CHAPTER 3

Between syntax and pragmatics: Nominalization in Italian and Slovene academic discourse

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Abstract

Nominalization is one of the most important syntactic and pragmatic characteristics of academic discourse in a number of languages, but it has been often shown that the rhetorical conventions linked to its use may vary among different languages. Some languages have been shown to be more inclined to prioritize nouns as carriers of meaning, while others prefer verbs. The article discusses the occurrence of nominalization in Italian and Slovene academic texts, and focuses on the differences in frequency of this structure in original Italian texts and their Slovene translations. Additionally, it compares the results with existing data on original Slovene texts. The data has been collected with the ISPAC bilingual parallel corpus, more specifically its non-literary (academic) subcorpus, as well as a small corpus of original Slovene academic texts. The aim of the analysis is to show whether the use of nominalization in the two languages differs, whether there are any divergencies between the original and translated Slovene academic texts, and which alternative structures may

be used in the translation of nominalization. The results suggest that there are important quantitative differences in the two languages, while the cross-comparison sheds light on other interesting syntactic and pragmatic elements that influence the frequency of nominalization in Slovene.

Keywords: nominalization, academic discourse, grammatical metaphor, Italian, Slovene

Izvleček

Nominalizacija je ena od poglavitnih sintaktičnih in pragmatičnih značilnosti znanstvenega pisanja v številnih jezikih, vseeno pa se je večkrat izkazalo, da se retorične konvencije, vezane na njeno uporabo, lahko razlikujejo od jezika do jezika. Kot kažejo raziskave, s nekateri jeziki namreč bolj nagnjeni k privilegiranju samostalnikov kot nosilcev pomena, drugi pa pogosteje uporabljajo glagole. Prispevek prikazuje pojavljanje nominalizacije v italijanskih in slovenskih znanstvenih besedilih in se osredotoča na razlike v pogostnosti strukture v izvirnih italijanskih besedilih ter njihovih slovenskih prevodih, obenem pa te rezultate primerja z obstoječimi podatki za izvirna slovenska besedila. Vira podatkov sta dvojezični vzporedni korpus ISPAC oz. njegov neleposlovni (znanstveni) del ter manjši korpus slovenskih izvirnih znanstvenih besedil. Namen analize je torej izpostaviti, ali se raba nominalizacije v obravnavanih jezikih razlikuje, ali so opazne razlike med prevodno in izvirno znanstveno slovenščino ter katere so alternativne strukture, ki se lahko pojavljajo pri prevajanju nominalizacije. Rezultati nakazujejo, da se med jezikoma pojavljajo bistvene kvantitativne razlike, ob tem pa navzkrižna primerjava osvetli tudi zanimive dodatne sintaktične in pragmatične elemente, ki pogojujejo pogostnost nominalizacije v slovenščini.

Ključne besede: nominalizacija, akademski diskurz, slovnična metafora, italijanščina, slovenščina,

1   INTRODUCTION

Academic discourse is characterized by several defining syntactical, pragmatical as well as textual and other features across languages, which are related to the way thoughts and ideas are expressed in certain genres. Despite a number of common basic communicative needs, how these syntactical and pragmatical features are realized may well vary in different languages and present a problem when producing academic texts in another language or translating.

Nominalization has been identified as one of the characteristic features of academic discourse in several studies on different languages (cf. Biber and Gray 2010; Colombi 2002; Halliday and Martin 1993, Halliday and Matthiessen 1999; Jiang 2015; Mattiello 2010; Owtram 2010). Following systemic functional linguistics, as defined by Halliday and his co-workers (e.g. Halliday and Matthiessen 2004; Simon-Vandenbergen, Taverniers and Ravelli 2003), nominalization is a type of ideational grammatical metaphor in which a process, congruently expressed by a verb, is instead realized by a noun, i.e. a nominalization (cf. next section). While some languages such as English, French and German (cf. for instance Azpiazu Torres 2005; Roald and Whittaker 2010) are quite prone to the use of such grammatical metaphors, others such as Hopi, Chinese and Turkish (cf. Altınkamış, Kern and Sofu 2014; Halliday and Martin 1993; Whorf 1950[1]) do not react well to such rearrangements of the information structure and to the consequent higher lexical density of the clause, and seem to be more verb-oriented. Such tendencies are observable in general (i.e. with respect to the language as shown in referential corpora), but can be even more extreme when specific genres are considered. In fact, nominalization has been shown to be highly dependent on genre (Mikolič Južnič 2016; Yang 2006) and although academic discourse is listed among those genres where it is most present (see above), even within this wide genre, studies have confirmed differences among languages.

This study focuses on two languages which have been previously shown to have diverging tendencies in terms of the use of nominalization: if Italian is known as a language where the frequency of nominalization is usually high (cf. Cassese 1993; Cortelazzo and Pellegrino 2003; De Mauro 1980/2003; Fioritto 1997) Slovene, on the other hand, is said to be less inclined to make use of this feature (cf. Klinar 1996; Mikolič Južnič 2017; Žele 1996), although the frequency varies considerably among different genres (cf. Mikolič Južnič 2011). The aim of this paper is thus to explore whether there are any differences in the occurrence of nominalization in Slovene and Italian. More specifically, the research questions are:

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1   Some other of Whorf's arguments about Hopi have been challenged, but his analysis of the use of nominalization has been quoted as valid (e.g. by Halliday and Martin 1993, 23).

1) How frequent is nominalization in Italian academic discourse?

2) What happens when Italian nominalizations are translated into Slovene in this type of discourse?

3) Does the frequency of nominalization in the translated academic texts differ from the frequency in original Slovene academic texts?

