

THE PHONOLOGICAL ADAPTATION OF LOANWORDS IN ITALIAN

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Abstract: The focus of this article is the phonological adaptation of loanwords in Italian, accounted for in terms of the phonological processes employed. It looks of the underlying forms in the source language and analyzes the changes that have led to the output words in the target language. It also looks at the type of lexical fields in which the borrowings are predominant, which reflect the socio-economic contacts between the languages at issue. An overview of the phonological processes which are encountered is offered in an attempt to provide a theoretical framework of their behaviour, by using the generative phonology rules.

Keywords: loanwords, Italian, phonological processes, phonological rules

1. Introduction

1.1 The linguistic history of Italian

Italian, like all the other Romance languages, has emerged from the so-called “Vulgar” Latin, a term that refers to the common speech used in everyday communication, not only by the lower classes, but also by the aristocracy. It is the spoken Latin of the Roman Empire as opposed to the literary or classical Latin.

The Latin nucleus of the Empire was located around the nowadays Lazio province. Gradually, Latin began to be spoken by larger masses in other territories, as well. The most important reason for this was the conquering of vast territories in which the Roman lifestyle was imposed, this including the using of Latin. The conquered peoples had to adapt their lives and language to the Roman tradition. The remoter the conquered territory, the more different the linguistic output was. Latin spoken by soldiers and by colonizers had to blend in with the pre-local speeches, which came in a wide variety, this accounting for the formation of the Romance languages.

Dardano and Trifone (1989) suggest the 8th century BC to be the moment when Latin is first heard. Officially, Latin appears in documents around the 3rd century BC and its presence fades out between 600-800 AD, beginning with the barbaric invasions, that determined the fragmentation of the Empire, which caused Latin to be eradicated from certain territories such as England, Africa or Central Europe, while in other territories where it continued to exist, it constituted the background for other new languages. Dardano and Trifone (1989: 34) identify eleven languages that emerged from the spoken Latin that survived in the post-barbaric epoch and these are, from the western side to the eastern one: Portuguese, Spanish, Catalan, Provençal, French-Provençal, French, Ladino, Sardinian, Italian, Dalmatian (extinct) and Romanian.

As far as the periodization of the Italian language is concerned, it does not have specific moments, as in the case of other languages such as English. It is very hard to establish a clear chronology, since Italian became a national language only during the 19th

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century, more precisely in 1861 during the *Risorgimento*, i.e. the political union of Italy. Until this moment, Italian had not had any kind of linguistic unity, since the country was politically fragmented. All across the territory people spoke dialects of Italian (*dialetti*) which were often very different from the standard Italian. Around the moment of the unification, only a few members of the population were fluent in standard Italian.

Maiden (1995: 25) puts forward the theory that the 15th or 16th century might be the moment of birth of the Italian language. During this period, the Italian spoken in Tuscany, more precisely in Florence, began to acquire prestige due to the important cultural growth of the area, to which had contributed, more than a century before, the most important Italian writers of the Middle Ages: Dante, Petrarch and Boccaccio. The Florentine variety spread gradually all over the Italian territory until it began to be regarded as the norm.

Before the 15th century, Maiden (1995: 25) refers to “old Tuscan” as opposed to “old Italian”, because although the former had become a prestigious linguistic form, it was not fully identified with the language of the people from the Italian territory.

1.2 The evolution of Latin into Italian

Italian has emerged from Vulgar Latin, as aforementioned. Vulgar Latin did not change directly into Italian, though; it took centuries before arriving at the form that we know today as standard Italian. An intermediate form between Latin and Italian was represented by the Italian dialects. They pattern together according to different criteria in larger groups and some of them prevailed over others, gaining prestige, as in the case of the Florentine dialect.

The transformation to Italian was a long and tedious process that presupposed many stages. This occurred at the phonological level, at the morphological level, lexical level and, of course, at the syntactic level. The first changes took place at the phonological level. Certain phonemes existing in Latin ceased to exist in Italian, original diphthongs underwent monophthongization or vowels changed their aperture. In what follows, we will provide an account of the changes that operated at the phonological level, with representative phonological processes and examples taken from Dardano and Trifone (1989: 33).

The most obvious phonological change was the vowel quantity levelling, so that the division between long and short vowels was lost. In Latin, vocalic length was phonemic. The two sets of vowels were on the one hand /ĕ/, /ī/, /ă/, /ŏ/, /ŭ/ (the short vowels) and, on the other hand, /ē/, /ī/, /ā/, /ō/, /ū/ (long vowels), see the minimal pairs below:

- (1) Lat. *pŏpŭlus* ‘people’ vs. Lat. *pōpŭlus* ‘poplar tree’
(Dardano and Trifone 1989: 34)

Another change that occurred at the phonological level in the output language, i.e. Italian, affected the aperture of the vowels, as shown in the table below:

Latin	/ī/	/i/	/ē/	/ē/	/ā/	/ā/	/ō/	/ō/	/ū/	/ū/
Italian	/i/	/e/	/ɛ/	/a/	/ɔ/	/o/	/u/			

Table 1. Aperture of vowels

This applies only to the tonic vowels. Consider the examples in (2):

- (2) a. Lat. *pilum* > It. *pelo* ‘hair’
 b. Lat. *tēlam* > It. *téla* ‘fabric’
 c. Lat. *crūcem* > It. *cróce* ‘cross’

(Dardano and Trifone 1989: 35)

The examples above in (2) also illustrate another important change that words have undergone in the evolution of the Italian language: final consonantal dropping. This was caused by abandoning the synthetical cases and the neuter gender, which were always marked by a final consonant. The sound /m/ that appears at the end of the words in (2) is a case ending. Other consonants that are lost at the end of words are /t/ and /s/:

- (3) a. Lat. *et* > It. *e* ‘and’
 b. Lat. *bonus* > It. *buono* ‘good’

However, these last two consonants are maintained in other Romance languages such as French or Spanish, for example in the conjugation of verbs:

- (4) a. Lat. *habēmus* > Fr. *avons* vs. It. *abbiamo* ‘have-PRES.1PL’
 b. Lat. *sumus* > Sp. *somos* vs. It. *siamo* ‘be.PRES.1PL’
 c. Lat. *vident* > Fr. *voient* vs. It. *vedono* ‘see-PRES.3PL’

Gemination is another phonological process that occurs in Italian words of Latin origin. Sequences such as /kt/ or /pt/ are geminated to /tt/. Consider the examples below:

