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Constitution d'un corpus parallèle basé sur Le Vite de Giorgio Vasari

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Electronic version

URL: <https://journals.openedition.org/corpus/8336>

DOI: [10.4000/corpus.8336](https://doi.org/10.4000/corpus.8336)

ISSN: 1765-3126

Publisher

Bases ; corpus et langage - UMR 6039

Electronic reference

Valeria Zotti and Daniel Henkel, "The diachronic evolution of artistic terminology in translation. Building a parallel corpus of Giorgio Vasari's *Le Vite*", *Corpus* [Online], 25 | 2024, Online since 18 January 2024, connection on 01 February 2024. URL: <http://journals.openedition.org/corpus/8336> ; DOI: <https://doi.org/10.4000/corpus.8336>

This text was automatically generated on February 1, 2024.

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1. Introduction

This article deals with the methodological issues, technical solutions and difficulties involved in building a multilingual corpus devoted to the language of Fine Arts from the Renaissance to the contemporary period. The language of Fine Arts (painting, architecture, and sculpture) is characterized by considerable multidisciplinary and interplay between discourse-types, resulting in a combination of different degrees of technicality midway between humanities and exact sciences (Zotti 2023). Over time, this specificity has fostered an abundance of cross-linguistic synonyms, parasyonyms or hyponyms in translation which reflect the complexity inherent in describing an artistic heritage linked to a unique historical, social and geographical context.

The fundamental source text in our corpus is Giorgio Vasari's *Le vite de più eccellenti architetti, pittori, et scultori italiani* (1568), described by Sauvagnargues (1998) as “the inception of art literature”. In *Le Vite*, Vasari, a renowned painter and architect, describes the lives and works of Italian artists from the early 14th century (Cimabue, Giotto) to the second half of the 16th century (Leonardo da Vinci, Raphael and Michelangelo), for which he is recognized as the originator of Italian art criticism (Biffi 2017). Vasari has been translated into other languages over the centuries, thus contributing to the development of a pan-European lexicon of artistic terminology. Whereas the Italian source text, however, has remained unchanged since the

16th century, a multilingual database of source and target texts belonging to different centuries is necessarily diachronic in essence.

Vasari's work serves as a foundation not only for the parallel database, but for the entire inter-university research project *Lessico Plurilingue dei Beni Culturali* (lessicobenculturali.net), an online multilingual lexicon of artistic terminology. Initiated in 2013 under the aegis of the University of Florence, this project is inherently collaborative involving several universities both in Italy (Bologna, Pisa, Siena, Milan, etc.) and across Europe (Paris 8, Lisbon, Malaga, Lyon, etc.), as well as institutions such as the *Accademia della Crusca* (Florence) and the *Real Academia de Bellas Artes de San Fernando* (Madrid). The objective is to provide a corpus-based dictionary to fill the gaps of traditional linguistic resources and thus facilitate communication in the field of art and cultural heritage (Cetro, Zotti 2020). The corpus, dictionary and associated resources are intended not only for academics (terminologists, lexicologists, art historians) and students, but for specialized translators and professionals in the field of cultural heritage such as museum staff and tour guides.

A comparable multilingual corpus, Phase 1, in development since 2016, is already available at <http://corpora.lessicobenculturali.net> for 6 different languages: Italian, French, English, Russian, Spanish and German. This corpus consists of texts belonging to four categories: popularization, technical texts, literary texts and specialized dictionaries, selected according to their historical-cultural significance, international dissemination and relevance (Billero, Martinez 2018). Emphasis is thus placed on data quality rather than quantity, given that for specialized corpora, unlike general language corpora, quality must take precedence over size (Friginal, Hardy 2014).

Phase 2, the focus of this article, aims to produce a multilingual parallel corpus, starting with Vasari. The first parallel database consists of the Italian source and the English translation published by G. de Vere between 1912-1915. The Italian-French parallel database, currently in progress, contains four French translations: Leclanché/Jeanron 1839, Chastel 1966/1981, Luciani 2002, Powell 2007. Parallel databases entail a complex protocol including document preparation, automatic alignment, manual proofreading, conversion to .tmx format and computer-assisted verification. Methodology will thus be given special attention in section 2.

The third section will be devoted to the analysis of the artistic term, 'tondo' in Italian and its counterparts in English and the four French translations from different periods, to illustrate the results that can be obtained from this new parallel database. The observations presented herein will demonstrate, first of all, the complexities of translation in the field of Fine Arts, a subject which has received scant attention to date, as well as the importance of this new parallel diachronic corpus as a means to explore the history of artistic terminology and as a contribution to multilingual lexicographical resources.

2. Methods

2.1. Text selection and preparation

Vasari's *Le Vite* was chosen as the starting point because of its historic importance as the seminal text in Art History. Vasari published two editions of his work, the

Torrentiniana in 1550, followed by the amplified Giuntina in 1568. Most translations into other languages are abridged versions based on the 1568 Giuntina.

Although *Le Vite* has been translated into English at different periods (Aglionby 1685, Foster 1850, Hinds 1927, *inter alia*), De Vere's 1912-1915 English translation was selected for inclusion in the LBC parallel database as it is the only English translation currently available in electronic format and is also the closest to a full translation, with only one section omitted "*Introduzione Di Messer Giorgio Vasari Pittore Aretino Alle Tre Arti Del Disegno*" (33,693 words, 4.4% of the total).