In the following sections, a brief overview of the development of nominalization will be presented along with the main studies centred on this syntactical device for Italian and Slovene. Subsequently, the corpus-based methodology used to identify the nominalizations, their frequency, and the relations between instances of nominalization in the original Italian texts and their Slovene translations is described. Finally, the results are cross-compared with the figures for original Slovene texts reported in a similar study (Mikolič Južnič 2011).

2 NOMINALIZATION AND ACADEMIC DISCOURSE

2.1 A definition

In this paper, nominalization is defined in the framework of systemic functional grammar (Halliday and Matthiessen 2004): according to this model, language is a system of meanings and specific forms that can be used to realize these meanings (Halliday 1994, xiv). From the point of view of the functions of natural language, each clause unites three different levels of meaning which are described with the interpersonal, textual and ideational metafunctions (cf. Halliday 1994, Halliday and Matthiessen 1999, 2004). Nominalization is primarily a shift on the ideational level, although changes on the level of one metafunction always imply shifts on the other two (Halliday and Matthiessen 1999, 239–242).

The ideational metafunction is related to the concept of the clause as a representation and the realization of the transitive structures that express the ideational meaning, which usually includes processes and their participants (and circumstances). One of the key concepts of systemic functional grammar, as Ravelli stresses (1988, 133), is the meaning potential: there are a number of elements which can carry meaning, and speakers/writers can choose among these meaning potentials when they wish to communicate. The relation between the meaning potential and the chosen realization is not random: for each meaning that we want to construe, there is a natural option which leads to a congruent realization. Halliday (1994, 343) states that the speakers/writers of a language recognize certain realizations as typical, and calls those realizations congruent. But language,

the author continues (ibid.), offers alternative possibilities in which patterns are used that are not typical: such cases are called grammatical metaphors.

In particular, nominalization is an ideational type of grammatical metaphor whereby a process, which is congruently realized by a verb, is metaphorically realized by a noun with the help of various suffixes and other grammatical means. For example, the congruent realization *John arrived yesterday and it did not surprise us* may be rephrased metaphorically as *John's arrival yesterday was no surprise for us.* This entails a rearrangement of the participants and circumstances (e.g. the direct object *us* becomes part of a prepositional phrase with the function) and it even allows us to join the two processes in one single nominal phrase: *the lack of surprise about John's arrival.* The example clearly shows how nominalization causes shifts in the configuration of the participants of the process, which allows the speaker/ writer of the text to compress complex sequences of text in a way that they form an element in a different semantic configuration (Halliday and Martin 1993, 15).

2.2   A brief history of nominalization

Nominalization is therefore the realization of a process in the form of a noun, as well as an instance of such a realization (e.g. *arrival* above). In most cases, such a noun is derived from the verb that would be used in a congruent realization (e.g. *arrival < to arrive*). Halliday and Matthiessen (2004, 636) note that the nominalization of a process is a more sophisticated realization compared to the congruent version, and that it is not part of everyday spontaneous language. It is characteristic of the fields of science, education, bureaucracy and law, but it is present in virtually all registers and genres produced by adults for adults, although there are considerable differences among different registers and genres in terms of frequency and types of nominalization (ibid.).

Halliday and Matthiessen (1999, 242–244) state that nominalization is present in all natural languages in some form: it is a natural development and like lexical metaphor it enriches the meaning potential. Its beginnings can be recognized in the transcategorization present in the earliest technical terminology developed by ancient Greek thinkers, but changed historical conditions caused it to become "a dominant feature of the semantic system" (ibid., 244). This development is mainly due to advances in science, and one of the first authors that has made great use of this feature is Galileo Galilei, the father of modern science and of scientific writing in Italian (Migliorini 1948).[2] Altieri Biagi (1993, 58) noticed that one of the most typical characteristics of Galileo's syntax seems to be the

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2   Although Galileo is indeed often quoted as the "inventor of the scientific language", he did not work in a vacuum and there were others working in the same field before and along with him (cf. Castagné 2015).

reduction of the role of the verb in favour of the noun. As Halliday and Matthies-sen (1999, 240) report, it appears very probable that Galileo's writing directly influenced Newton's texts and consequently a great portion of English scientific writings. Scientists quickly learned to exploit other important options offered by nominalization, especially the possibility of virtually indefinite expansion through modification (ibid., 265) and the possibility to use the strategy repeat-edly and accumulate instances of nominalization in clauses and in texts. From there, this potential was transmitted through calques into a number of modern European languages such as Spanish, German, Greek, Norwegian, etc. (Halliday and Martin 1993).[3]

Languages and their means of expression, or language potentials, however, did not develop everywhere along the same lines nor with the same speed. At a time when Italian and English, for instance, already had a literary history of at least a couple of centuries and had started developing a style rich with nominalizations that went along with Galileo, Newton, their contemporaries and progress in sci-ence, the Slovene written language was still in its earliest stage. The first Slovene books, Trubar's *Abecedarij* and *Katekizem*, were published in 1550, just 50 years prior to the publication of Galileo's first important works. It took almost three centuries for Slovene scientific writing to develop and start (cf. Pisanski Peter-lin 2005; Vidovič Muha 1986; Žigon and Almasy, this volume). Therefore, it is not surprising that the development of grammatical metaphor in Slovene prose started somewhat later. Yet according to Vodušek (1933), nominalization was already a feature of certain technical texts in the first decades of the 20th century. In fact, Vodušek (1933, 72–73) warns about tendencies towards archaization that originated from a Panslavic orientation that was dominating the scene in that period, according to which the power of Slovene would reside in its verbal style (in contrast with a nominal one). Vodušek himself believed that in the contem-porary Slovene of workers, technicians and scientists, a language characterized by nominal style already existed at the time and that some linguists were trying to artificially stop this natural development.