- (5) a. Lat. *octo* > It. *otto* ‘eight’
 b. Lat. *septem* > It. *sette* ‘seven’

Gemination affects other combinations as well. Sequences such as /li/, on the one hand, and /gn/ and /ni/, on the other hand, become the palatals /ʎʎ/ and /ɲɲ/, respectively (Dardano and Trifone 1989: 37):

- (6) a. Lat. *flīum* > It. *figlio* ‘son’
 /fi:ljum/ /fiʎʎo/

- b. Lat. *lignum* > It. *legno* ‘wood’
/lignum/ /leɲno/

(Dardano and Trifone 1989: 37)

There are also attestations of cases of affrication. The sequence /ti/ tenses to /tts/ as in (7a) or the voiceless velar stop /k/ becomes the voiceless affricate /tʃ/ when preceded by the front vowels /e/ or /i/ as in example (7b):

- (7) a. Lat. *vītium* > It. *vezzo* ‘affectation’
/vitjum/ /vetʃso/
b. Lat. *cēra* > It. *cera* ‘wax’
/ke:ra/ /tʃera/

(Dardano and Trifone 1989: 37)

Fricativization is a productive phonological process as well; it occurs in the case of intervocalic bilabial /b/, which turns into its fricative counterpart /v/:

- (8) a. Lat. *habēre* > It. *avere* ‘have-INF’
/habe:re/ /avere/
b. Lat. *habeō* > It. *ho* ‘have.PRES.1SG’
/habeo/ /ɔ/

(Dardano and Trifone 1989: 37)

The example (8a) above is also an instance of *h*-dropping. In Italian, /h/ is not pronounced; it may appear in certain forms, as shown in (8a) but it is only a grapheme which points precisely to the Latin origin of the verb.

The sound /l/ in post-consonantal position turns into the glide /j/:

- (9) a. Lat. *flōrem* > It. *fiore* ‘flower’
/flo:rem/ /fjore/
b. Lat. *clavem* > It. *chiave* ‘key’
/klavem/ /kjave/
c. Lat. *planum* > It. *piano* ‘level’
/planum/ /pjano/

(Dardano and Trifone 1989: 37)

Another phonological process that occurs in the long-term process of formation of Italian is the reduction of diphthongs to monophthongs:

- (10) a. Lat. *rosae* > It. *rose* ‘roses’
b. Lat. *aurum* > It. *oro* ‘gold’
c. Lat. *poena* > It. *pena* ‘punishment’

(Dardano and Trifone 1989: 37)

The above-mentioned processes are the result of linguistic contacts between Vulgar Latin and the languages of the barbaric peoples that invaded the Roman Empire. The languages that came into contact with Vulgar Latin helped in shaping the dialects which throughout time, on the basis of certain common features, were to be divided into two larger groups: Northern dialects and Southern dialects. The boundary between the two groups of dialects was towards the Northern part and it corresponds approximately to the imaginary line which unites La Spezia, on the Ligurian coast, with Rimini, on the Adriatic coast. After the *Risorgimento*, the leaders began a policy of “Italianization” of the dialects, putting an end to their further fragmentation. Nonetheless, they continue to be spoken, in parallel with Standard Italian. The output will be a mixture of pure dialect with the standard, which would be called “regional dialect”. In time, these regional dialects were grouped into even larger formations, thus creating the regional Italian: Northern, Tuscan, Roman and Southern (Dardano and Trifone 1989: 42).

2. Linguistic contacts across the Italian territory

The Latin origin of Italian explains the great number of Latin words. A considerable amount of words from the contemporary Italian (words from the basic vocabulary, mainly) were used by the Latin. They are called “Latinisms” and are not encountered in the spoken language, their use being often associated with a highly formal and rather sophisticated speech. A great percentage of them are used for titles or degrees. This notwithstanding, they are to be encountered worldwide, not just in Italian.

Italian was not affected only by Latin. There were also other peoples that came into contact with the direct heirs of the Roman Empire and whose languages left a significant number of items into the vocabulary, which were to become standard Italian.

When talking about loanwords, we may differentiate between them on a scale from non-integrated loans to completely integrated words. The former are those which were adopted with their original form, without undergoing any change; it is the case of the last decades, when considerable amounts of words (mainly from English) were imported in the scientific and technologic language. The latter have become in time deeply rooted in Italian, so that their foreign origin is no longer evident and native speakers are no longer aware of their non-Italian origin.

2.1 Greek loanwords

After the influence of Latin, Greek also left borrowings in Italian, either directly or via Latin, and it survived in the Eastern part of the Roman Empire after the Western part collapsed in 476. It was spoken in the Southern part of the Italian peninsula and in Sicily until the High Middle Ages; even today there are Greek-speaking communities in Salento and Southern Calabria (Maiden 1995: 24). Greek-origin words had entered the language since early times in the Empire, through the classical writings. Such words pertain either to the common-day language (as shown in (11a-c)) or to the domain of sciences such as mathematics, medicine or philosophy (see (11d-g)), or are encountered in the religious field (11h):

- (11) a. Gr. *býrsa* > Lat. *bŭrsa* > It. *borsa* ‘bag’
 b. Gr. *kánastron* > Lat. *cānistrum* > It. *canestra* ‘basket’
 c. Gr. *angóurion* > It. *anguria* ‘watermelon’
 d. Gr. *isoskelés* > Lat. *isoscēles* > It. *isoscele* ‘isosceles’
 e. Gr. *polygōnon* > Lat. *polygōnum* > It. *poligono* ‘polygon’
 f. Gr. *análysis* > It. *analisi* ‘analysis’
 g. Gr. *aorté* > It. *aorta* ‘aorta’
 h. Gr. *krýptē* > Lat. *crypta* > It. *cripta* ‘crypt’

(Zingarelli 1994)

Words that come from Greek pertain to the category of well-integrated loanwords and they have undergone a complete phonological adaptation.

2.2 Arabic loanwords

Greek was not the only language that was spoken across the Italian territory during Antiquity. The area was also controlled by Arabic or Germanic peoples. The loanwords that originate in these languages, just like the previous ones that have a Greek origin, are completely adapted to the Italian phonology.

The Arabic influence, which is part of the Muslim heritage, came after the Middle Ages. The most evident proof is the toponymy of Sicily, which can be entirely of Arabic (12a) origin or can contain parts in Arabic (12b).