2.2. Alignment

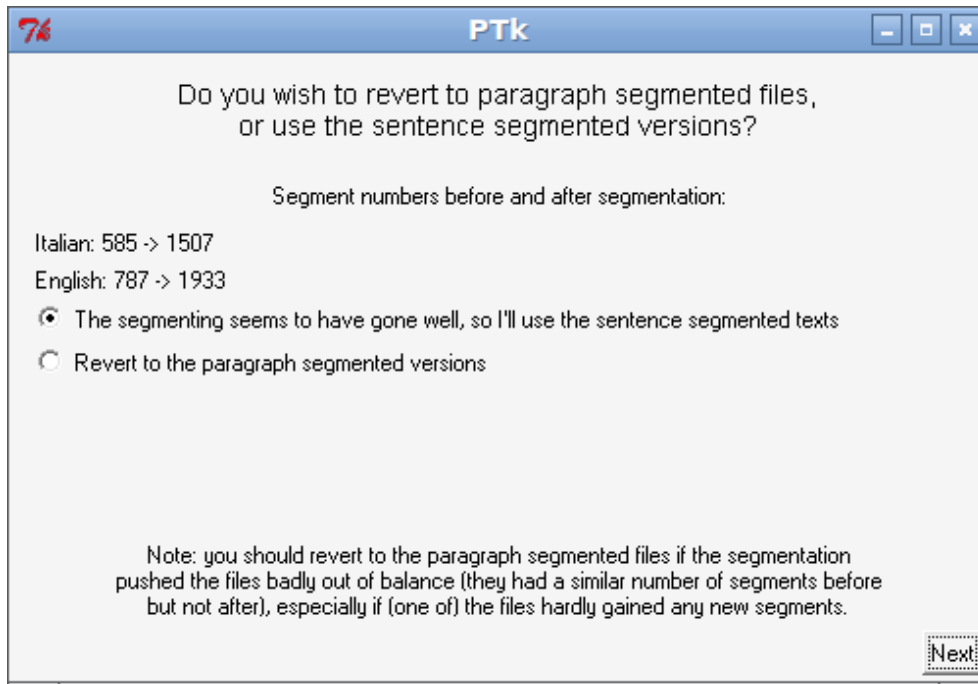
Text alignment consists in matching corresponding segments and converting the result to a bilingual format such as .tmx (Translation Memory eXchange). The resulting bilingual document can be used either as a translation memory in Computer-Assisted Translation (CAT) software (e.g. Trados, OmegaT), or as a parallel database in corpus software such as TXM, Hypermachiavel or SketchEngine. Given that most translations nowadays are produced using dedicated CAT software which creates the translation memory in real time, alignment is primarily useful in special cases such as translations from before the era of computers, as is the case for most translations of Vasari's *Le Vite* and any other diachronic parallel corpus.

The program used in this project is LF Aligner, which is commonly recognized as one of the best alignment tools available and mentioned either as the tool used to create parallel corpora (Doval 2016, Arce Romeral & Seghiri 2018, Araújo & Aguiar 2022), or as a gold-standard for purposes of comparison (Alharbi et al. 2020, Steingrímsson et al. 2020). Although few studies have actually analyzed its means of operation, in one helpful synopsis of several alignment programs, Briel (2011) describes LF Aligner as "intelligent", "complex" and "close to black magic", attributing its performance to the Hunalign algorithm.

The Hunalign algorithm, described originally in Varga et al. (2005), is a "hybrid algorithm" combining both lexical and length-based approaches to identify similarity between source and target segments. The first step is to produce a "crude translation ... by converting each word token [of the source] into the dictionary translation that has the highest frequency" which is then compared with the real segments in the target text. A "token-based score" is calculated based on the number of shared words. A second "length-based score" is calculated based on the number of characters. Adjacent sentences are concatenated when the combined token+length similarity score is greater than the individual scores. In optimal conditions, the authors report a level of precision of up to 99.41%.

LF Aligner offers two levels of alignment: paragraph-level alignment, after which the program presents the user with the total number of segments at both paragraph and sentence level, with the option to proceed to sentence alignment. In general, the closer the totals are, the better the quality of the alignment.

Figure 1. Paragraph to sentence-level option in LF Aligner



2.3. Proofreading and segmentation

Following automatic alignment, manual proofreading is necessary. LF Aligner offers a choice between revision in a graphical user interface or a spreadsheet. The built-in GUI is convenient for quick proofreading, but for a project the size of Vasari's *Le Vite*, which required several hundred hours of revision, spreadsheets that could be archived at different stages and shared with other proofreaders were the obvious choice.

The table typically contains empty cells wherever the algorithm was unable to identify corresponding target/source segments. In rare cases, the corresponding segment may simply not exist, i.e. the translator either added a sentence with no counterpart in the source or omitted a sentence. According to the LBC proofreading protocol, whenever additions or omissions were found, the tags #NoSource# and #NoTarget# were added to indicate that the lacuna had been duly verified by the proofreader.

More often, empty cells are found where corresponding passages contain different numbers of sentences. The proofreader must then manually realign the segments by merging or dividing sentences in the target text. Restricting such modifications to the target side is a methodological choice which implies that the source and target texts will be subject to different segmentation rules. Indeed, source segments must always contain exactly one complete sentence, whereas target segments may contain one sentence, more than one sentence or sentence fragments. The reasons for this are explained hereafter.

Although the basic unit for sentence-level alignment is the sentence, in cases where one source sentence corresponds to two or more target sentences, or vice versa, LF Aligner groups the shorter sentences together into a single segment. Following automatic alignment, both source and target segments may thus contain "concatenations". On the whole, this method produces a higher-quality alignment.