Regardless of such early disagreements, it is clear that just as English most prob-ably started to use a "nominal style" under the influence of Italian texts (cf. Hal-liday and Matthiessen 1999, 240), scientific Slovene as well tends to assume a pattern that has proved to be especially productive and efficient in scientific ar-gumentation. And while this is partly the result of transfer from a foreign system in translation (initially undoubtedly under the influence of German, but later on also due to other languages' influences; cf. Žigon and Almasy, this volume), it is

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3   Nominalization was obviously not invented by Galileo, but it was rather a step further from transcategorization (Halliday and Martin 1993, 15), which was present already in the writings of ancient Greeks; from there, it spread to Latin and Arabic and eventually into other European languages, but it was not until the birth of modern science that it assumed the important role in argumentation that it still has today (ibid., 12-13).

also a solution that scientists and technical authors seem to find functionally better, and therefore they use it as their own.

2.3   Nominalization in modern academic discourse

Several studies deal with nominalization in academic discourse in various languages, notably Banks (2008), Biber and Gray (2010), Byrnes (2009), Colombi (2002), Fang (2005), Fang, Schleppegrell and Cox (2006), Halliday (2009), Halliday and Martin (1993), Halliday and Matthiessen (1999), and Nichols (1988), showing that the phenomenon is widespread albeit unevenly used. In fact, nominalization might perhaps be the single most discussed feature of academic writing. There are several reasons for the propensity of most scientific writing to use nominalization, some of which have remained the same since Galilei and Newton's times, ranging from its rhetoric power in building an argument (Halliday and Martin 1993), to creating technical terms, establishing cause-and-effect relationships between disparate phenomena, synthesizing and systematizing detailed information, and creating measurable entities (Veel 1997, 184). Other features of academic writing where nominalization plays a crucial role are information density, abstraction, technicality (Fang 2005), reduced explicitness (Biber and Gray 2010) and so on. While most studies either focus or include English as the *lingua franca* of academic writing, several studies explore differences and similarities between different language pairs. To name but a few, Halliday and Martin (1993), for instance, compare nominalization English and Chinese, Byrnes (2009) studies the development of the use nominalization in students of German as L2, and Colombi (2002) observes bilingual Spanish/English students and their development of academic writing skills.

 Focusing on Italian, several studies on academic writing have been published (e.g. Diani 2009, Giannoni 2002, 2008; Mattiello 2012; Molino 2010), but few of them discuss nominalization. Apart from a few studies concerning the oldest stages of nominalization in scientific Italian (Altieri Biagi 1993, Fiorentino 1998 and others, cf. previous section), Scarpa (2003) presents the diachronic development of nominalization in Italian scientific articles, Zucchi (1993) discusses the nominalized infinitive, Mattiello (2010) focuses on a related field, that of legal texts. Apart from these works, comparisons between Italian and Slovene nominalizations are few, as we have seen in section 1, and with the exception of Mikolič Južnič (2010, 2011, 2012, 2013, 2017), none of them are specifically devoted to academic discourse. Furthermore, with the exception of Zajc (2014), who compared research proposals, there are no studies exploring nominalization in academic writing in Slovene, either in itself or its relationship with other

languages. This study will therefore try to fill the gap from the viewpoint of a comparison of Italian and Slovene.

Based on the brief account above and on previous studies, the hypotheses at the base of this research are that nominalization will have a relatively high frequency in Italian, that the frequency of nominalization is higher in Italian than in Slovene academic texts, and that for academic texts there is virtually no difference between original Slovene texts and translations from Italian into Slovene.

3   CORPUS AND METHOD

3.1   Corpus

To gain insight into the use of nominalization in Italian and in Slovene, a parallel corpus named ISPAC was used. The corpus comprises approximately 2.5 million words and is subdivided into two main subcorpora named simply literary and non-literary texts. The non-literary subcorpus consists of a collection of Italian academic books and their Slovene translations (see the Appendix).[4] All the Italian source texts were written by native speakers of Italian and all the Slovene translations were done by native speakers of Slovene. The source texts were published between 1977 and 2004, while the translations were published between 1993 and 2004. The single titles were randomly chosen among the translations available when the original corpus was being built (between 2002 and 2005). The corpus is lemmatized and POS tagged, and the two parallel sets of texts are sentence-aligned. Table 1 shows the number of tokens in the two sections of the subcorpus.

Table 1: Number of tokens in the two parts of the non-literary subcorpus of ISPAC

Subcorpus section	Tokens
Italian	657,380
Slovene	621,036

The corpus can be searched with the NoSketch Engine concordancer through the Slovene Clarin platform (http://www.clarin.si/info/about/). The search criteria can be narrowed down to the corpus constituent parts and the parallel texts can be searched and processed simultaneously.

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4   Further details on the corpus are available in Mikolič Južnič (2017).

3.2   Method

The research was carried out in three phases, with the use of quantitative and qualitative approaches. Although nominalizations are not especially marked in the corpus, the majority of them can be identified through typical suffixes. The most productive suffixes in both languages, shown in Table 2, have been identified in previous research (Mikolič Južnič 2017): together, they are used in the formation of approximately 90% of all nominalizations present in monolingual reference dictionaries.[5] This entails that the study does not cover all the instances of nominalization that might be present in the analysed corpus, but it nonetheless accounts for a reasonably vast sample. As seen in Table 2, the number of Italian suffixes taken into account is greater, although four of them (-menzo, -zione, -ura and -ata) alone account for 75% of all the nominalizations present in the dictionary.