- (12) a. Ar. *Qalʕat al-ġīrān* > It. *Caltagirone*
 b. It. *monte* ‘mountain’ + Ar. *Ġabal* > It. *Mongibello*

(Lorenzetti n.d.)

Words originating in the Arabic language pertain to the military or political area as well:

- (13) a. Ar. *āyat Allāh* > It. *ayatollah* ‘political leader’
 b. Ar. *šaskari* > It. *ascaro* ‘soldier of African origins’

(Mancini n.d.)

The Arabic influence on Italian can be explained by the rapid Islamic hegemony on the Mediterranean shores that stretched all the way to the Near East. Arabic words entered the language through Sicily starting with the Arabic invasion that began in the 7th century. These invasions happened because of the strategic position that Sicily had in the Mediterranean.

Other Arabic origin words refer to food items, as in (14):

- (14) a. Ar. *al-barqūq* > It. *albicocca* ‘apricot’
 b. Ar. *isbanāḥ* > It. *spinacio* ‘spinach’
 c. Ar. *sukkar* > It. *zucchero* ‘sugar’
 d. Ar. *qahwa* > It. *caffè* ‘coffee’
 e. Ar. *līmūn* > It. *limone* ‘lemon’
 f. Ar. *nārang* > It. *arancio* ‘orange’

(Mancini n.d.)

Arabic loanwords can refer also to sciences such as astronomy, mathematics, alchemy or philosophy, as in the examples under (15), and entered the language, mainly, during the Late Middle Ages and the Renaissance:

- (15) a. Ar. *al-ğabr* > It. *algebra* ‘algebra’
 b. Ar. *al-Ḥwārizmī* > It. *algoritmo* ‘algorithm’
 c. Ar. *ṣifr* > It. *cifra* ‘digit’
 d. Ar. *al-kīmiyā* > It. *alchimia* ‘alchemy’

(Pellegrini 1972: 43-128)

There are also terms related to chess:

- (16) a. Ar. *al-fīl* > It. *alfiere* ‘bishop’
 b. Ar. *ruḥḥ* > It. *rocco* ‘chessrook’

(Belardi 1992: 79-81)

2.3 French loanwords

Subsequently, French loanwords are also part of the Italian inventory and, as the French wave came during the earlier stages of language evolution, they are now assimilated. The influence of French on Italian can be explained by the great prestige that the French had since ancient times (due to their political power and cultural environment – the Provençal literature). There was also a period of French sovereignty over Italy that contributed very much to this process; furthermore, the trade between France and the Republic of Venice also played an important role in the process of linguistic interference.

French loanwords begin to appear starting with the 11th century, reaching their greatest influence in the Middle Ages, during the 13th and 14th centuries. Most of them are words denoting nobility titles (as in 17a-d) or weapons (see 17e-h), some of them being used even today:

- (17) a. Fr. *baron* > It. *barone* ‘baron’
 b. Fr. *soverain* > It. *sovrano* ‘sovereign’
 c. Fr. *dameisele* > It. *damigella* ‘lady’
 d. Fr. *dame* > It. *dama* ‘woman’
 e. Fr. *fleche* > It. *freccia* ‘arrow’
 f. Fr. *pistole* > It. *pistola* ‘gun’
 g. Fr. *bersail* > It. *bersaglio* ‘target’
 h. Fr. *baïonette* > It. *baionetta* ‘bayonet’

(Castellani 2000: 106-130)

The fact that the commercial exchange was one of the means whereby linguistic contacts could be established between the two peoples determined many names denoting recipients to be of French origin, as it is the case of the examples below:

- (18) a. Fr. *dame-jeanne* > It. *damigiana* ‘demijohn’
 b. Fr. *bouteille* > It. *bottiglia* ‘bottle’
 c. Fr. *chopine* > It. *cioppino* ‘name of a measuring recipient’

(Cella n.d.)

During the time of the Renaissance, the French influence began to decrease, giving way to the Spanish hegemony to impose itself across Europe. The number of French loanwords diminished considerably; there remained approximately 90 words of it (Hope 1971: 147, 248-264) pertaining, mainly, to the military field (Morgana 1994: 686-691). It was also the time when the first Italian Academy appeared – *Accademia della Crusca* – which tried to purify the language and to restrict to a minimum the foreign influence.

By the mid-17th and throughout the 18th century though, Europe experienced again a period of “Frenchification”. This implied also the increase of the number of loanwords, which began to conquer other domains as well. The most important area in which French origin words were visible was the one of the abstract notions, as seen in (19), caused by the fact that people tried to imitate ideas of the French Revolution or of the Enlightenment, the main French events that happened during this period:

- (19) a. Fr. *optimisme* > It. *ottimismo* ‘optimism’
 b. Fr. *empirisme* > It. *empirismo* ‘empiricism’
 c. Fr. *maniérisme* > It. *manierismo* ‘Mannerism’
 d. Fr. *projet* > It. *progetto* ‘project’

(Cella n.d.)

Up until the first half of the 20th century, French was the *lingua franca* of Europe, due to its literary prestige. It was the language of the aristocracy, mainly. In Italy it was spoken predominantly in the northern areas, which was largely urbanized. Even today there is a county in Northern Italy, Valle d’Aosta, where the phenomenon of diglossia is attested. French is spoken in the same percentage as Italian. The French influence stops with the ascension of Fascism.

2.4 Spanish and Portuguese loanwords

A great wave of Spanish origin words entered Italian during the 16th and 17th century, as a result of the Spanish and Catalan domination. Due to the fact that the Hispanic Peninsula was in its turn under Arabic domination before this, many of the words that entered Italian as a result of the linguistic contact with Spanish are in turn taken from Arabic.

The first known relations established with the Spanish culture were during the 13th century, when Sicily was conquered by the Arabs. The commercial activities also triggered the process of linguistic interaction with the Spanish.

Some of the random loanwords that arrived in this period in Italian are:

- (20) a. Sp. *apurar* > It. *appurare* ‘accelerate’
 b. Sp. *baúl* > It. *baule* ‘chest’

- c. Sp. *bellaco* > It. *vigliacco* ‘coward’
- d. Sp. *embarazo* > It. *imbarazzo* ‘shame’
- e. Sp. *esfuerzo* > It. *sforzo* ‘effort’
- f. Sp. *flojo* > It. *floscio* ‘floppy’

(Díaz n.d.)

