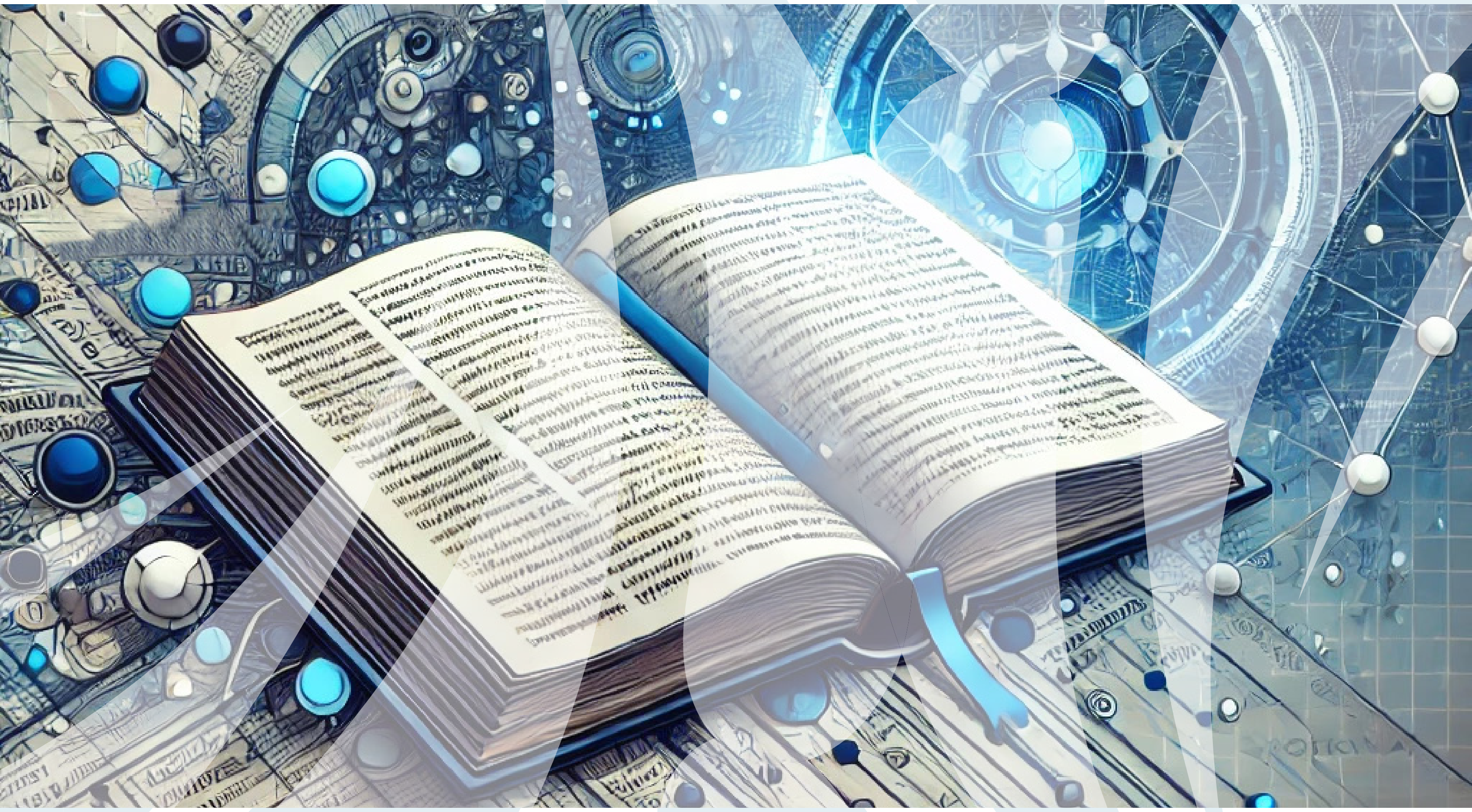
Kristina Š. Despot
Ana Ostroški Anić
Ivana Brač (Eds.)