Table 2: Italian and Slovene nominalization suffixes included in the analysis

Italian suffixes	Slovene suffixes
-aggio	-anje
-ata	-cija
-ato	-enje
-eggio	-tev
-enza	-tje
-ere	
-io	
-ita	
-mento	
-ore	
-sione	
-tà	
-ura	
-zione	

In the first phase of the research, therefore, the above-listed suffixes were inserted in simple CQL queries such as, for instance, [lemma=".*zione" & tag = "Nc*"]. This was done for all listed suffixes for both languages: apart from searching the source texts, target texts were also analysed separately, thus yielding two sets of data. The raw number of instances with the selected Italian suffixes was 50,813 and for the Slovene 19,116 (see Table 3). Since the search criteria did not allow us to distinguish nominalizations form other nouns having the same suffix/ending

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5   The two dictionaries are Lo Zingarelli and Slovar slovenskega knjižnega jezika (see the Bibliography).

(e.g. *seggio*, which is not a nominalized process), and also instances like *traduzione* in the meaning of the product, not the process), the results had to be manually cleaned. The results are given in the next section.

Table 3: Raw number of extracted examples from ISPAC for each suffix (Italian and Slovene)

Italian suffixes		Slovene suffixes	
-aggio	1,222	-anje	8,778
-ata	558	-cija	3,654
-ato	1,939	-enje	2,271
-eggio	190	-tev	2,211
-enza	3,842	-tje	2,202
-ere	1,846		
-io	7,615		
-ita	907		
-mento	4,058		
-ore	3,308		
-sione	2,870		
-tà	7,066		
-ura	2,808		
-zione	12,584		
Sum total	**50,813**		**19,116**

The second phase consisted of a manual analysis of a sample of all the instances extracted in the first phase. The sample was selected randomly for each Italian suffix that had more than 100 instances, while where there were less, all instances were included. To obtain a balanced sample for both languages and considering the smaller number of Slovene suffixes, larger numbers of instances of nominalizations with single suffixes were taken into account, depending on their overall frequency. Table 4 summarizes the number of instances included in this phase for both languages.

The two separate sets of data were then qualitatively analysed: first, translation equivalents of Italian nominalizations were analysed in terms of parts of speech, and second, the source expressions of Slovene nominalizations were also analysed in terms of parts of speech (see Table 5 for details on the analysed categories).

Table 4: Number of instances used in the qualitative analysis for each suffix in Italian and Slovene

Italian		Slovene	
Suffix	No. of examples	Suffix	No. of examples
-aggio	100	-anje	300
-ata	88	-cija	250
-ato	25	-enje	200
-eggio	25	-tev	250
-enza	100	-tje	200
-ere	100		
-io	100		
-ita	100		
-mento	100		
-ore	65		
-sione	100		
-tà	100		
-ura	100		
-zione	100		
Sum total	**1,203**		**1,200**

Table 5: Categories of analyses for the parallel corpus

Categories of elements	
Slovene translations of Italian nominalizations	Italian source elements of Slovene nominalizations
Nominalization Other noun Finite verb Non-Finite verb Adverb Adjective Pronoun Preposition Omission	Nominalization Other noun Nominalized infinitive Infinitive Gerund Finite verb Adverb Adjective Pronoun Omission

In the last phase, these results were cross compared as well as compared with the results of a similar prior study on original Slovene academic texts (Mikolič Južnič 2011). In that study, a specialized corpus was used which consisted of academic texts from scientific journals from various fields divided into two main fields, i.e. natural sciences and social sciences and humanities. The size of the corpus is 719,744 words, with 304,744 words belonging to the science field and 415,000 to the humanities and social sciences. The methodology used in that experiment is comparable to the one used here. Only the Slovene suffixes used here, i.e. those in Table 4, will be taken into account, therefore a comparison with the data gained with the ISPAC corpus is possible if we normalize the results to the number of occurrences per 100,000 words. The length of the texts in the two corpora differs (books in ISPAC, articles in the 2011 study), but it is reasonable to believe that the difference in lengths does not affect the use of nominalization to a discernible degree.

4   RESULTS AND DISCUSSION

4.1   Frequency in Italian source texts and Slovene translation

As mentioned above, the instances of nominalizations extracted from the ISPAC corpus were manually cleaned to eliminate improper occurrences. The resulting number of instances is 19,379, i.e. 2,948 examples per 100,000 words. Table 6 summarizes the results for each of the analysed suffixes.

The number of Slovene nominalizations in the analysed academic texts is 13,549, i.e. 2,182 instances per 100,000 words. The results for each analysed suffix are given in Table 7.

The number of target text nominalizations is substantially lower than in the source texts. Comparing the frequency in both the analysed sections of the academic texts' subcorpus of the ISPAC corpus, we can see that the frequency in target texts is 25% lower. But if we consider the absolute number of nominalizations – indeed, we are dealing with the same set of texts in two languages – the difference is even more prominent: there are 30% fewer nominalizations in the Slovene target texts compared to the Italian source texts. This confirms that except for certain genres (e.g. literary texts, cf. Mikolič Južnič 2015), nominalization seems to be considerably more frequent in Italian texts. Despite the fact that the number of nominalizations in the Slovene academic texts is relatively high in comparison to other Slovene genres (cf. Mikolič Južnič 2015), Italian

originals display an even higher frequency. The data confirm prior results about the difference between the two languages, showing that nominalization is indeed more frequent in Italian academic prose. But the relations between Italian and Slovene nominalizations are more complex than it might appear if we only look at the numbers.

Table 6: Absolute number of nominalizations in the Italian source texts

Suffix	No. of instances
-aggio	222
-ata	84
-ato	22
-eggio	23
-enza	2,148
-ere	906
-io	1,577
-ita	266
-mento	1,869
-ore	61
-sione	1,777
-tà	457
-ura	667
-zione	9,300
Sum total	**19,379**

Table 7: Absolute number of nominalizations in the Slovene target texts

Sufix	No. of instances
-anje	7,849
-cija	2,136
-enje	1,186
-tev	2,071
-tje	307
Sum total	**13,549**

4.2 Nominalizations in Italian source texts and their equivalents in Slovene target texts

As it has been previously shown (e.g. in Mikolič Južnič 2010), the relations between nominalizations present in the source and target texts are not linear: it is clear that not all Italian nominalizations are translated with a Slovene nominalization – in fact, almost one third are not – but not even all Slovene nominalizations are translations of Italian ones. To better comprehend these relations, the translation equivalents of Italian nominalizations were analysed in terms of part of speech categorization. Due to the large number of nominalizations present in the analysed corpus section (19,379 instances), only a sample of 1,203 examples was analysed (cf. section 3.2). Table 8 summarizes the absolute results for all the analysed instances, while Figure 1 shows the relative proportions of each translation equivalent in the sample.