The Hispanic Peninsula gained prestige in the 16th century, when the great geographical discoveries were made; it became the bridge between the New World and the rest of the European continent (Beccaria 1968: 32-135). Words that attest to this position are found in numerous travel books, in which their authors narrate their adventures in the newly found land:

- (21) a. Sp. *aguacate* > It. *avocado* ‘avocado’
- b. Sp. *maiz* > It. *mais* ‘corn’

(Díaz n.d.)

The words taken from Spanish do not refer to abstract things or ideas; it was not for cultural reasons that Italians borrowed words from the Spaniards. What was borrowed were the denominations of the material things that reflected the Spanish realities that Italians did not have. Some examples are to be found in the military or marine areas:

- (22) a. Sp. *norte* > It. *nord* ‘North’
- b. Sp. *este* > It. *est* ‘East’
- c. Sp. *escuadrilla* > It. *squadriglia* ‘squadron’

(Díaz n.d.)

Other examples belong to the area of clothing items (23a-c) or customs from the social life, such as dances (23d-f):

- (23) a. Sp. *alamar* > It. *alamaro* ‘Austrian knot’
- b. Sp. *cintillo* > It. *cintiglio* ‘belt’
- c. Sp. *guardainfante* > It. *guardinfante* ‘farthingale’
- d. Sp. *pasacalle* > It. *passacaglia* ‘type of dance’
- e. Sp. *zarabanda* > It. *sarabanda* ‘type of dance’
- f. Sp. *castañeta* > It. *castagnetta* ‘castanets’

(Díaz n.d.)

There are also words that derived from Portuguese etymons – It. *lusismi* – and although not so numerous as Spanish loanwords, they are still very important in the history of loanwords in Italian. They were introduced during the 15th and 16th centuries, after the great geographical discoveries and refer to exotic denominations of items brought in the Peninsula by various explorers:

- (24) a. Pt. *mandarim* > It. *mandarino* ‘tangerine’
 b. Pt. *tapir* > It. *tapiro* ‘tapir’
 c. Pt. *tufão* > It. *tifone* ‘typhoon’

(Lorenzetti n.d.)

2.5 Germanic loanwords

They refer to those loanwords pertaining to the Germanic languages, English not being included. The English loanwords form a special subtype called *anglicisms*. The input languages for these types of loanwords were Gothic, Longobardian and Frankish. Germanic loanwords can either refer to general terms, from the everyday use, or can specialize in certain areas such as warfare and the military area. Some of them – the ones of Frankish origin – can refer to abstract things, as seen in examples (25i-k). The majority of these words belong now to the basic Italian vocabulary, their foreign etymology being no longer obvious.

- (25) a. Got. *hilms* > It. *elmo* ‘helmet’
 b. Got. *bandwō* > It. *bando* ‘exile’
 c. Got. *haribergo* > It. *albergo* ‘hotel’
 d. Got. *nastilō* > It. *nastro* ‘strip’
 e. Long. *skafa* > It. *scaffale* ‘shelf’
 f. Long. *hrūzzan* > It. *russare* ‘snore’
 g. Long. *zupfa* > It. *zuffa* ‘fight’
 h. Long. *staffa* > Ir. *staffa* ‘stirrup’
 i. Frank. *laid* > It. *laido* ‘beautiful’
 j. Frank. *sinn* > It. *senno* ‘conscience’
 k. Frank. *urgoli* > It. *orgoglio* ‘pride’

(Lubello n.d.)

German origin words are far more numerous than the other aforementioned Germanic loanwords. Their influx stretches over a longer period of time beginning with the Middle Ages. It is the case of the pair of words *guelfo* and *ghibellino* which derive from *Welf* and *Wibelingen*, respectively.

Later on, Germanic loanwords denote either common use words or narrow down their areas, either to words denoting body parts or war-related things:

- (26) a. Gmc. *frisk* > It. *fresco* ‘cool’
 b. Gmc. *blank* > It. *bianco* ‘white’
 c. Gmc. *Bier* > It. *birra* ‘beer’
 d. Gmc. *Werra* > It. *guerra* ‘war’
 e. Gmc. *Sporo* > It. *sperone* ‘spur’
 f. Gmc. *Skina* > It. *schiena* ‘back’
 g. Gmc. *Wankja* > It. *guancia* ‘cheek’
 h. Gmc. *Hanka* > It. *anca* ‘hip’

(Lorenzetti n.d.)

The 20th century brings about German loanwords pertaining mainly to the domain of medicine. They are only partially adapted to the Italian phonology, due to the fact that people began to learn German. As a consequence, there was so need of rendering a word as close as possible to the Italian model.

- (27) a. Ger. *Aspirin* > It. *aspirina* ‘aspirin’
 b. Ger. *Schizophrenie* > It. *schizofrenia* ‘schizophrenia’
 c. Ger. *Autismus* > It. *autismo* ‘autism’

(Lubello n.d.)

2.6 English loanwords

It is a well-known fact that in the last decades English became the *lingua franca* of the entire population of the Globe. Even prior to this time, during the 19th century, it exerted a great power over the entire Europe. Going even further back in time, the 18th century represents the moment when English begins to exert an ever-growing influence all across Europe. It was firstly considered to be a barbaric language, due to the fact that it belongs to the Germanic branch.

Phonologically, English words are the least interesting category of loanwords, because a great percentage of them are not adapted to the Italian rules. In most of the cases, they came in the output language with their original form, undergoing only minor changes and most of the times only with a stress shift in pronunciation, when they were transgressing the rules of the Italian phonology.

By the middle of the 18th century, there appear the first massive influxes of English words. They were, primarily, from the area of social and political life, such as *club*, derived from its English homograph but transcribed as /kleb/, *immorale* from *immoral* or *pamphlet*, which preserved its non-Italian <ph> instead of replacing it with <f>.

In the 19th century, due to the invention of the printing press, there appear also politically related terms or words referring to social customs, e.g. *leader*, *meeting*, *dandy* or *fashion* are just a few examples (Fanfani n.d.).

In the 20th century, terms from the domain of economy or transportation come into use, e.g. *marketing*, *copyright*, *business* or *ferry-boat*. Sports are another area that offers Italian some loanwords like: *football*, *dribbling* or *offside* (Cartago 1994: 735-743).

