according to their grammatical meaning. This grammatical meaning is consolidated under this set of forms (paradigm) [Ivanova et al., 1981]. By grammatical meaning I imply a general, rather abstract meaning, which connects big classes of words and is expressed through the presence – or the absence – of formal parameters. A rather important characteristic of grammatical meaning is that its meaning is not defined in the word. Formal parameters are specific and unique for every language and they convey the grammatical meaning only together with the fundamentals of the part of speech [Ibid.].

3   Creating a Prototype Frame

In my case, frame analysis gives the possibility of correlating (literally overlapping) each Russian verb of motion[1] in A. Čechov's short story The Duel with the corresponding Italian verb contained in five different Italian translations. After all, an objective and formalised slot filling, followed by a comparison of frames, helps in estimating the level of equivalence between the source text and the various translations.

All the verbs of motion in their conjugated forms and their literal meaning were extracted from the short story; however, infinitives, participles and gerunds were left out. In Russian, the infinitive, the gerund and the participle are hybrid parts of speech whose grammatical status cannot always be precisely defined. The participle and the gerund are attributive verb forms, while the infinitive is an indefinite form which originates from the verb paradigm. So, 180 units constitute the corpus of analysed forms.

Given the fact that the source text from which all the verb forms were extracted is written in Russian, it was decided to start the slot selection phase with the Russian verb. In the beginning, the most relevant categories which can be used to describe the meaning of the given verb were highlighted. Then, that information was compared with the information

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[1]By verb of motion I imply the following pairs (and their derivative forms): 1) *bežat' – begat'*, 2) *bresti – brodit'*, 3) *vezti – vozit'*, 4) *vesti – vodit'*, 5) *gnat' – gonjat'*, 6) *gnat'sja – gonjat'sja*, 7) *echat' – ezdit'*, 8) *idti – chodit'*, 9) *katit' – katat'*, 10) *katit'sja – katat'sja*, 11) *lezt' – lazit'*, 12) *letet' – letat'*, 13) *nesti – nosit'*, 14) *nestis' – nosit'sja*, 15) *plyt' – plavat'*, 16) *polzti – polzat'*, 17) *taščit' – taskat'*, 18) *taščit'sja – taskat'sja* [AG 80].

possessed about the verb in the Italian language and in this way, it was possible to obtain the necessary slots to illustrate the meanings of any verb in Russian and Italian. Of course, in order to be able to compare the semantics of the verbs (to literally assign a value to the differences and similarities between the verbs), it is preferable that 1) the two frames contained roughly the same number of slots, and 2) that the slots were the same.

The slots used were as follows: Aspect, Voice, Transitivity, Reflexivity, Mood, Tense, Form, Person, Number, Gender, Alteration of the form, Modality, Means of motion, Direction of motion. Thus, a prototype frame was created both for the Russian and the Italian verb. Graphically, the frame of this study is represented as a table (See Table 1 and Table 2).

Table 1: The Frame for the Russian Verb

Aspect	Perf	Imperf						
Voice	Active	Passive						
Transitivity	Yes	No						
Reflexivity	Real	Reciprocal	Indirect	Autocaus.	Quality	General	Collateral	Intransitive
Mood	Indicative	Imperative	Subjunctive					
Time	Present	Past	Future					
Form	Prefixed	Unprefixed	Simple	Compound				
Person	Impers.	1	2	3				
Number	Sing.	Plur.						
Gender	Masc.	Fem.	Neut.	Common				
Alteration of the form	Conjug.	Non conjug						
	Infinitive	Participle	Gerund					
Modality	Yes	No						
Means of motion	Transport	No transp.						
Direction of motion	Uni	Multi						

4 Mood

Considering that slots can be filled differently according to the language, i.e. the same slots can have different features, the present paper focuses primarily on the description of the process of filling the most compelling slots (from a methodological point of view). In other words, I

Table 2: The Frame for the Italian Verb

Aspect	Perf.	Impf.			
V.	Active	Passive	Caus.		
T.	Yes / No				
R.	Real	Recip	Indir.	Intran.	
M.	Pers.	Indic.	Imper.	Subj	Cond.
	Non-p.	Inf.	Part.	Ger.	