Table 8: Absolute numbers of Slovene translation equivalents of the sample Italian nominalizations

	Nominalization	Other noun	Omission	Finite verb	Non-finite verb	Adjective	Adverb	Pronoun	Preposition
-aggio	69	13	1	8	1	6	1	1	0
-ata	48	7	5	10	0	12	0	1	1
-ato	21	0	0	0	0	1	0	0	0
-eggio	15	1	0	7	0	0	0	0	0
-enza	79	4	5	8	0	4	0	0	0
-ere	89	8	0	1	0	1	1	0	0
-io	77	9	2	3	1	5	2	1	0
-ita	82	1	0	14	2	1	0	0	0
-mento	70	10	1	11	2	4	2	0	0
-ore	51	2	3	2	0	2	1	0	0
-sione	77	7	0	12	2	2	0	0	0
-tà	81	8	5	3	0	3	0	0	0
-ura	64	18	1	4	7	4	2	0	0
-zione	88	2	0	6	2	1	1	0	0
Sum total	**911**	**90**	**23**	**89**	**17**	**46**	**10**	**3**	**1**

other noun
7.56%

finite verb
7.48%

adjective
3.87%

omission
1.93%

nominalization
76.55%

non-finite verb
1.43%

adverb
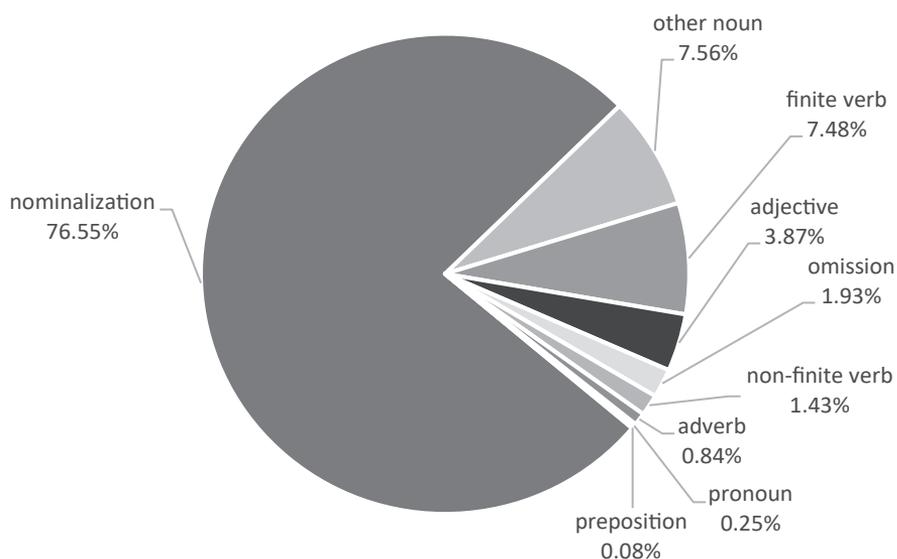0.84%

pronoun
0.25%

preposition
0.08%

Figure 1: Proportions of translation equivalents in the sample of Slovene target texts

Figure 1 shows how the most frequent translation equivalent of Italian nominalizations in the analysed sample is, indeed, a nominalization (76.55%, example 1), followed by other nouns (7.56%, example 2); in total, nominal translation equivalents amount to 84.11%.

   (1) a. A causa della <u>diminuzione</u> della pressione dell'aria nel recipiente … 'Due to the decrease of the pressure of the air in the container'[6]

       b. Zaradi <u>zniževanja</u> zračnega tlaka v posodi … 'Due to the decrease of the air pressure in the container'

   (2) a. … non mancarono caute <u>adesioni</u> di specialisti, … 'careful adhesions of specialist were not missing'

       b. … ni manjkalo previdnih <u>pripomb</u> izvedencev, … 'careful comments of specialists were not missing'

The second most frequent class are verbs (8.91% in total), which have been subdivided into finite verb forms (7.48%, example 3) and much rarer non-finite verb forms (1.43%, example 4), Example 3 shows how the translator decided to join two Italian clauses into one in Slovene, in which the process *abbattimento* 'demolition' is realized by a verb (*so podrli* 'demolished'), and then continued with

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6   English glosses are as literal as possible in order to reflect the structures in the originals and translation equivalents.

a copulative coordination. In example 4, the translator rearranged the elements of the sentence in a way that the verbs *začeti* 'to start' and *dopolnjevati* 'to complete' are linked together.

(3) a. <u>L'abbattimento</u> delle mura perimetrali, che avviene quasi dovunque … 'the demolition of the walls that happens almost everywhere'

b. Mestna obzidja <u>so podrli</u> skoraj povsod in … '(They) demolished the city walls almost everywhere'

(4) a. Il <u>completamento</u> del palazzo ducale verso la piazzetta, iniziato nel 1424, prosegue per tutto il secolo … 'The completing of the ducal palace towards the little square, started in 1424, continues through the whole century'

b. Tisti del doževe palače, ki je obrnjen na Piazzetto, so začeli <u>dopolnjevati</u> leta 1424, dodelovali pa so ga vse stoletje … 'The part of the ducal palace that is turned towards the Piazzetta, (they) started to complete in the year 1424 and they worked on it throughout the century'

Other categories are seldom found and are linked to a specific context in the source text, which call for a particular construction in the target text. Adjectives, for instance, are found in 3.87% of the analysed instances and are virtually always used when the original nominalization is in a genitive relationship with another noun (example 5).