However, in the case of multilingual or diachronic alignments with several target texts (Fig. 2), it is improbable that different translators would deviate from the source in exactly the same places. The only common denominator is thus the original source text, and consequently it is essential to maintain the original sentence divisions in the source by restricting all adjustments to the target texts.

Figure 2. Each segment in the Italian source text (column 1) contains 1 sentence, the highlighted segments in English (col. 2) contain 1 sentence and 1.5 sentences respectively, while the highlighted segments in French (col. 3) each contain 2 sentences

E coloro che successer poi, giudicando il tutto rovinato, vi piantarono sopra le vigne; di maniera che per essere le dette stanze terrene rimaste sotto la terra, le hanno i moderni nominate grotte e grottesche le pitture che vi si veggono al presente.	and those who came after, judging the whole to be in ruins, planted vines thereon, in a manner that, since the said lower rooms remained under the ground, the moderns have called them grottoes, and "grotesque" the pictures that are therein seen at the present day.	Les générations ultérieures, croyant que le tout était ruiné, plantèrent dessus des vignes, en sorte que, les appartements en question étant restés sous terre, les modernes leur ont donné le nom de grottes, et celui de grotesques aux peintures qu'on y voit à présent.
Finiti gli Ostrogotti, che da Narse furono spenti, abitando per le rovine di Roma in qualche maniera pur malamente, venne dopo cento anni Costante II imperatore di Costantinopoli e ricevuto amorevolmente dai Romani, guastò, spogliò e portòssi via tutto ciò che nella misera città di Roma era rimasto, più per sorte che per libera volontà di coloro che l'avevano rovinata.	After the end of the Ostrogoths, who were destroyed by Narses, men were living among the ruins of Rome in some fashion, poorly indeed, when there came, after 100 years, Constantine II, Emperor of Constantinople, who, although received lovingly by the Romans, laid waste, robbed, and carried away all that had remained, more by chance than by the good will of those who had destroyed her, in the miserable city of Rome.	X — Après les Ostrogoths, qui furent anéantis par Narsès, on continua à habiter les ruines de Rome, mais d'une manière assez malaisée, et après un siècle Constance II, empereur de Constantinople, vint à Rome. Affablement reçu par les Romains, il mutila, dépouilla et emporta tout ce qui était resté en place dans la malheureuse ville de Rome, et que le hasard, plus que la bonne volonté de ses destructeurs, avait épargné.
Bene è vero che e' non polette godersi di questa preda, perché da la tempesta del mare trasportato nella Sicilia, giustamente occiso dai suoi, lasciò le spoglie, il regno e la vita tutto in preda della fortuna.	It is true, indeed, that he was not able to enjoy this booty, because, being carried by a sea-tempest to Sicily and being justly slain by his own men, he left his spoils, his kingdom, and his life a prey to Fortune.	Il est vrai qu'il ne put jouir de ses dépouilles, parce que, ayant été jeté par une tempête en Sicile, il fut justement égorgé par ses sujets, et il laissa à la fois son butin, le trône et la vie, qui furent la proie de la fortune.
La quale, non contenta ancora de' danni di Roma, perché le cose tolte non potessino tornarvi già mai, vi condusse un'armata di Saracini a' danni dell'isola; i quali e le robe de' Siciliani e le stesse spoglie di Roma se ne portorono in Alessandria, con grandissima vergogna e danno dell'Italia e del Cristianesimo: e così tutto quello che non avevano guasto i Pontefici, e S. Gregorio massimamente (il quale si dice che messe in bando tutto il restante delle statue e delle spoglie degli edifizii), per le mani di questo sceleratissimo greco finalmente capitò male.	But she, not yet content with the woes of Rome, to the end that the things stolen might never return, brought thither for the ruin of the island a host of Saracens, who carried off both the wealth of the Sicilians and the spoils of Rome to Alexandria, to the very great shame and loss of Italy and of Christendom. And so all that the Pontiffs had not destroyed (and above all S. Gregory, who is said to have decreed banishment against all the remainder of the statues and of the spoils of the buildings) came finally, at the hands of that most rascally Greek, to an evil end;	Non contente des malheurs de Rome, et pour que les objets volés ne pussent jamais y revenir, elle amena une armée de Sarrazins qui vinrent ravager l'île, et emportèrent à Alexandrie les dépouilles de Rome, avec celles des Siciliens, pour la plus grande honte et pour le plus grand dommage de l'Italie et du monde chrétien. Ainsi, tout ce qui n'avait pas été détruit par les pontifes, et particulièrement par saint Grégoire (duquel on dit qu'il condamna à disparaître le reste des statues et des débris des monuments), fut anéanti par la faute de ce Grec détestable.
Di maniera che, non trovandosi più né vestigio né indizio di cosa alcuna che avesse del buono, gli uomini che vengono apresso, ritrovandosi rozzi e materiali, e particolarmente nelle pitture e nelle sculture, incitati dalla natura e assottigliati dall'aria, si diedero a fare non secondo le regole dell'arti predette, ché non l'avevano, ma secondo la qualità degli'ingegni loro.	in a manner that, there being no trace or sign to be found of anything that was in any way good, the men who came after, although rude and boorish, and in particular in their pictures and sculptures, yet, incited by nature and refined by the air, set themselves to work, not according to the rules of the aforesaid arts, which they did not know, but according to the quality of their own intelligence.	Enfin, comme il n'y avait plus de vestiges, ni d'indices de quelque œuvre qui fût belle, les hommes qui vinrent ensuite, redevenant rudes et grossiers, s'ils firent des peintures et des sculptures, se laissèrent guider par la nature, et, sous l'influence du milieu où ils vivaient, ils se mirent à produire non d'après les règles des arts anciens, qu'ils n'avaient plus, mais suivant les aptitudes de leurs esprits.