Lexicography and Semantics



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Carolina Flinz, Daniel Henkel, Valeria Zotti, and
Sabrina Ballestracci

A MULTILINGUAL PARALLEL CORPUS FOR THE LEXICAL INFORMATION SYSTEM LBC

Recent Progress and Future Perspectives

Abstract The LBC-Platform (https://www.lessicobeniculturali.net) is a comprehensive lexical information system that aims to integrate various types of corpora and resources: dictionaries, concordances, monolingual Language for Special Purposes (LSP) corpora in different languages and LSP parallel corpora. Designed for users interested in cultural heritage, the platform provides free access to resources and tools such as NoSketch Engine, facilitating an in-depth understanding of the language of Fine Arts — encompassing painting, architecture, and sculpture — and highlighting its multidisciplinary nature and diverse discourse types. Numerous studies have demonstrated the platform's utility for various purposes, including lexicography, translation, and didactics. This paper focuses on the preparation of the multilingual Vasari parallel corpus, part of the LBC Project's four planned subcorpora (Vasari corpus, Literature corpus, Museum Web-Site Corpus, Travel Guide Corpus). Special attention is given to the Italian-English, Italian-French, and Italian-German components of the corpus, based on G. Vasari's *Le vite de' più eccellenti architetti, pittori, et scultori italiani* (1568) and its translations. In addition to methodological choices including alignment strategies and potential technical solutions, a small case study on the words *disegno* ('drawing') and *disegnare* ('to draw') will serve to illustrate the current status of the project and its relevance for LBC dictionaries, as well as future perspectives.

Keywords cultural heritage; parallel corpora; Language for Specific Purposes; artistic lexicon; translation

1. Introduction[1]

Corpora of different kinds (LSP monolingual comparable corpora, LSP parallel corpora) form the core of the LBC-Platform,[2] a lexical information system (Klosa, 2016) created for different types of users interested in cultural heritage (Billero, Farina, & Nicolás Martínez, 2020) by the "Multilingual Cultural Heritage Lexicon" Research Unit of the University of Florence, in collaboration with scholars from Italian and foreign universities (Bologna, Paris 8, Pisa, Milan etc.). Resources (corpora, concordances)

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[1] The four authors have written the paper jointly. Carolina Flinz and Sabrina Ballestracci are responsible for §1 and §2.3.3, Daniel Henkel for §2.2 and §2.3.1, Valeria Zotti for §2.1 and §2.3.2. Sections §3 and §4 were written jointly. In particular Carolina Flinz and Sabrina Ballestracci are responsible for the Italian-German part, Daniel Henkel for Italian-English and Valeria Zotti for Italian-French. We would also like to thank the trainees from the University of Florence (Sara Biagini, Carlotta Buricchi, Maria Chiara Susini) for the Italian-German alignment, as well as Valeria Zotti's trainee from the University of Bologna, Elisa Squadrito, for the Italian-English alignment and part of the Italian-French one.

[2] Cfr. https://www.lessicobeniculturali.net

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and tools (NoSketch Engine) are freely accessible for the user (Billero, 2020), providing a comprehensive vision of the language of Fine Arts (painting, architecture, and sculpture), characterised by multidisciplinarity and interplay between discourse-types (Zotti, 2022).

The use and application of the comparable corpora present on the platform for different aims (lexicography, translation, didactics etc.) have been already demonstrated in different studies (most recently, see Ballestracci, Buffagni, & Flinz, 2024; Farina & Sini 2024; Natali, 2024).

A preliminary study by Luporini (2023), focusing on De Vere's English translation of Vasari's masterpiece, which had not been aligned yet at the time of the study (see 2.1), shows how information provided by general dictionaries can be enriched also by information from specialized parallel corpora. Analysing the word *disegno* ('drawing') and its collocations in Italian, together with a small number of translated segments[3] into English, Luporini reveals the inherent polysemy of this lexeme, described as a "cline" from abstract (skill) to concrete (graphic representation), underlining the need for a parallel database to resolve translation difficulties.

The focus of this paper is on the preparation of the multilingual Vasari parallel corpus, one of the four subcorpora (Vasari corpus, Literature corpus, Museum Web-Site-Corpus, Travel Guide Corpus) of the LBC-Project which are in planning. In particular, attention will be given to the Italian-English, Italian-French and Italian-German components of the corpus based on a series of artists' biographies published in 1568, Giorgio Vasari's *Le vite de più eccellenti architetti, pittori, et scultori italiani* ("Lives of the Most Excellent Painters, Sculptors, and Architects," abridged in *Le Vite*) and its translations.