(5) a. Rispetto a esse le regulae philosophandi presenti nei Principia appaiono un <u>affinamento</u> e una <u>semplificazione</u> delle regole … 'In comparison with them, the regulae philosophandi present in the Principia seem a refinement and a simplification of the rules'

b. Glede na te se zdijo regulae philosophandi v Principia <u>izpopolnjena</u> in <u>poenostavljena</u> pravila … 'Compared to them, the regulae philosophandi in the Principia seem to be refined and simplified rules'

Similar constrictions are usually valid for adverbs (0.84%, example 6), pronouns (0.25%, example 7) and prepositions (0.08%, example 8). In example 6, an adjunct of manner constructed with a preposition and a nominalization (*senza discernimento*) is translated with a single word adjunct with the same meaning (*nerazsodno*).

(6) a. … chi propalando senza <u>discernimento</u> notizie trionfali o disastrose, vere o false … 'some spreading without discernment triumphant or catastrophic news, true or false'

b. … drugi so <u>nerazsodno</u> širili zmagovite ali katastrofalne novice, ki so bile resnične, lažne … 'others unreasonably spread winning or catastrophic news that were true, false'

A repetition is avoided in the translation in example 7 (*viaggio – nje*).

(7) a. … durante il viaggio e per effetto del <u>viaggio</u> … 'during the travelling or as an effect of the travelling'

b. … med vožnjo in zaradi <u>nje</u>. 'during the drive or because of it'

In example 8, the phrase, *a portata di mano*, is translated with the equivalent phrase in Slovene (*pri roki*), the difference being that in Italian a nominalization is used, and consequently the meaning is more clearly expressed, while in Slovene a preposition is used to express more or less the same meaning.

(8) a. … in maniera abbastanza prossima per averli a <u>portata</u> di mano, per cui … 'in a manner close enough to have them at arm's reach, therefore'

b. … v primerni razdalji, dokaj kratki, da jih je imel vedno <u>pri</u> roki, zato … 'at an appropriate distance, fairly short, so that he had them always at hand, therefore'

Omissions (1.93%) occur randomly and sometimes do not involve a loss on the level of meaning (example 9), while in other cases a part of the original is simply lost (example 10).

(9) a. … ancora né la forma della Terra né <u>l'esistenza</u> del continente americano 'yet neither the shape of the existence of an American continent'

b. … ne za obliko Zemlje ne za Ø ameriško celino … 'neither the shape of the Earth nor the American continent'

(10) a. Un'ultima avvertenza. Il discorso che segue riguarda ovviamente … 'A last warning. The discourse that follows is obviously about'

b. Ø Razprava, ki sledi, seveda zadeva … 'The discussion that follows naturally demands'

4.3   Nominalizations in Slovene target texts and their source structures

In the next part of the qualitative analysis, the nominalizations that occur in Slovene were observed together with the structures found in the original Italian texts in their place. The perspective is therefore inverted compared to what we saw in the previous section. Table 9 and Figure 2 clearly illustrate the fact that not all Slovene nominalizations are translation equivalents of Italian nominalizations.

Table 9: Absolute numbers of Italian source structures translated as Slovene nominalizations

	Nominalization	Other noun	Addition	Finite verb	Non-finite verb	Adjective	Adverb	Pronoun	Preposition	Gerund	Nominalized infinitive
-anje	224	26	6	2	28	3	0	3	1	3	4
-cija	238	5	2	1	0	4	0	0	0	0	0
-enje	152	21	1	2	12	2	0	2	0	2	6
-tev	188	30	6	0	10	6	0	2	0	4	4
-tje	177	14	1	1	0	1	0	2	0	0	4
Sum total	**979**	**96**	**16**	**6**	**50**	**16**	**0**	**9**	**1**	**9**	**18**
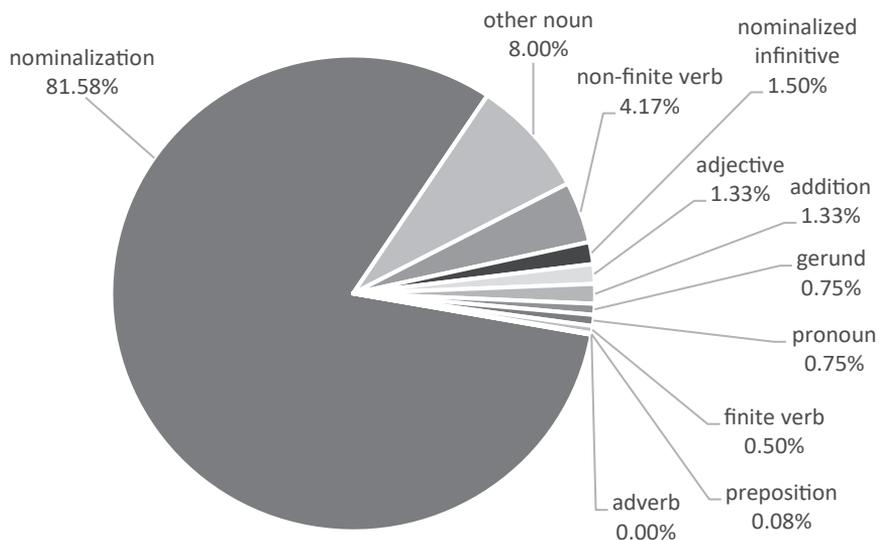
Figure 2: Proportions of source elements in the Italian original texts

As we can see in Figure 2, the most frequent source elements of Slovene nominalizations by far are nouns (almost 90%), mostly nominalizations (81.58%, example 11), but also other nouns (8.00%, example 12).