The final step in the proofreading protocol consists in verifying suspicious disparities in length using Okapi Checkmate. The parameters were adjusted to detect target/source disparities of >133% or <75%, i.e. ratios of 4:3 or 3:4, a much more stringent level than the default settings. In such conditions, only about 10% of “suspicious” segment pairs actually contain alignment errors. Although the alignment can never be guaranteed to be error-free with total certainty, following this rigorous proofreading protocol it is reasonable to assume that any errors that might yet persist involve, at most, very small portions of text.

2.4. Conversion and annotation

After proofreading, the aligned texts must be converted to formats suitable for analysis in corpus software, while NLP annotation increases the range of analyses that can be performed.

Automatic annotation was carried out using TreeTagger. Given that TreeTagger uses different parameters for each language, in bilingual texts one language would inevitably be tagged with the wrong parameters. Each column must thus be extracted, tagged with the appropriate parameters, and then reinserted into the alignment table. While feasible, these extra steps significantly increase the amount of work involved and thus help to explain why bilingual aligned and annotated corpora are relatively uncommon.

One of the guiding principles for the LBC parallel corpus project is that data must be independent of any program or tool, to allow researchers to choose whichever tool best suits their purposes and prevent obsolescence in the future. The database must thus be interoperable and available in multiple formats, which entails a greater amount of coordination and maintenance than a single format.

The LBC parallel database is currently available in the following formats:

- Spreadsheets (.ods and .xlsx) consisting of one tab containing simple text with segment id-codes, and a second tab containing annotated text with the same id-codes
- UTF8 encoded text (.txt)
 - non-annotated monolingual
 - annotated monolingual
 - non-annotated bilingual
 - annotated bilingual
- Non-annotated Translation Memory eXchange (.tmx)

The .xlsx spreadsheets will be considered as the reference from which all other versions are derived in case of future modifications.

Conversion from spreadsheets to .tmx was accomplished using a template, but could be done using a program like XLS(X)toTMX. Ideally, the corpus would be TEI-compatible, but given that the TEI standard encodes “language” in the text-profile, i.e. a property of the entire text, whereas the TMX standard encodes “language” as a property of each individual segment in a pair, the two standards are difficult to reconcile.

3. Results

3.1. Italian/English translation counterparts

Sentence-level alignment makes it possible to identify correspondences between individual terms and obtain a systematic inventory. The kind of analysis that can be carried out on a parallel database will be illustrated, first, from a quantitative point of view, with the occurrences of the Italian term “*tondo*” and its various counterparts in English. Given that only one English translation is currently available, the diachronic dimension will be limited to a comparison between artistic terminology in 16th-c. Italian and 20th-c. English after 350 years of lexical diversification and standardization in the field of art history and criticism. A qualitative study of variations in artistic terminology over time will be presented in the following section by examining the counterparts for “*tondo*” in several French translations.

For the purposes of this analysis, useful distinctions can be made between the Italian lexeme “*tondo*” used as a noun or as an adjective, alone or in fixed or semi-fixed expressions such as “*mezzo tondo*” or “*di tondo rilievo*”, and between the subdomains of painting, sculpture and architecture.

3.1.1. Nominal uses of “*tondo*”

Vasari uses “*tondo*” as a noun 190 times, 130 of which are independent while the other 60 are found in four different expressions:

- “*mezzo tondo*” (42 occurrences),
- “*quarto tondo*” (4 occurrences),

- “*girare in tondo*” with its variants “*rigirare in tondo*” and “*girare in mezzo tondo*” (13 occurrences),
- and the prepositional phrases “*in/a/di mezzo tondo*” (5 occurrences).

In translation, with the exception of “*rigirare in tondo*” (untranslated) and “*a/di mezzo tondo*”, which can be considered as variants of “*in mezzo tondo*”, each Italian expression has several different counterparts, as shown in Table 1:

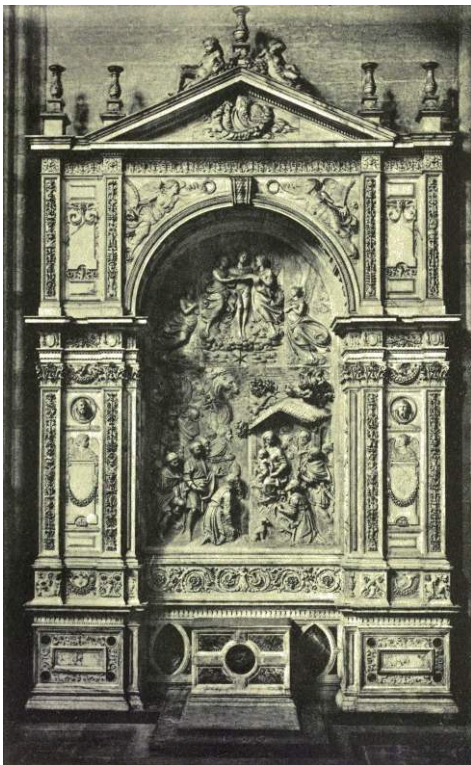
Table 1. Nominal occurrences of “tondo” in Italian and counterparts in De Vere's English translation