The discussion of methodological issues will encompass alignment (see 2.), possible technical solutions, the status of the project at present by giving a small case study (see 3.), its relevance for the LBC-dictionaries and future perspectives.

2. The Vasari Parallel Corpora: Methodology and First Results

2.1 The Source Text: *Le Vite* by Vasari

The decision to build a corpus on Vasari's *Le Vite* is due to its historic importance as the seminal text in Art History. In *Le Vite*, Vasari, a renowned Renaissance Italian painter and architect, describes the lives and works of Italian artists from the early 14th century (e.g., Cimabue, Giotto) to the second half of the 16th century (e.g., Leonardo da Vinci, Raphael and Michelangelo), for which he is recognized as the originator of Italian art criticism (Biffi, 2017).

Vasari published two editions of his work, the Torrentiniana in 1550, followed by the amplified Giuntina in 1568. In the 1568 edition, there are a total of 155 lives dedicated to various artists (about 834,000 words). Throughout a work as vast as *Le Vite*, which touches on many problems of a technical nature, such as artistic techniques, materials and tools, Vasari tried to conserve the technical vocabulary used by the artists who had preceded him (Le Mollé, 1988, p. 9). However, he did not have complete command of the Italian vocabulary, which was still evolving, and was sometimes obliged to 'invent' his own vocabulary to denote concepts that had either fallen into disuse, because the tools, techniques and recipes had been abandoned (Le Mollé, 1988, p. 7) or were entirely new and not yet stabilised in use. Vasari's text is thus considered at the origin of the artistic lexicon.

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[3] Before sentence-level alignment had been completed, it was impossible to automatically extract source/target segment pairs, hence the use of a small sample of source/target pairs taken manually from both texts.

His text has been translated into several languages over the centuries, thus contributing to the development of a pan-European lexicon of artistic terminology (Zotti & Henkel, 2024, p. 13). These translations are the means by which the Italian artistic proto-lexicon has been adapted to other languages. Translations are therefore a field in which specialists from different linguistic and cultural backgrounds explore the networks of meanings in Vasari's text to forge new vocabulary and concepts (Dubus & Fiorato, 2017, p. 32). The analysis of translations of *Le Vite*, mostly based on the more complete Giuntina edition, reveals different lexical choices over almost five centuries in different languages.

The translations gave rise to a veritable 'artistic terminology' which has subsequently continued to evolve. Over the centuries, this specificity has fostered an abundance of cross-linguistic synonyms, parasynonyms or hyponyms in translation which reflect the complexity inherent in describing an artistic heritage linked to a unique historical, social and geographical context. Whereas the Italian source text, however, has remained unchanged since the 16th century, the ongoing creation of a multilingual database of target texts belonging to different centuries is necessarily diachronic in essence. Most translations of *Le Vite* made in the 17th and 18th centuries focus only on the biographies of the artists known best in the culture of the target language. For example, one of the first translations in France in the 17th century, Daret (1651), concerns the life of the painter Raphael. However, given that abridged translations are much more difficult to align, requiring many more manual interventions to deal with untranslated portions, preference has been given to complete translations for the purpose of creating a parallel database.

2.2 Alignment Methodology

The constitution of the parallel corpus follows a common alignment methodology for all languages. Source and target texts are pre-aligned at sentence level using LF Aligner and manually proofread by student interns following a common protocol under the supervision of the project coordinators, with further quality control carried out using Okapi Checkmate to detect suspicious disparities in length between source and target segments, a potential sign of misalignment. After automatic (pre)alignment, the first step in the proofreading process focuses on empty cells, as these necessarily indicate non-correspondence between the source and target texts. Most often, correspondences can be found between sentences in the source text and sentences or sentence fragments in the target text. However, when additions or omissions are found, these are marked respectively as #NoSource# or #NoTarget#. Subsequently, as the risk of misalignment is greater for groups of sentences than for single sentences, the second step in the proofreading process focuses on sentences which have been grouped together into a single segment. Although "segments" generally correspond to "sentences", whenever sentences in the source text correspond to more than one sentence in the target text, LF Aligner groups them together automatically. When this occurs in the other direction, i.e., two or more sentences in the source correspond to a single sentence in the target text, a source segment containing several sentences would be incompatible with other translations in other languages or from other periods, as other translators could hardly be expected to have made exactly the same choice to combine more than one sentence in exactly the same places. In addition to correcting misaligned segments, the proofreading protocol thus involves re-establishing the original sentence divisions in the source text so that it can serve as a common denominator for other translations from different periods or into different languages, with modifications in sentence segmentation (groupings, partial sentences) restricted solely to the target text.