(11) a. <u>Iskanje</u> virov oblasti naj bi jih zavajalo k temu … 'The search for resources of power was supposedly making them do'

b. La <u>ricerca</u> di risorse di potere li porterebbe ad introdurre … 'The search for resources of power would bring them to introduce'

(12) a. … na polemično pridiganje, retorično <u>besedičenje</u> in zvijačnost. 'to the polemic preaching, rhetorical chatting and trickery'

b. … disposizione alla requisitoria polemica, <u>all'artificio</u> retorico, alla capziosità. 'inclination for polemical indictment, rhetorical artifice, captiousness'

Just as with the Slovene translation equivalents, the second most frequent class are verbs, where finite verb forms (0.50%, example 13) are differentiated from non-finite verbs, which in turn are subdivided into gerunds (0.75%, example 14), nominalized infinitives (1.50%, example 15) and other non-finite verb forms (4.17%), which are primarily infinitives, as in example 16. This confirms previous findings (Mikolič Južnič 2010, 2015) regarding the use of nominalization as a potential translation equivalent for Italian non-finite verb forms: since Slovene is not prone to use non-finite verb forms (cf. Toporišič 1991, 336–342) in the role of implicit clause predicates, most Italian non-finites need to be either explicitated into finite forms with all the participants clearly assigned to their roles, or they can be rendered with some other element – nominalization being a highly likely possibility due to its dual – verbal and nominal – nature and its versatility in the clause in terms of functions that it can assume.

(13) a. Kabalistično branje predpostavlja <u>branje</u> in razumevanje temeljnih besedil … 'Cabalist readings presuppose reading and understanding basic texts'

b. La lettura cabalistica presuppone, … che <u>si leggano</u> e comprendano i testi cruciali in ebraico, … 'the cabalist readings presupposes … that the crucial texts in Hebrew should be read and understood'

(14) a. … in se nadaljuje s postopnim <u>povečevanjem</u> števila celih črt. 'and goes on with a progressive increase of the number of whole lines'

b. … e continua <u>aumentando</u> successivamente il numero delle linee intere. 'and continues by gradually increasing the number of the whole lines'

(15) a. … razlik v političnem <u>razmišljanju</u> in <u>delovanju</u>, kakšen je razlog ali kakšni so razlogi za to … 'differences in the political thought, what is the reason or what are the reasons for this'

b. … differenze <u>nel pensare</u> e <u>nell'agire</u> politico, qual è la ragione, o quali sono le ragioni della distinzione? 'differences in the political thinking and acting, what is the reason or what are the reasons for the distinction'

(16) a. … širokosrčno izkoriščali možnosti za <u>razdeljevanje</u> dobrin in storitev v breme javnih sredstev. 'utilizzerebbero a piene mani la possibilità di <u>distribuire</u> beni e servizi, attraverso la spesa pubblica'

As far as the remaining, rarer occurrences go, the conditions are similar to what we have seen in the previous section: special circumstances have to be present in order to have a nominalization as the translation of an adjective (1.33%, example 17), a pronoun (0.75%, example 18), or a preposition (0.08%, example 19).[7] In example 17, the adjective *produttivo* is translated with the nominalization *produkcije* in a genitive relationship with the noun *model*, probably because there are two other adjectives as pre-modifiers in the same nominal group and a third one would also have to have been placed in a pre-modifying position because of grammatical constrictions (e.g. *edinega vlečnega produktivnega modela*). The translator decided to keep the Italian order and nominalized the process that in the original was rendered with an adjective.

(17) a. … ne določi edinega vlečnega modela <u>produkcije</u>, temveč pri življenju vzdržuje … 'doesn't define the only driving production model, but it keeps alive'

b. … più che determinare un univoco e trainante modello <u>produttivo</u>, essa mantiene in vita … 'more than defining a unique and driving productive model, it keeps alive'

In example 18, a repetition of an element from the previous sentence is avoided in the original and a personal pronoun is used (*loro*), while in Slovene the nominalization is repeated.

(18) a. Pomembnosti povezovanja se je na primer popolnoma zavedal Bonaiuto … 'Bonaiuto was for instance completely aware of the importance of <u>connections</u>'

b. Della <u>loro</u> importanza si rese per esempio perfettamente conto Bonaiuto … 'Bonaiuto was for instance perfectly aware of their importance'

The nominalization in example 19 (*pomikanju*) more clearly expresses that there is a movement towards the centre, where the original only uses a preposition to express the same meaning. It would be possible to use a preposition in Slovene as well, but it would entail keeping the syntactic structure of the original (*kažejo naraščajočo težnjo proti sredini* '(they) show a growing tendency towards the centre'), while the translator opted to unpack the adjectivally used present participle *crescente* into a finite verb (*se krepi*) and was thus forced to add the process of moving to make the meaning clear.

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7   Although no instances of Slovene nominalizations being translation equivalents of Italian adverbs have been found in the analysed sample, it may well be that there are such examples among the rest of the examples, as it is also possible that other source elements could be occasionally translated with a nominalization.

(19) a. … odkrivajo, da se krepi težnja po <u>pomikanju</u> k sredini … '(they) discover that the tendency of a movement to the centre is strengthening'

b. … mostrano una crescente tendenza <u>verso</u> il centro … '(they) show a growing tendency towards the centre'

Lastly, there were a few examples (1.33%) where the Slovene nominalization was an addition to the original sentence, usually to explicitly state a participant, circumstance or other meaning that was implicit in the source text, as in example 20.