At the morphological level, these words may also inflect according to the Italian system. For example, a verb like *to dribble* can receive the morpheme of the first class conjugation and become thus *dribblare*. In other cases, the English loanwords can trigger the apparition of a calqued version in Italian as it is the case with *allegato* ‘attachment’, *grattacielo* ‘skyscraper’, *rete* ‘network’ or the abovementioned *offside* which coexists alongside its calqued counterpart *fuori lato*.

The English loanwords represent a static class, where there is little dynamics. The adaptations that occur are, in most of the cases, minimal, due to the prestige that it has reached throughout time. Translating them in Italian would be useless, because people, and especially youngsters, use them as part of the everyday language. The Anglicization of the Italian vocabulary is an on-going process to date.

Loanwords in Italian stretch over a long period of time. They begin in the ancient period, in the time of the Roman Empire with Greek and Latin and last until the present days, the most representative example being English.

They can group according to many criteria, among which the areas in which they entered, the period of time and lastly the degree of adaptation, which can be integral or non-integral and which triggers certain phonological consequences.

3. Phonological context and adaptation

3.1 The phonology and the syllable structure of Italian

When it comes to the adaptation of loanwords in Italian, two aspects concerning phonology are important: the stress assignment (and, implicitly, the syllable structure) and the integration of illicit structures in the Italian context. In what follows, we will try to provide a description of the phonological system of Italian, in such a way as to account for and to anticipate, at least partially, the changes that loans have undergone in the process of becoming Italian words.

As a general rule regarding the stress pattern, Italian assigns stress only to heavy syllables, i.e. to those syllables that have two moras that can either be a vowel followed by a consonant or a long vowel. Generally however, the tendency for bimoraic stressed syllables is to have a structure of the type (C)VC rather than (C)VV (Repetti 1993: 184). Moreover, the syllable that the stress falls on is, generally, the antepenultimate one, as in (28). These words which allow such a stress pattern are called *paroxytone* words (*parole piane*).

- (28) a. *a.pèr.to* ‘open’
 b. *u.cèl.lo* ‘bird’
 c. *qua.dèr.no* ‘notebook’

There can be also the case when stress is assigned to the last syllable, the words being thus called *oxytone* words – *parole tronche* – as in the examples (29a-d). When stress is borne by the antepenultimate syllable, (see the examples in (29e-h)) they are called *proparoxytone* words or *parole sdrucciole*. There are even words bearing stress on the pre-antepenultimate syllable, i.e. *parole bisdruciole*, these words being mostly inflected forms of the 3rd person plural, as in (29i-j). In the case of the oxytone words, stress is always graphically marked.

- (29) a. *u.ni.ver.si.tà* ‘university’
 b. *pe.rò* ‘however’
 c. *sa.prò* ‘future tense, know 1SG’
 d. *gio.ve.dì* ‘Thursday’
 e. *tà.vo.la* ‘table’
 f. *zùc.che.ro* ‘sugar’
 g. *por.tà.ti.le* ‘laptop’

- h. *à.ri.do* ‘arid’
- i. *cà.pi.ta.no* ‘present tense, happen 3PL’
- j. *à.bi.ta.no* ‘present tense, live 3PL’

Italian is known to disallow, generally, complex consonantal clusters. Nonetheless, when they do occur, they go to the onsets and not to the codas, according to the Principle of Onset Maximization (if the respective consonantal cluster represents a valid option in Italian). The correct parsing of words such as *illustrare* will be *il.lu.strà.re* (since /str-/ is an acceptable cluster), any other possibility being excluded (Głębika 2009: 120). Other examples that support this theory can be seen in (30):

- (30)
- a. *a.strât.to* ‘abstract’
 - b. *i.stru.ziò.ne* ‘instruction’
 - c. *i.scrì.ve.re* ‘register’
 - d. *o.stà.co.lo* ‘obstacle’
 - e. *at.tra.ver.sà.re* ‘cross’
 - f. *là.dro* ‘thief’
 - g. *e.clis.si* ‘eclipse’
 - h. *mà.gro* ‘thin’

However, there is a lack of consensus between linguists as far as the syllabification of the examples in (30a-d) is concerned. McCrary (2004: 5) argues that a consonantal cluster of the type /s/ + plosive can be tautosyllabic (i.e. occurring in the same syllable) just in word-initial positions and only heterosyllabic (split between different syllables) otherwise. Consequently, according to her, example (3a) would parse like *as.trât.to*, (30b) like *is.tru.ziò.ne* and so on. The only situation when /str/, /skr/ or /st/ would appear in the same syllable is in examples of the type: *strà.da* ‘street’, *scràn.na* ‘bench’, *sti.và.le* ‘boot’.

The logic behind this system of syllabification (that infringes the Principle of Onset Maximization) is based on the Italian Sonority Scale, elaborated by Davis and presented in the following table:

Vowels	Liquids	/m/	/n/	Coronal fricatives	Noncoronal fricatives	Voiced stops	Voiceless stops
8	7	6	5	4	3	2	1

(Adapted from Davis 1990)

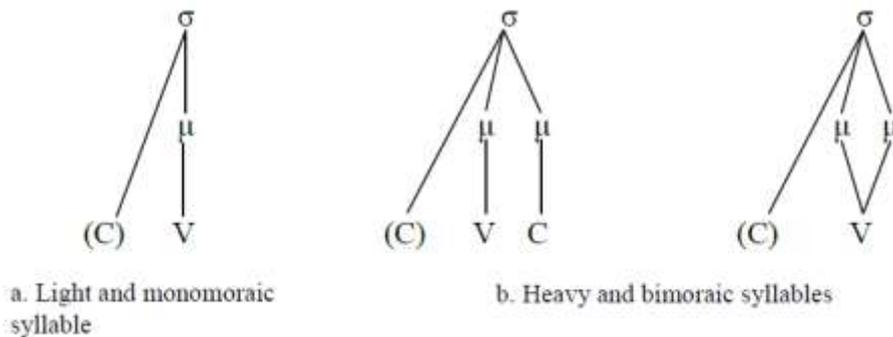
Davis (1990) states that in order for a consonantal cluster to be tautosyllabic, the sonority distance between its consonants should have a value of at least 4, while any other distance not exceeding 4 causes the cluster to be heterosyllabic. Since /s/ is a coronal fricative, placed therefore on the 4th position within the scale, it can coexist only with a vowel syllable-initially. Matching it with any other consonant would result in a heterosyllabic cluster, since the sonority distance between /s/ and any other consonant does not exceed 3. The other onsets that do not contain the voiceless fricative are

perfectly acceptable and their position as onsets is not debatable. They are made up of a plosive, either alveolar – /t/, /d/ or velar – /k/, /g/, followed by the lateral, /l/, or the rhotic, /r/, as in (30e-h). Placing them on the Sonority Scale proves that the distance between them is greater than 4. In the case of /tr-/, for instance, with /t/ on the first position and /r/ on the seventh one, the sonority distance equals 6. The same happens in the case of /kl/ or /gr/, while in the case of /dr/ it has a value of 5.