Lemma.IT	Lemma.EN	n=
TONDO	#NoTarget#	5
	CIRCLE	14
	CIRCLET	1
	CIRCULAR_COMPARTMENT	1
	DISK	1
	MEDALLION	51
	PICTURE	2
	ROUND	27
	ROUND_PICTURE	22
	ROUNDNESS	1
	SHAFT	1
MEZZO_TONDO	CONVEX	1
	HALF-CIRCLE	4
	LUNETTE	36
	SEMICIRCULAR_PICTURE	1
QUARTO_TONDO	QUADRANTAL_SHAPE	1
	QUARTER-ROUND	2
	QUARTER-ROUND_ARCH	1
IN_MEZZO_TONDO	(IN_THE_FORM_OF)_A_HALF-CIRCLE	1
	BARREL-SHAPED	1
	ROUND	1
A_MEZZO_TONDO	BARREL-SHAPED	1
DI_MEZZO_TONDO	IN_HALF-RELIEF	1
GIRARE_IN_MEZZO_TONDO	CURVE_SEMICIRCULAR	1
	TURN_IN_HALF-CIRCLE	1
GIRARE_IN_TONDO	CURVE_A_ROUND_ARCH	1
	CURVE_IN_A_(CONTINUOUS)_ROUND	1
	CURVE_IN_A_CIRCULAR_FORM	1

	CURVE_IN_A_ROUND	5
	IN_A_CIRCULAR_SHAPE	1
	ROUNDED	1
RIGIRARE_IN_TONDO	#NoTarget#	1
Total		190

De Vere uses a total of 28 different expressions (including minor variants) to translate the 5 expressions and 4 variants found in Vasari. Only a few of these counterparts recur regularly, however, while most of the others appear to be *ad hoc* paraphrases. Independently, “*tondo*” has 4 regular counterparts: “*medallion*” (a round or oval tablet or panel, usually decorated in relief), “*round*”, “*round picture*” and “*circle*”. For “*mezzo tondo*” the most common counterpart, by far, is “*lunette*” (a crescent-shaped or semicircular space in a ceiling, dome, etc., decorated with paintings or sculptures, Fig. 3) with a few occurrences of “*half-circle*”. Half of the occurrences of “*girare in tondo*” are rendered as “*curve in a round*” (5 occurrences + 1 variant). Finally, the 5 occurrences of “*in/a/di mezzo tondo*” correspond to 4 different expressions in English.

Figure 3. LUNETTE The Altar of the Three Kings (S. Mosca and M. San Michele)¹



Conversely, when the same results are presented in the opposite direction (Table 2), every English expression corresponds to one expression in Italian, with the exception of “*round*”, used once as a counterpart for “*in mezzo tondo*” rather than “*tondo*”, and “*barrel-shaped*” which corresponds to two variants of the same expression “*a/in mezzo tondo*”.

Table 2. Counterparts for nominal occurrences of “tondo” in De Vere’s English translation

Lemma.EN	Lemma.IT	n=
BARREL-SHAPED	A_MEZZO_TONDO	1
	IN_MEZZO_TONDO	1
CIRCLE	TONDO	14
CIRCLET	TONDO	1
CIRCULAR_COMPARTMENT	TONDO	1
CONVEX	MEZZO_TONDO	1
CURVE_A_ROUND_ARCH	GIRARE_IN_TONDO	1
CURVE_IN_A_(CONTINUOUS)_ROUND	GIRARE_IN_TONDO	1
CURVE_IN_A_CIRCULAR_FORM	GIRARE_IN_TONDO	1
CURVE_IN_A_ROUND	GIRARE_IN_TONDO	5
CURVE_SEMICIRCULAR	GIRARE_IN_MEZZO_TONDO	1
DISK	TONDO	1
HALF-CIRCLE	MEZZO_TONDO	4
(IN_THE_FORM_OF)_A_HALF-CIRCLE	IN_MEZZO_TONDO	1
IN_A_CIRCULAR_SHAPE	GIRARE_IN_TONDO	1
IN_HALF-RELIEF	DI_MEZZO_TONDO	1
LUNETTE	MEZZO_TONDO	36
MEDALLION	TONDO	51
PICTURE	TONDO	2
QUADRANTAL_SHAPE	QUARTO_TONDO	1
QUARTER-ROUND	QUARTO_TONDO	2
QUARTER-ROUND_ARCH	QUARTO_TONDO	1
ROUND	IN_MEZZO_TONDO	1
	TONDO	27
ROUND_PICTURE	TONDO	22
ROUNDED	GIRARE_IN_TONDO	1
ROUNDNESS	TONDO	1
SEMICIRCULAR_PICTURE	MEZZO_TONDO	1
SHAFT	TONDO	1
TURN_IN_HALF-CIRCLE	GIRARE_IN_MEZZO_TONDO	1
#NoTarget#	RIGIRARE_IN_TONDO	1
	TONDO	5
Total Result		190

3.1.2. Adjectival uses of “tondo”

When “tondo” occurs as an adjective in *Le Vite* (Table 3), it is used most often to qualify various nouns, e.g. “figure tonde”, “leoni tondi” (186 occurrences). Adjectival uses in fixed or semi-fixed expressions are limited to “mezzo tondo” (6 occurrences) and variants of “di tondo rilievo” (23 occurrences). In English, 16 different expressions are used to render the various meanings. On its own, “tondo” has 13 different counterparts, although the most common, by far, are “round” and “in the round” (a form of sculpture in which the figure stands clear of any ground and can be seen from all aspects). The variants of “di tondo rilievo” most commonly correspond to “in full(-)relief” (a sculptural relief in which forms extend out from the background to at least half their depth) but are translated occasionally as “in the round”. Several variants of “semicircular” are used as counterparts for “mezzo tondo”.