Following alignment and proofreading, both source and target texts are tagged for Part of Speech (POS) and lemma in TreeTagger and converted to several formats: UTF-8 text (.txt), spreadsheets (.ods and .xlsx) and Translation Memory eXchange (.tmx, a specific XML standard for encoding bilingual or multilingual documents) to ensure compatibility with the greatest possible number of software tools.

2.3 Current Status and First Results

In the following three sections we briefly outline the current status of the alignment work for the Italian-English corpus, the Italian-French corpus and the Italian-German corpus.

2.3.1 Italian-English

Although *Le Vite* has been translated into English at different periods (Aglionby, 1685; Foster, 1850 *inter alia*), De Vere's 1912–1915 English translation in 10 volumes 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 *Introduzzione Di Messer Giorgio Vasari Pittore Aretino Alle Tre Arti Del Disegno* (33,693 words, 4.4% of the total).

The English translation by De Vere was fully aligned with the Italian source text in 2022–23. De Vere's translation is largely literal, with very few additions or omissions, and therefore relatively easy to align. The main corrections involved sentence divisions, as very long sentences in Italian were often divided into shorter sentences in English, although occasionally English sentences overlapped with two sentences in Italian.

In the following passage, for example, while the last segment pair contains single sentences in both languages, the first source sentence in Italian (*E prima andarono in mala parte … la memoria dell'une e dell'altre.*) corresponds in the English translation to a shorter sentence and the first half of a longer sentence (with tildes "~~~" marking the merger), the second half of which corresponds to the second sentence in Italian (Table 1).

Table 1: Example of alignment for Italian-English from the *Proemio delle Vite* (Vasari, 1568; De Vere, 1912–1915)

Italian (Vasari 1568)	**English (Vasari 1912–1915, translated by De Vere)**
(1) E prima andarono in mala parte la pittura e la scoltura, come arti che più per diletto che per altro servivano; e l'altra, cioè l'architettura, come necessaria e utile alla salute del corpo, andò continuando, ma non già nella sua perfezzione e bontà; e se non fusse stato che le sculture e le pitture rappresentavano inanzi agl'occhi di chi nasceva di mano in mano, coloro che n'erano stati onorati per dar loro perpetua vita, se ne sarebbe tosto spento la memoria dell'une e dell'altre.	And the first to fall into decay were painting and sculpture, as being arts that served more for pleasure than for use, while the other—namely, architecture—as being necessary and useful for bodily weal, continued to exist, but no longer in its perfection and excellence. ~~~ And if it had not been that the sculptures and pictures presented, to the eyes of those who were born from day to day, those who had been thereby honoured to the end that they might have eternal life, there would soon have been lost the memory of both;
(2) Là dove alcune ne conservarono per l'imagine e per l'inscrizioni poste nell'architetture private e nelle publiche, cioè negli anfiteatri, ne' teatri, nelle terme, negli acquedotti, ne' tempii, negli obelisci, ne' colossi, nelle piramidi, negli archi, nelle conserve, e negli erarii, e, finalmente, nelle sepulture medesime; delle quali furono distrutte una gran parte da gente barbara et efferata, che altro non avevano d'uomo che l'effigie e 'l nome.	whereas some of them survived in the images and in the inscriptions placed in private houses, as well as in public buildings, namely, in the amphitheatres, the theatres, the baths, the aqueducts, the temples, the obelisks, the colossi, the pyramids, the arches, the reservoirs, the public treasuries, and finally, in the very tombs, whereof a great part was destroyed by a barbarous and savage race who had nothing in them of man but the shape and the name.
(3) Questi fra gli altri furono i Visigoti, i quali avendo creato Alarico loro re, assalirono l'Italia e Roma, e la saccheggiorno due volte e senza rispetto di cosa alcuna.	These, among others, were the Visigoths, who, having created Alaric their King, assailed Italy and Rome and sacked the city twice without respect for anything whatsoever.