Tense	Present		Past						Future			Conditional			Subjunctive					
	Pres.	Pres.p.	P. pros.	Impf.	Impf.p.	Tr. pros	P. rem	Tr. rem	Fut. s.	Fut. p.	Fut. a.	Pres.	Pres.p.	Pass.	Pres.	Pres.p.	Pass.	Impf.	Impf.p.	Trap.

F.	Simple	Comp.		
P.	Imper.	1	2	3
N.	Sing	Plur.		
G.	Masc.	Fem.	Com.	
Mod.	Yes	No		
Mot.	Trans.	Ntr.		
Direct.	Uni	Multi		

V.= voice, T.= Transitivity, R.= Reflexivity, M.= Mood, F.= Form, P.= Person, N.= Noun, G.= Gender, Mod.= Modality, Mot.= Means of Motion, Direct.= Direction of Motion

am going to describe the following slots: Aspect and Mood, two categories where Russian and Italian significantly differ.

5 Aspect

According to the definition proposed by AG 80, the first morphological category of a verb is aspect (in Russian vid). The category of aspect is a system of opposing series of verb forms: on the one hand, there is a series of verb forms indicating the completion of an action (perfective verbs, in Russian soveršennyj vid), on the other, there is a series of verb forms which denote an action without referring to its completion (imperfective verbs, in Russia nesoveršennyj vid). Every verb form is affected by the category of aspect. Restricting an action to a limit means restricting the action to an abstract, internal limit which represents the action as a unified, compact act, in contrast to the representation of the action as a process represented by its duration or repeatability [AG 80]. Although the majority of Russian verbs constitute an aspect pair, it is important to notice that there exist three types of verbs which are grouped differently:

    1) non-correlative verbs having only a perfective form (such as o*čutit'sja, to find oneself*);

    2) non-correlative verbs having only the imperfective form (such as nachodit'sja to be

located);

3) bi-aspectual verbs that can be used both as perfective and imperfective (for example, *velet', to command, to order*) [AG 80 and Forsyth, 1970].

In light of this, in the Russian frame, the slot Aspect splits into a dichotomy: perf. / imperf.

Let's consider the definitions of aspect in Italian. As with Russian language, in Italian, the aspect (aspetto) characterises a verbal act in terms of duration, preciseness, repetition, the beginning or end of a process, and the completeness or incompleteness of an action. According to traditional linguistics, in languages such as Italian, e.g. tense-specific languages, the usage of aspect coincides always and only with the usage of tense, which is a distinct grammatical category, and is closely linked to types of situation (*sposob dejstvija*)[2] . From a terminological point of view, if the terms '*tense' (tempo)* and '*mood' (modo)* were already used by Greek and Latin grammarians, then the terms '*aspect*' and types of situation appeared in linguistic terminology only at the beginning of the 19th century [Colombo and Graffi, 2017]. As Colombo and Graffi point out [Ibid.], the word 'aspect' – and consequently the entire concept of aspect – became a frequently used term in the grammars of Slavic languages, where aspect is morphologically expressed. The expression type of situation is a translation from the German aktionsart, with from which the Russian term vid had originally been taken. Despite the fact that aspetto and azione are close concepts, Colombo and Graffi [Ibid.] maintain that even nowadays Italian grammars, which support the traditional approach, do not give enough attention to these concepts. For instance, Serianni [2016], though he quotes Bertinetto's interpretation of aspect, thinks that the concept of aspect occupies a secondary place in the Italian language, whereas in many of the Slavic languages the different aspectual meanings find a clear expression in their grammar. Moreover, although Serianni considers aspect in Italian a category of lesser importance [Ibid.], he defines imperfetto as a typical aspectual tense. The picture becomes even fuzzier if we turn to the definition of the adjective imperfective (imperfettivo) by the Treccani Encyclopedia: 'Nella lingua italiana si può parlare di verbi i. soltanto sul piano lessicale (per es., cercare, guardare, in contrapp. a trovare, vedere, perfettivi); ma in senso più ampio, all'interno delle frasi, sono imperfettivi tutti i verbi che esprimono azione non compiuta (mi vesto, correva, stava dormendo)'[3].