Table 3. Adjectival occurrences of “tondo” and related expressions in Italian and counterparts in De Vere’s English translation

Lemma.IT	Lemma.EN	n=
TONDO	#NoTarget#	12
	CIRCLE	1
	CIRCULAR	3
	FULL(-)RELIEF)	1
	GLOBE	1
	IN_(ALMOST)_FULL(-)RELIEF	1
	IN_FULL(-)RELIEF	9
	IN_THE_ROUND	86
	∅	1
	ROUND	66
	ROUNDED	1
	SEMICIRCULAR	1
	STARING	1
	TONDO	1
	WIDE_OPEN	1
MEZZO_TONDO	#NoTarget#	1
	SEMI-CIRCLE	1
	SEMI-CYLINDRICAL	1
	SEMICIRCULAR	2
	SHAPE	1
DI_TONDO_RILIEVO	#NoTarget#	1
	IN_FULL(-)RELIEF	15

	IN_THE_ROUND	3
DI_RILIEVO_TONDO	IN_FULL(-)RELIEF	1
DI_TONDO_(E_BASSO)_RILIEVO	IN_THE_ROUND	1
TONDO_(DI_RILIEVO)	IN_FULL(-)RELIEF	1
TONDO_(E_DI_RILIEVO)	ROUND	1
Total		215

In the other direction (Table 4), most of the English expressions again correspond to one specific interpretation. Those with several counterparts, such as “*in full(-)relief*”, demonstrate a certain amount of overlap between “*tondo*” and the variants of “*di tondo rilievo*”.

Table 4. Counterparts for adjectival occurrences of “*tondo*” in De Vere’s English translation

Lemma.EN	Lemma.IT	n=
CIRCLE	TONDO	1
CIRCULAR	TONDO	3
FULL(-)RELIEF)	TONDO	1
GLOBE	TONDO	1
IN_(ALMOST)_FULL(-)RELIEF	TONDO	1
IN_FULL(-)RELIEF	DI_RILIEVO_TONDO	1
	DI_TONDO_RILIEVO	15
	TONDO	9
	TONDO_(DI_RILIEVO)	1
IN_THE_ROUND	DI_TONDO_(E_BASSO)_RILIEVO	1
	DI_TONDO_RILIEVO	3
	TONDO	86
ROUND	TONDO	66
	TONDO_(E_DI_RILIEVO)	1
ROUNDED	TONDO	1
SEMI-CIRCLE	MEZZO_TONDO	1
SEMI-CYLINDRICAL	MEZZO_TONDO	1
SEMICIRCULAR	MEZZO_TONDO	2
	TONDO	1
SHAPE	MEZZO_TONDO	1
STARING	TONDO	1
TONDO	TONDO	1

WIDE_OPEN	TONDO	1
∅	TONDO	1
#NoTarget#	DI_TONDO_RILIEVO	1
	MEZZO_TONDO	1
	TONDO	12
Total		215

3.1.3. Interpretation

In sum, “*tondo*” and its associated expressions give rise to much greater lexical variety in English. De Vere’s translation contains a number of paraphrases, but the expressions that recur regularly in English (13) are more varied than in Italian (7). From a diachronic point of view, this greater variety in 20th-c. English can be taken as evidence that over time, as the field of art history and criticism developed, artistic terminology became more diversified with more specific terms for different types of artwork. For example, within the subdomain of sculpture, De Vere distinguishes between relief sculptures “*in full(-)relief*” and free-standing sculptures “*in the round*” whereas Vasari uses both “*tondo*” and occasionally “*di tondo rilievo*” for free standing sculptures, while his use of “*di tondo rilievo*” for relief sculptures is only slightly more frequent than “*tondo*” (15 vs. 9 occurrences). Likewise, De Vere distinguishes “*medallions*” (Fig. 4), in the field of sculpture, from “*round pictures*” in the field of painting, whereas both are described as “*tondi*” in Vasari.

Figure 4. MEDALLION Tomb of Cardinal Jacopo of Portugal (A. Rossellino)



"In su la cassa del corpo sono alcuni fanciulli veramente bellissimi et il morto stesso, con una Nostra Donna in un TONDO, lavorata molto bene." (Vasari)
 On the sarcophagus are some truly very beautiful boys and the dead man himself, with a Madonna, very well wrought, in a MEDALLION. (De Vere)

3.2. Italian/French translation counterparts

This section will present a brief qualitative analysis of artistic terminology as it evolved over time and from one language to another. The analysis of “*tondo*” will be carried out in four French translations of Vasari’s *Vita di Michelagnolo Buonarroti*, the longest biographical account, the most often studied (Zotti 2017) and, given Michelangelo’s well-known versatility, a valuable source of lexical and artistic knowledge in the fields of painting, sculpture and architecture.

The Italian term “*tondo*” is used nominally 18 times in Vasari’s *Vita di Michelangelo* to refer to two distinct types of artwork: a round bas-relief, in the field of sculpture, and a round painting. “*Tondo*” also appears in the expressions “*mezzo tondo*” and “*quarto tondo*”, which belong to the field of architecture and in “*girare in tondo*”, where “*tondo*” acquires a totally different meaning from the simple term.

The analysis of the French translations reveals different choices over three different centuries (1839-2007) and demonstrates the fundamental role that the Italian language has played in the constitution and development of a pan-European artistic lexicon.

The following figures (5 & 6) show how Vasari avoided ambiguities (Grassi-Pepe 1994) by distinguishing “*tondo di marmo*” (sculpture, Fig. 5) from “*tondo di pittura*” (painting, Fig. 6).