In each case, the necessary changes in sentence division have been restricted to the target text only, so that every segment pair corresponds to exactly one complete sentence in the original Italian source text.

2.3.2 Italian-French

For the alignment of the Italian-French database a first test (Zotti, 2017) was carried out manually for four French translations of Vasari's *Vita di Michelagnolo Buonarroti*, the longest biographical account and the most often studied of the different biographies. Given Michelangelo's well-known versatility, the analysis of this section proved a valuable source of lexical and artistic knowledge in the fields of painting, sculpture and architecture. This test showed the value of building a diachronic parallel corpus for qualitative analysis of artistic terminology as it has evolved over time (Zotti & Henkel, 2024).

Since 2021, the preparation of a parallel corpus including two different French translations (Weiss, 1903; Leclanché & Jeanron, 1839–1842) has been under way, but is proceeding very slowly as the alignment process has encountered problems due to the nature of the translations: in one case the translation is abridged, while the other translation is rather free in terms of sentence structure.

The first French translation to be selected for alignment was that of Charles Weiss (1903), judged by the French specialists of the team to be the best in terms of quality (Farina & Billero, 2020). This translation, which was not available in digital format, was first converted into electronic format from the OCR-generated file available on the Internet Archive and then corrected manually by the LBC-Vasari team on Wikisource, where it is now available in digital format (Weiss, 1903). Despite its superior stylistic quality compared with other French translations, Charles Weiss' translation is incomplete: one biography is missing from the first part, five from the second and thirty-nine from the third (approx. 30% of the full text). For this reason, the decision was made to first supplement the biographies missing in Weiss (1903) with those taken from the complete translation by Leclanché & Jeanron (1839–1842), and then to complete the second alignment, once the proofreading of Leclanché & Jeanron (1839–1842) was finished.

The alignment process showed that Weiss' text contains many passages best described as "summaries" which proved exceedingly difficult to align as clear correspondences could not be established with specific sentences in the source text (cf. Table 2). The following passage shows several problems commonly encountered in this translation:

Table 2: Example of alignment for Italian-French from the *Vita di Giotto* (Vasari, 1568; Weiss, 1903)

Italian (Vasari, 1568)	French (Vasari, 1903, translated by Weiss)
(1) Questa opera dagl'artefici pittori era molto lodata, e particolarmente da Michelagnolo Buonarroti, il quale affermava, come si disse altra volta, la proprietà di questa istoria dipinta non potere essere più simile al vero di quello ch'ell'era.	Cette œuvre qui était très admirée par tous les peintres, particulièrement par Michel-Ange Buonarroti,
(2) Questa tavoletta, dico, essendo venuta in considerazione, da che si diede fuora la prima volta il libro di queste Vite, è stata poi levata via da chi che sia: che forse per amor dell'arte e per pietà, parendogli che fusse poco stimata, si è fatto, come disse il nostro poeta, spietato.	a été depuis enlevée par je ne sais qui, estimant peut-être qu'on ne l'appréciait pas assez[50].
(3) E veramente fu in que' tempi un miracolo, che Giotto avesse tanta vaghezza nel dipignere, considerando massimamente che egli imparò l'arte, in un certo modo, senza maestro.	#NoTarget#
(4) Dopo queste cose mise mano l'anno 1334 a dì 9 di luglio al campanile di S. Maria del Fiore; il fondamento del quale fu, essendo stato cavato venti braccia a dentro, una platea di pietre forti, in quella parte donde si era cavata acqua e ghiaia; sopra la quale platea, fatto poi un buon getto che venne alto dodici braccia dal primo fondamento, fece fare il rimanente, cioè l'altre otto braccia di muro a mano.	Le 9 juillet de l'an 1334, Giotto mit la main au campanile de Santa Maria del Fiore. ~~~ Après avoir fouillé le sol à la profondeur de vingt brasses, il établit comme fondation une couche de pierres dures, dans la partie qu'on avait asséchée, et y posa un massif de béton haut de douze brasses qu'il termina ensuite par huit brasses en pierres de taille.