(20) a. … pozorni na znamenja, ki naj bi po <u>pripovedovanju</u> prerokov spremljala in oznanjala zadnje … 'paying attention to the signs that, according to the narration of the prophets, accompany and announce'

b. … attenta ai segni che secondo Ø i profeti avrebbero accompagnato e annunciato l'ultimo … 'paying attention to the signs that according to the prophets would accompany and announce'

4.4   Comparing the results

According to the results shown above, nominalization is not used with the same frequency in the two languages under observation: there are fewer nominalizations in the Slovene target texts than in the Italian source texts. Looking at the details of the translation equivalents and the distribution of nominalization in the target texts; however, it appears that the relations are more complex and that they are influenced by other pragmatic factors. Comparing the number of nominalizations formed with the analysed suffixes in the two languages, it was established that there are 30% less nominalizations in the Slovene texts, yet the analysis of the sample of Italian nominalizations and their translations shows that 'only' 24.45% of nominalizations are translated with some element other than a noun, therefore there are approximately 5.5% nominalizations that we cannot account for if we do not consider other factors. In fact, the analysis of the elements found in the source texts where there are nominalizations in Slovene shows that not all Slovene nominalizations are direct translations of Italian ones. 18.42% have been translated as equivalents of verbs, adjectives, pronouns, prepositions, or even added when there was no overt element with the meaning expressed by the nominalization. The examples given above illustrate some of the textual, syntactic and pragmatic factors that might influence the translation. Furthermore, it should be noted that the examples above are all taken out of the broader context and do not show how nominalizations accumulate in short text spans. Despite the rising number of nominalizations in the last decades (cf. Mikolič Južnič 2016 and Žele 1996), the high lexical density associated with the accumulation of nominalizations is

considered heavy and difficult to understand in Slovene. Therefore, translators are likely to look for other solutions in such situations. On the other hand, one of the most common translation equivalents of Italian non-finite verb forms (such as infinitives) are indeed nominalizations, which would add up to the final count in the Slovene part of the subcorpus. When each of the potential equivalents is used therefore depends on the single situation.

As far as Slovene academic discourse is concerned, it seems to be much more prone to the use of nominalization than general language. In fact, in the original Slovene scientific texts as analysed in Mikolič Južnič (2011), there was an average of 3,032 nominalizations per 100,000 words, with the texts from the fields of natural sciences having an even higher frequency (3,321 per 100,000 words) compared to the field of humanities and social sciences (2,920 per 100,000 words). The frequency in the translations from the ISPAC corpus is 2,948 instances per 100,000 words, which is only slightly lower than the previous average figure.

We could conclude that there is only a minor difference between original and translated academic texts in Slovene as far as the use of nominalization goes. Translated texts seem to have a slightly lower average, which might be due the tendency towards standardization of the translators (Toury 1995), who had probably been taught to avoid too much nominalization, or it might be depend on the relatively small sample of analysed translations: a larger-scale analysis would be needed to either confirm these findings.

5   CONCLUSIONS

The history of the Italian and Slovene languages is quite different. While Italian is basically the language in which the use of nominalization in scientific texts was first introduced and from which it spread elsewhere, Slovene developed a scientific language rather late, under the influence of other languages, especially – but not only – German (see Žigon and Almasy, this volume). As nominalization is one of the most prominent features of scientific language (cf. section 2), analysing and comparing its presence in Slovene and Italian can complement our understanding of present-day Slovene academic writing, as well as the use of nominalization in Slovene in general.

The data confirm previous research in that the frequency of nominalization in academic discourse is relatively high, both in itself and comparing to other genres, and it is considerably more frequent in Italian (2,948 instances per 100,000 words) than in Slovene (2,182 instances per 100,000 words). In both languages nominalization is likely to occur frequently in academic discourse because of

the possibility it offers to compress meaning in high-density units and to create terms and facilitate arguments, and the results seem to confirm that the main reason for the use of extensive nominalization in both languages is linked both to the rhetorical conventions typical of that language and to construe "reality as a balanced tension between things and processes" (Halliday and Martin 1993, 17) so that it can be "kept under observation and experimented with; and in so doing, [it can be interpreted] not as changing with time (as the grammar of clauses interprets it) but as persisting – or rather, persistence – through time, which is the mode of being a noun" (ibid.). In light of this, it is no surprise that academic discourse is one of the genres were nominalization is most present, both in Italian and in Slovene.

As far as Slovene translated texts are concerned, it is confirmed that they contain fewer nominalizations than their original counterparts, although the difference is only slight and could be influenced by the small size of the analysed sample. Furthermore, when analysing translated texts, it is always necessary to take interference into account (Toury 1995, 275), as structures used in the source text are likely to influence the choice in the target text. This might result in some of the Slovene nominalizations simply being the result of a direct transfer of meaning and structure to the closest counterpart. However, our results show that there is no substantial difference in the frequency of nominalization in translated texts compared to original texts. In fact, the frequency is even smaller in the translated texts, which might be a consequence of normalization on the part of the translators (Toury 1995), who have been and are still often taught that nominalization is to be avoided in Slovene (cf. the first sections of this article). The comparison with original Slovene academic texts clearly shows that high frequencies of nominalization are the norm in academic texts, and there are no rhetorical or pragmatic reasons to avoid it in translation, since it is apparently completely accepted by the academic community when creating original texts.

The findings of the last part of the study suggest that there might be similar problems when translating from Slovene into Italian, as Slovene nominalizations are not always the result of Italian ones. Naturally, this should be further explored in future research with a corpus of Slovene-to-Italian translations, but it would seem that the possibility of substituting a congruent wording with a grammatical metaphor and vice versa is quite readily available to translators, although they seem to tend to preserve the original author's choice more often than not.

Acknowledgement

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Appendix

ISPAC Corpus

Benevolo, Leonardo, 1993: *La città nella storia d'Europa.* Roma/Bari: Laterza.

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