If we compare the behaviour of verbs in Russian and Italian in the following sentences:

1a) *Anna čitala knigu dva časa. Anna read the book for two hours.*

1b) *Anna ha letto il libro per due ore.*

2a) *Anna pročitala knigu za dva časa. Anna read the book in two hours.*

2b) *Anna ha letto il libro in due ore.*

it is possible to notice that in Russian the verbs are different, imperfective in 1a) and perfective in 2a). If we look at 1b) and 2b), we can see that the verb form is the same (ha letto), and the difference in the meaning is conveyed only by the use of different prepositions (per and in, respectively). Colombo and Graffi [2017] state that it is likely that the realisation of different situation types through morphology, a frequent phenomenon in the Slavic languages, but a rather uncommon one in Italian, leads linguists to think that aspect in the Italian

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[2]According to Bertinetto [1992], in the Slavic languages the division between imperfective and perfective verbs concerns the category of situation type (azione) and not the category of aspect

[3]In the Italian language we can talk about imperfective verbs only on a lexical level (for instance, to look for, to watch vs to find, to see, which are perfective verbs). However, in a broader sense, within a proposition, all the verbs are imperfective that express a non-completed action (*I dress myself, he/she would run, he/she was sleeping*) http://www.treccani.it/vocabolario/imperfettivo/

language plays a secondary role.

A not so different opinion is shared by Laszlo Toth, a Hungarian grammarian and researcher of aspectology, who, in his article about the meanings of the tense imperfetto in the Italian language [1999], states that at the present time the existence or the absence of the category of aspect in non-Slavic languages is still a matter of deep discussion between linguists. Some of them, on the basis of the existence/absence of aspect in different languages, may talk about aspectual and non-aspectual languages. The formal criteria to identify the existence of aspect in a certain language is considered the morphological expression of an explicit dichotomy of different verb forms (perfective and imperfective) which have the same lexical meaning. As the Hungarian linguist posits [Ibid.], from the speaker's point of view it is as if an action was doubled and could be described in two ways: perfectively or imperfectively. In the first case, the action is limited by time, that is the action remains within the perspective the speaker adopted, the speaker is therefore located outside the action; in the second case, on the contrary, the action crosses the limits of the speaker's perspective and expands outside the aspectual character and the speaker is located within the action.

The existence of the category of aspect is supported by Bertinetto's words [1992] who believes that if we were to stop at the morphological proprieties of conjugations, then there would be no material which could be used to demonstrate the existence of aspect in Italian, other than the basic difference between imperfetto and perfetto. However, as Bertinetto points out [Ibid], the problem is of a semantic nature: the presence of morphological dichotomies is an indicator of the existence of more profound and, in general, more universal differences. For these reasons, I decided to include the slot Aspect in the Italian frame also.

The morphological category of the mood of a verb is a system of opposed series of forms expressing the relation of the action towards reality and entails the following meanings: reality (indicative, iz"javitel'noe), motivation, command (imperative, povelitel'noe) or presumption, possibility, opinion (subjunctive, soslagatel'noe) [AG 80]. In the Russian frame, the slot Mood comprises the following features, components: Indicative, Imperative and Subjunctive. According to the AG 80, the conditional mood is included in the subjunctive and that explains why it is not presented in the Russian frame.

As far as the Italian language is concerned, the linguistic tradition illustrates the category of mood differently in comparison with what is considered the norm within the Russian linguistic. As V. Gak [2000] posits, the mood represents the relation of the verb action towards reality from the position of the speaker. The problem of the inventory of moods in the French grammar presents two questions:

a) the correctness of combining personal and non-personal forms in a single category of moods;

b) the composition of personal modal forms.