As far as codas are concerned, they end generally in a sonorant (or a vowel in most of the cases), but also in an obstruent when consonants are geminated, as in (30e) or (30g). When gemination occurs, the first of the geminated sounds will remain in the coda of the first syllable, while the second one will go in the onset of the following syllable. Geminate consonants cannot occur in the same syllable, because codas disallow more than one consonant and neither can the consonants of an onset share the same place and manner of articulation.

Gemination occurs to provide a coda for the unstressed light syllable (Morandini, 2007: 5) because, as aforementioned, stressed syllables must be heavy (see 29f and 30g). Below we provide a moraic representation of the syllable:

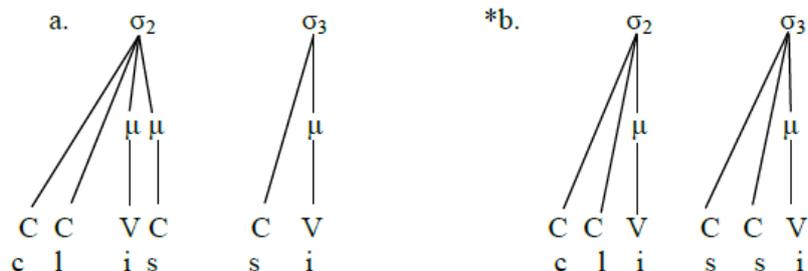
(31)



(Repetti 1993: 183)

In order to illustrate the fact that gemination is required by the heavy-syllable structure, I will proceed with the syllabic analysis of the word *e.clis.si*, the second and the third syllables being the ones that interest us:

(32)



The example (32b), despite its observing the Principle of the Onset Maximization, is an illicit one, since the consonants that appear in the onset of σ_3 form a geminate pair, causing σ_2 , which is stressed, to be also light. In (32a), the first syllable represented here (σ_2), the stressed syllable, is heavy due to the first geminated consonant, /s/.

There is another phenomenon pertaining to the area of gemination called *raddoppiamento fonosintattico* ‘phono-syntactic doubling’, whereby a final syllable that ends up in a vowel – therefore, a light syllable – and precedes a word starting with a stressed syllable will trigger the doubling of the initial consonant of this stressed syllable. Consider the examples below:

- (33) a. *a casa* [akkááza] ‘at home’
 b. *parlò bene* [parlòbbééne] ‘[I] speak well’

(Repetti 1993: 184)

Just like in the case of gemination, phono-syntactic doubling occurs in order to render heavy an initially light syllable, this accounting for the preference for the (C)VC syllable structure instead of (C)VV. According to this bimoraic preference, the correct parsing of the examples (33) would be [ak.káá.za] and [par.lob.béé.ne], respectively.

3.2 Analysis

In order to illustrate the processes that loanwords have undergone, we will employ a rule-based approach which translates phonological processes into phonological rules. The form in the source language is taken as the underlying representation is and the surface representation corresponds to the form in the output language. The rewriting rule for a change follows the generic pattern: $X \rightarrow Y / A_B$.

3.3 The phonological integration of loans

At the suprasegmental level, the syllabic structure of Italian, for which an overview was offered in section 3.1, is the main reason for which loanwords have been adapted to fit the Italian pattern, i.e. they had to stress shift on the penultimate syllable (if they were stressed on any other syllable), which caused them to be bimoraic and of the (C)VC type.

In what follows I will try to account for the changes that occurred to loanwords on their way of becoming Italian words and to provide the rewriting rules of the generative phonology that attest the passing from the underlying representation (in the source language) to the surface one (in the target language) in as much as phonemes are concerned.

Loanwords whose original form have the last syllable stressed generally maintain the stress on that syllable but, as a consequence, they add one more syllable so as to obey the Italian rule regarding the stress placement. A few examples are illustrated below:

- (34) a. Fr. *baron* > It. [ba'ròne] ‘baron’
 b. Fr. *projet* > It. [pro'dzetto] ‘project’
 c. Sp. *baúl* > It. [ba'ule] ‘chest’

- d. Pt. *tapir* > It. [ta'piro] 'tapir'
 e. Ger. *frisk* > It. ['fresko] 'cool'

The data above show that in both languages the stressed syllable is the same. As a general rule, Italian phonology disallows word-final consonants; this is why paragoge is used. The phonological rule explaining paragogic vowels in Italian is formalized below:

$$(35) \quad \emptyset \rightarrow V / C_ \#$$

In this rule, the consonant may be marked for [+nasal, CORONAL] as in (34a), for [+instantaneous release, -voiced, CORONAL] in (34b), for [-voiced; DORSAL] (34e) or for [+lateral, CORONAL] and [-lateral, CORONAL] in (34c) and (34d), respectively.

Within the domain of paragoge, the vowel *schwa* is the default paragogic vowel, which occurs mostly in English loanwords (but it is not restricted to them) which do not drop the final consonant and were adopted with a form relatively close to the original one.

The phonological rule which reflects the addition of paragogic *schwa* might be rendered as follows:

$$(36) \quad \emptyset \rightarrow [\text{ə}] / C_1C_2_ \#$$

Some examples which illustrate this rule end up are quoted below:

- (37) a. En. *weekend* > It. [wɪ'kɛndə]
 b. En. *Converse* > It. ['kɔnvɛrsə] 'clothing brand'
 c. En. *popcorn* > It. [pɔp'kɔrnə]
 d. Fr. *fard* > It. ['fardə] 'blush' (noun)

(Repetti 1993)

The consonantal cluster next to which schwa epenthesis occurs is made up of a string of two coronals (/d/, /r/, /s/, /n/). The alveolar ridge is the frontmost place of articulation the apex can go to; prolonging the phonetic sequence with schwa, releases the air stream instantaneously (37a, c-d) or continuously (37b), softening the consonantal segment.