Figure 5. TONDO DI MARMO Madonna, Child, and S. John (Michelangelo Buonarroti)



Figure 6. TONDO DI PITTURA The Holy Family (Michelangelo Buonarroti)



Table 5. French counterparts for “tondo di marmo” in the field of sculpture

Vasari Giuntina 1568	<i>Et ancora in questo tempo abbozzò e non finì due <u>TONDI di marmo</u>, uno a Taddeo Taddei, oggi in casa sua, et a Bartolomeo Pitti ne cominciò un altro [...]</i>
Leclanché 1839	<i>Dans le meme temps, il ébaucha deux <u>BAS-RELIEFS CIRCULAIRES en marbre</u>; l'un, pour Taddeo Taddei, chez lequel on le voit aujourd'hui; et l'autre, destiné à Bartolommeo Pitti,</i>
Chastel 1981	<i>il ébaucha sans les terminer deux <u>TONDI de marbre</u>, dont un pour Taddeo Taddei, qui se trouve toujours chez lui et l'autre pour Bartolomeo Pitti,</i>
Luciani 2002	<i>#NoTarget#</i>
Powell 2007	<i>A cette époque, il ébaucha, sans les terminer, deux <u>MEDAILLONS de marbre</u>: l'un pour Taddeo Taddei, actuellement dans la maison de celui-ci, l'autre pour Bartolommeo Pitti.</i>

Table 6. French counterparts for “tondo di pittura” in the field of painting

Vasari Giuntina 1568	<i>Venne volontà ad Agnolo Doni, cittadino fiorentino amico suo... d'aver alcuna cosa di Michelagnolo; per che gli cominciò un <u>TONDO di pittura</u>, dentrovi una Nostra Donna, la quale inginocchiata con amendua le gambe, ha in sulle braccia un putto e porgelo a Giuseppe, che lo riceve [...]</i>
Leclanché 1839	<i>Michel-Ange exécuta ensuite, pour Agnolo Doni, citoyen de Florence, riche amateur de ses amis, un <u>TABLEAU CIRCULAIRE</u>, où il peignit la Vierge à genoux, tenant son fils entre ses bras et le présentant à saint Joseph.</i>
Chastel 1981	<i>et celui-ci entreprit la peinture d'un <u>TONDO</u> avec la Madone: les deux jambes repliées, elle soulève de ses bras un petit enfant et le tend à Joseph qui le reçoit.</i>
Luciani 2002	<i>Il commença pour lui un <u>TONDO peint</u> avec une Madone qui, les deux genoux à terre, a dans les bras un petit enfant et le tend à Joseph qui le reçoit.</i>
Powell 2007	<i>Michel-Ange commença pour lui un <u>TABLEAU ROND</u> dans lequel la Vierge, posée sur les deux genoux, élève l'Enfant Jésus et le tend à Joseph qui le prend.</i>

The diachronic study of the French translations shows that a term like “tondo” does not exist in a state of permanence but is subject to subtle semantical shifts over the centuries. Indeed, as the discipline evolved, some denominations appeared at certain periods but were eventually supplanted by others. In the first example, “tondi di marmo” is translated as “bas-reliefs circulaires” (Leclanché 1839). Leclanché’s translation, which includes commentaries by Philippe-Auguste Jeanron, is the first complete French translation of Vasari’s *Le Vite*. In the prologue, Leclanché and Jeanron explain that the reason for these annotations is to make this famous text accessible to the French

public. The translation by means of an explanatory paraphrase “*bas-reliefs circulaires*” follows this logic.

A century and a half later André Chastel (1966/1981), who was harshly critical of Leclanché, prefers the Italian loan-word “*tondo*”.² This is the point of view of one of the most important specialists in art history in the second half of the 20th century, whose scholarly edition has been judged more faithful to the spirit of Vasari (Revue de l’art 1990). The use of numerous Italianisms that convey important concepts, such as “*tondo*”, by a renowned specialist shows the influence that the Italian language of the Renaissance had on the evolution of French artistic terminology. In fact, during the 16th century many Italianisms from the field of the arts entered the French language, and by the middle of the 20th century they had become stabilized in its terminology.

Finally, in 2007, V. G. Powell, professor of art history at the Sorbonne, re-edited translations by Leclanché-Jeanron (1839) and Weiss (1903). This time, “*tondi di marmo*” is rendered as “*médallions de marbre*”, an expression attested both in contemporary general lexicography (Robert, TLFi, DAF 9th ed.) and in specialized lexicography in the fields of architecture and sculpture (Adeline 1884, Baudry 2002). The expression is thus held to be lexicalized and accessible to contemporary non-specialist readers.

In the second example (Table 6), where Vasari describes Michelangelo’s *Tondo Doni* (Galleria degli Uffizi, Florence), a name by which it was not yet known in Vasari’s time, as a “*tondo di pittura*”, Powell’s (2007) translation as “*tableau rond*” is in keeping with her aim of modernizing Vasari’s language for purposes of popularization. The choice of the loan-word “*tondo*” in Chastel’s (1981) translation again shows his concern with addressing a public of specialists. Luciani (2002) adopts an intermediate solution consistent with his status as a specialist in the field and with the popularizing aim of his translation, by also using “*tondo*”, accompanied by an explanatory note: “*ici tondo a le sens de tableau, et non plus de médaillon comme on l’a vu ailleurs*”.