This statement is not related only to French, but it can be extended to Italian too. In light of this, it should not come as a surprise that in Italian the non-finite verb forms belong to the category of mood and not to that of Alteration of Form.

As the Treccani Encyclopedia reports, the system of mood of the Italian verb follows the general structure of the Latin system and it adds to that the conditional mood. For this reason, in Italian linguistics, it is customary to include personal mood forms (indicative, imperative, subjunctive and conditional) on the one hand, and, on the other hand, non-personal mood forms (infinitive, participle and participle)[4]. That is why, in the Italian frame, the slot Mood

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[4]Textbooks and grammars of Italian as a foreign language, where personal forms (modi finiti) are juxtaposed

is made up of slightly different components: initially there is a dichotomy of Personal / Non-personal Mood forms, and then, depending on the answer, both components branch out as it is shown on Figure 1.
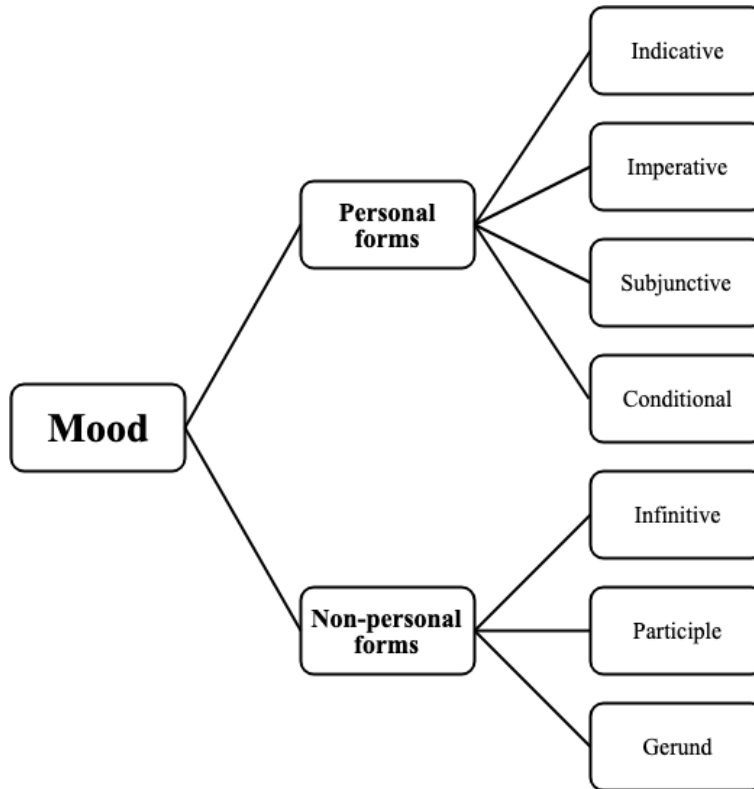

Figure 1: The Slot Mood in the Italian Frame

6 Conclusion

Of course, this is not the last word on the matter. In this paper I decided to focus on the explanation of the decision-making process which dealt with the creation and the subsequent filling of two slots only, therefore intentionally leaving out the problems I encountered and overcame in formalising other categories, for example, Modality and the role of context. The creation and filling of the slots Aspect and Mood have demonstrated the factors which are important to take into account when two typologically different languages such as Russian and Italian are formally compared. Not only can grammatical categories be different (as in the case of the slot Aspect), but also sometimes it is possible to notice that the same category (or concept) is illustrated differently (as in the case of the slot Mood). Besides, the picture can become even more complicated by the fact that frame analysis is a method to formally describe concepts. In other words, unlike the descriptive method, frame analysis helps to create a precise and detailed artificial language which could help to categorise and systemise the semantics of Russian and Italian verbs.

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with the concept of non-personal forms (modi non finiti or indefiniti) also demonstrate the extent to which the tradition is consolidated and universally accepted.

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