Other loanwords geminate their final consonant, before adding *schwa*, according to the following rule:

$$(38) \quad \emptyset \rightarrow [\text{ə}] / VC_1C_1_ \#$$

The trigger for gemination is the fact that they end up in a singleton coda and onset, respectively, as in (39):

- (39) a. En. *hotdog* > It. [od'dɔggə]
 b. Fr. *Chanel* > It. [ʃa'nɛllə] 'luxury brand'
 c. En. *Gap* > It. ['gappə] 'clothing brand'
 d. Fr. *Dior* > It. ['djɔrrə] 'luxury brand'

(Repetti 1993)

Epenthesis can be also of the consonantal type, and it is visible especially in the particular form of prothesis. This process, although rare, can be seen most frequently in words of German origin, as illustrated below:

- (40) a. Gmc. *Wankja* > It. ['gʷuantʃa] 'cheek'
 b. Gmc. *Werra* > It. ['gwɛrra] 'war'
 c. Gmc. *Wai* > It. ['gwajo] 'trouble'
 d. Gmc. *Waidanjan* > It. [gwada'ɲɲare] 'earn'

The phonological process is reflected by the rule below:

- (41) $\emptyset \rightarrow [g] / \#_C_{[+\text{approximant}, -\text{vocalic}, \text{LABIAL}]}$

We can offer a tentative explanation to show that the choice of the prothetic consonant is not at random: a voiced dorsal stop is added before the labio-velar glide, which is perceived as non-vocalic. The onset thus becomes strongly consonantal and the consonants therein become homorganic (agree in place of articulation), given the dorsal articulatory gesture of the glide.

Finally, in relation to the examples presented in (39), there are also loanwords that despite the fact that they end in a consonant, more precisely in a singleton, do not display a paragodic vowel:

- (42) a. Sp. *maiz* > It. ['mais] 'corn'
 b. En. *hamburger* > It. [am'burger] 'hamburger'
 c. En. *bar* > It. ['bar] 'bar'
 d. Ar. *al-kuḥl* > It. ['alcɔl] 'alcohol'

After paragoge, another segmental phonology process that applies to loanwords is the deletion of certain sounds, which, if taken by position, can be either apheresis (see 43a-b), syncope (43c) or apocope as in (43d):

- (43) a. Gmc. *Hanka* > It. ['aŋka] 'hip'
 b. Lat. *habere* > It. [a'vere] 'have'
 c. Sp. *guardainfante* > It. [gwardin'fante] 'farthingale'
 d. Gr. *análisis* > It. [a'nalizi] 'analysis'

The rules accounting for the processes above are:

- (44) a. apheresis: $C \rightarrow \emptyset / \#_$
 b. syncope: $V \rightarrow \emptyset / V_C$
 c. apocope: $C \rightarrow \emptyset / _ \#$

The phonological rule whereby the dropped consonant is [-voiced, GUTTURAL], is sometimes referred to as "H-dropping" (see 43a-b). The glottal fricative /h/ is deleted because Italian "does not employ the pharyngeal node, the articulator that characterizes

gutturals” (Paradis 2001: 255). Therefore, the elision rule above in (44a) can be rewritten as:

(45) /h/ → Ø / #_

With respect to (43c), it may be treated an instance of vocalic fusion. This is not however the case, as the resulting sound does not have features of both original sounds. The vocalic sequence is reduced to one of the vowels that appear in that particular sequence, as it is the case of [ai] which goes to [i]:

(46) [V₁V₂] → [V_{1/2}]

However, there are cases when the resulting vowel is a completely different sound, situated in-between the two original sounds:

(47) [V₁V₂] → [V₃]

In the case of the words in (48), we can indeed treat them as instances of vocalic fusion or merging whereby [oe] becomes [ɛ], and [au] becomes [ɔ].

- (48) a. Lat. *aurum* > It. ['ɔro] ‘gold’
 b. Lat. *poena* > It. ['pɛna] ‘punishment’

The example in (48a) is a case of partial vocalic merger since the roundness feature is lost but the quality of the anterior vowel is changed, whereas the example in (48b) is a case of total merger whereby both height and roundness are reflected in the mid-chart output.

Both vocalic sequences in (43c) and (48) are monophthongs which started out as monophthongal sequences that originally formed a hiatus. This reduction can be accounted for as a need to reduce articulatory gestures, as a hiatus requires a greater articulatory effort.

Consider the examples below:

- (49) [wɛ] → [ɔ] / C_{[-voiced; labial]_C}
 (50) Sp. *esfuerzo* > It. ['sfɔrtso] ‘effort’
 (51) [eɪ] → [ɛ] / C_{1[LABIAL, -continuant]_C_{2[LABIAL, -continuant]}}
 (52) En. *baby* > It. ['bɛbi] ‘baby’
 (53) [əu] → [ɔ] / C_{1[LABIAL, -continuant]_C₂}
 (54) En. *poker* > It. ['pɔker] ‘poker’

The rules in (49), (51) and (53) reflect cases of monophthongization whereby the original diphthong was reduced to a monophthong. While (50) and (54) are cases of vocalic fusion – as in (48a) – where the source language exhibits a diphthong, in example (43) we have a merger in terms of quality alone, with the resulting vowel shifting towards the intermediate mid-high or close area.

An opposite process is applied to loanwords: diphthongization. It occurs especially with loans from Latin:

- (55) a. Lat. *rōta* > It. [ˈrwɔta] ‘wheel’
 b. Lat. *nōvus* > It. [ˈnwɔvo] ‘new’
 c. Lat. *hōmo* > It. [ˈwɔmo] ‘man’

What is interesting to notice about the examples in (55) is the fact that these diphthongs coexist in Italian with the monophthongal reflexes of the monophthongs they were derived from, as in the examples below:

- (55') a. *rōta* > [ˈrwɔta] > [roˈtella] ‘little wheel’
 b. *nōvus* > [ˈnwɔvo] > [noviˈta] ‘news’

Furthermore, another process that occurs to loanwords is affrication. It occurs either at the end of the word when the affected sound is a dorsal fricative, as shown by rule (56), and illustrated in (57), or at the beginning of a word when a coronal fricative is involved, as proven by (58) and (59).