4. Conclusion

Vasari did not entirely master the vocabulary that forms the fabric of *Le Vite* (Le Mollé 1988). He tried both to preserve the vocabulary used by his predecessors, while demonstrating great terminological precision (Temanza 1759, in Barocchi 1967). Moreover, in the 16th century, the Italian language was undergoing fundamental changes. As Le Mollé observes: “One of the merits of *Le Vite* was precisely that it was both a testing ground for the literary *Volgare* and at the same time a monument that allowed the vernacular to assert its existence”. In a work as vast as *Le Vite*, which addresses a multitude of highly technical subjects, Vasari was sometimes obliged to invent his own vocabulary to denote concepts that had either fallen into disuse or were entirely new and not yet lexicalized. The translation of a polysemic term such as “*tondo*” brings out differences in meanings in the target texts which remain implicit and latent in the source text (Ballestracci 2023). In the specific case study presented herein, analysis of the translations shows that, over time, ambiguities in Vasari’s use of 16th-c. Italian are replaced over time by greater terminological precision in other languages.

Indeed, the diachronic study of “*tondo*” and its counterparts in English and French reveals that:

1. In Vasari, “*tondo*” is used with a broad range of meanings including, on the one hand, technical meanings close to terminology and, on the other hand, descriptive meanings belonging to the general language.
2. In English, De Vere tried to render these different meanings as precisely as possible, hence a greater lexical variety which can also be seen as a sign or consequence of the development of artistic terminology between 16th-c. Italian and 20th-c. English.
3. Whereas Vasari used descriptive paraphrases that were not yet stable in Italian at his time, the French translators chose corresponding terms that have now become stabilized in French, according to their purpose and intended public.

The diachronic lexical diversification observable in translation can be attributed to several factors:

- a temporal factor, in translations such as Leclanché (1839) in which multiple reformulations reveal a terminological vacuum for the designation of certain concepts at a given time;
- a communicative factor, insofar as each translation responds to different objectives and addresses a different type of audience;
- the authorial factor, i.e. the status of the translator as a specialist, art historian, art critic etc.

However, due to the technical difficulties inherent in creating diachronic parallel corpora, as discussed in this article, few resources are available and, consequently, no comprehensive inquiry into translation in the field of the fine arts and art history has yet been undertaken. The work presented in these pages is an attempt to promote new research in this field.

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Source/Target texts

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Software

HyperMachiavel – <http://hyperprince.ens-lyon.fr/hpermachiavel>

LF Aligner – <https://sourceforge.net/projects/aligner/>

Okapi Checkmate – <https://okapiframework.org/>

TreeTagger – <https://www.cis.lmu.de/~schmid/tools/TreeTagger/>

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XLS(X)toTMX – <https://sourceforge.net/projects/xlsxtotmx/>

*Zotti is the author of the introduction, the conclusion and part 3.2. while Henkel is the author of parts 2 and 3.1.

NOTES

1. The illustrations in Fig. 3-6 are taken from the Project Gutenberg edition of De Vere's English translation.
2. For an in-depth analysis of the translation of the loan-word “tondo” in French, cf. Zotti (2017).

ABSTRACTS

This article describes the methods involved in building a diachronic multilingual corpus devoted to Fine Arts, beginning with G. Vasari's *Lives of the most excellent Italian architects, sculptors and painters* (1568) as the fundamental source text in the field of Art History. Attention is given to automatic pre-alignment, the special proofreading protocol and segmentation rules developed to allow multilingual and/or diachronic alignment of multiple texts, and the difficulties inherent in annotating a multilingual database. A case study is offered, comparing the term “tondo” and its variants (e.g. “mezzo tondo”, “di tondo rilievo”) in Italian with their translations in English (De Vere 1912-15) and French (Leclanché 1839, Chastel 1981, Luciani 2002, Powell 2007). These later translations contain a greater variety of both lexicalized counterparts such as “medallion” or “lunette” as well as paraphrases, used to disambiguate and distinguish the various meanings of “tondo”, thus demonstrating how artistic vocabulary, which was still developing in 16th c. Italian, through its transmission to other languages, became more diversified and stable over time.

Cet article décrit, en premier lieu, les méthodes suivies lors de la création d'un corpus diachronique multilingue consacré aux Beaux-Arts, en partant du texte fondateur de l'Histoire de l'Art, les *Vies des plus excellents architectes, sculpteurs et peintres italiens* de G. Vasari (1568). Ce protocole d'alignement comprend des techniques de pré-alignement automatique ainsi que l'application, lors de la relecture manuelle, de règles de segmentation spécifiques conçues pour l'alignement de plusieurs traductions dans des langues différentes et/ou appartenant à des

périodes différentes. De même, les difficultés liées à l'annotation automatique d'une base de données parallèle impliquent un traitement spécifique. Une étude de cas est proposée, ensuite, dans laquelle l'emploi du terme « *tondo* » en italien, avec ses variantes comme « *mezzo tondo* » ou « *di tondo rilievo* », est comparé aux expressions correspondantes dans des traductions vers l'anglais (De Vere, 1912-1915) et le français (Leclanché 1839, Chastel 1981, Luciani 2002, Powell 2007). Ces traductions d'époque plus récente sont caractérisées par une plus grande variété lexicale, avec des correspondances lexicalisées telles que « médaillon » ou « lunette » ainsi que des paraphrases qui servent à désambiguïser les différentes significations de « *tondo* ». On observe ainsi comment le vocabulaire artistique, encore en développement dans la langue italienne du XVI^e siècle, à travers sa transmission vers d'autres langues, s'est diversifié et stabilisé avec le temps.

INDEX

Mots-clés: lexique, terminologie, diachronie, histoire de l'art, corpus parallèle

Keywords: lexicon, terminology, diachrony, art history, parallel corpora

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