- (56) C [+continuant, DORSAL] → C [+instantaneous release, CORONAL] / _#
 (57) Ar. *isbanāḥ* > It. [spiˈnatʃo] ‘spinach’
 (58) C [+continuant, CORONAL] → C [-continuant, +continuant, CORONAL] / #_V
 (59) a. Ar. *ṣifr* > It. [ˈʃifra] ‘digit’
 b. Fr. *chopin* > It. [ʃopˈpino] ‘name of a measuring recipient’
 c. Sp. *cintillo* > It. [ʃinˈtillɔ] ‘belt’
 d. Ar. *sukkar* > It. [ˈtsukkero] ‘sugar’

Lateralization is another process in the chain of processes that occurs to Italian loanwords, according to the following rules:

- (60) /aɪ/ → [ʎʎ] / C_#
 (61) Fr. *bersail* > It. [berˈsaʎʎo] ‘target’
 (62) /eɪ/ → [ʎʎ] / C_#
 (63) Fr. *bouteille* > It. [botˈtillʎa] ‘bottle’

We have reviewed so far the main phonological processes that affect loanwords in Italian, which are set out in the following table:

	Greek	Arabic	French	Hispanic	Germanic	English
Vocalic epenthesis		✓	✓	✓	✓	✓
Consonantal epenthesis					✓	
Deletion	✓	✓		✓	✓	
Affrication		✓	✓	✓	✓	
Gemination			✓	✓	✓	✓
Monophthongization				✓	✓	✓
Diphthongization					✓	
Lateralization			✓	✓	✓	
Voicing		✓		✓		
Devoicing		✓		✓		
Opening	✓	✓			✓	✓
Backing		✓				
Closing	✓			✓		

We can see that the most recurring process is vocalic epenthesis, followed by deletion, gemination or opening. The languages in which borrowed words change the most are German and Spanish. Words coming from one and the same language may employ different processes. For example, the Germanic words allow both epenthesis and deletion or monophthongization and diphthongization. Similarly, one and the same word may undergo simultaneous changes in order to avoid illicit sequences. For instance, the Germanic input *waidanjan* gives the Italian output [gwada'ɲpare] 'to earn', to which several phonological processes have been applied simultaneously: consonantal prothesis, gemination and paragoge.

4. Conclusions

In the sections above we have tried to show how loans have entered the Italian vocabulary and how they have been adapted to its phonology by means of various phonological processes. We have also tried to underline why the distinction between well-integrated loanwords and partially-integrated loanwords is relevant.

The foreign languages with which Italian came into contact can be classified according to many criteria such as: the major phonological processes employed for the words taken from them, the areas of vocabulary which they enriched or the period of time when they came in contact with the Italian language.

Regarding the chronology of language contacts, we can distinguish between Greek loanwords, which are the oldest ones and English loanwords, which are the most recent ones. Greek is the language that provided one of the largest number of outputs in Italian. On the chronological scale, it is the first language that came into contact with Italian, in Antiquity. As for the areas in which they entered, loans that came via Greek pertain to the basic domain of the vocabulary but are encountered in the field of science as well, due to the fact that Ancient Greece was the land where mathematics, medicine or astronomy first

appeared and developed. English loanwords, on the other hand, arrived into Italian directly, without any mediators. They are the most recent loans and represent an ever-growing class, this being a process that unfolds even today. Due to the fact that they are the most recent, they are not well-adapted to Italian. There are very few the examples when an originally English word was adapted in Italian so that its foreign origin should not be noticed at all. The best example that illustrates the fact that English loanwords are far from being integrated into Italian is calquing. The input form is very remote from an authentic Italian one, this is why the tendency is to replace it with its Italian counterpart rather than adopt it the way it is. The domain to which these loanwords pertain is generally the technical one. From the chronological perspective, there are no waves of Greek origin words; in the case of English however, we can distinguish between periods, each period being represented by certain areas of vocabulary. The 18th century is dominated by politically related loans, the 19th century by loans that denote social customs and the 20th century by terms related to economy, science, technology or sports.

Adaptation of English loans does not imply the employment of too many phonological processes. In most of the cases, as the majority of English words end in a consonant, they receive an epenthetic vowel in Italian, but this is not always the case. There are also words coming from English that do not get a final vowel. This behaviour can be explained by rules of the Italian syllabic structure and its stress pattern. As previously discussed, the tendency is to have a bimoraic structure for the stressed syllable and this syllable is usually the penultimate one.

Arabic words entered Italian beginning with the 7th century, after the Muslim invasions. They are either common words such as words denominating food items or from the scientific field. From the point of view of their integration level, they belong to the totally integrated class representing words that are totally assimilated to Italian. At the graphical level of their original form what is very peculiar is the short frequency of vowels and the abundance of consonants. This feature has been dealt with by epenthesis mainly, but also by affrication, voicing or devoicing, as it becomes obvious from the summarizing table in section 3.3.

Throughout the 11th century and during the 13th and 14th centuries, French was the most important language with which Italian had established linguistic contacts. The areas that they belong to are related to the social life and denote either nobility titles or weapons. After these first influxes, their influence started to decrease towards the 17th century when people started to adopt them again, driven by the euphoria of the new French philosophical and literary movements. The main process applied to these loanwords is paragoge.

Hispanic loans are the next ones chronologically. They reached Italian around the 16th century although the first known contacts with the Hispanic culture took place three centuries earlier, via the Arabic culture. These loans began to acquire prestige due to the great geographical discoveries, which transformed the Iberic Peninsula into a mediator between the New World and the rest of Europe. Thus, a first area in which their presence became evident is the one describing the American reality that no European before had access to. Regarding their phonology, there are no changes pertaining to the syllable structure, since they normally end up in a vowel. The stress pattern is not affected either, as it overlaps with the Italian one. The changes occur only at the segmental level.

Germanic loans are, together with the Hispanic ones, the most transformed loanwords in Italian. They begin to appear in the Middle Ages going all the way up to the 20th century. They can be grouped together with loanwords of Gothic, Longobardian and Frankish origin and they are the only category of loanwords whose evolution presupposed consonantal epenthesis. They are well-integrated loanwords, whose initial form is no longer perceived as foreign. Their lexical areas vary, denoting either random terms from the everyday language or specialized terms from the warfare field or medicine.

Regardless of the original language or the period that loans come from, they have to satisfy two important conditions in order to be adapted to Italian: they have to end preferably in a vowel and they have to assign penultimate stress, which is why paragoge is by far the most productive phonological process employed.

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