In the first two segment pairs (1, 2), the corresponding segment in the target text, which is considerably shorter than the source sentence, is not a complete sentence syntactically and is incomplete semantically with respect to the information contained in the source sentence. The third source segment (3) has no counterpart whatsoever in the target text, while in the fourth segment pair (4), the source sentence corresponds to two sentences in the target text.

Such gaps and disparities occur continuously throughout Weiss' French text. Although Weiss' translation is more or less literal at the beginning of each biography, the omissions and reductions become more and more frequent as it progresses, resulting in serious discontinuities in the automatic alignment, which relies on segment length as one of the main criteria to identify corresponding segment pairs.

Because of these problems, the second translation by Leclanché & Jeanron (1839–1842), which is the first complete French translation of Vasari's *Le Vite*, is currently undergoing proofreading and alignment. This translation is analytical, based on the tradition of earlier studies of the work, since the two translators took into account the translations that already existed in England and Germany, with many notes alongside the French version of Vasari's original text. The French translation, *stricto sensu*, mainly by Léopold Leclanché, a lawyer and politician, is in fact enriched by a vast array of commentaries by Jeanron, a painter, draughtsman and lithographer. These comments, placed at the end of each Artist's biography, are marked with a paragraph separator symbol which will help to detach them from the text itself, thus facilitating alignment of the full version. Leclanché & Jeanron's translation, which corresponds almost perfectly to the Giuntina edition of 1568, even though Leclanché often rephrases to explain certain artistic concepts for which no specific terms existed in Vasari's time, laid the foundations for future translations of Vasari's text (Zotti, 2017), all of which are based on this edition, which they improve especially with respect to terminological accuracy (Weiss, 1903; and later Chastel, 1981).

2.3.3 Italian-German

For German, Kupper's 2008 edition was selected. It is based on the first German translation of *Le Vite* that has come down to us, edited by Schorn and Förster in 1832–1849, to which Kupper made some minor changes, such as normalising spelling according to new conventions. Unlike many earlier editions, this is an almost complete translation, despite certain omissions as revealed in the alignment process.

The first attempt at alignment highlighted some shortcomings of the text in German translation. In particular, it came to light that a few chapters of the initial part of the Italian text had not been translated, namely: the dedication *Agli artefici del disegno*, the *Proemio di tutta l'opera* and the *Introduzzione di messer Giorgio Vasari pittore aretino alle tre arti del disegno, cioè architettura pittura e scoltura e prima dell'architettura*. As these parts were at the beginning, a new alignment phase was necessary, conducted by removing the parts not included in the German text from the Italian text and then inserting them again after the new automatic (pre)alignment.

The analysis of the alignment revealed a small number of #NoSource# cells (additions), but a larger number of #NoTarget# cells (omissions). The former are principally cells that correspond to quotations in the source text, which in the target text are also translated into German. The latter are mainly anecdotes about the lives of artists, which are omitted or summarised, i.e., condensed into fewer sentences. Moreover, where there are complex sentences in Italian, the German translation tends to divide them into several sentences of greater simplicity:

Table 3: Example of alignment for Italian-German of the *Vita di* Cimabue (Vasari, 1568; Kupper, 2008)

Italian (Vasari, 1568)	**German (Vasari, 2008, translated by Kupper)**
(1) Avendo poi preso a fare per i monaci di Vall'Ombrosa nella Badia di Santa Trinita di Fiorenza una gran tavola, mostrò in quell'opera, usandovi gran diligenza per rispondere alla fama che già era conceputa di lui, migliore invenzione, e bel modo nell'attitudini d'una Nostra Donna, che fece col Figliuolo in braccio e con molti Angeli intorno che l'adoravano in campo d'oro; la qual tavola finita, fu posta, da que' monaci in sull'altar maggiore di detta chiesa, donde essendo poi levata, per dar quel luogo alla tavola che v'è oggi di Alesso Baldovinetti, fu posta in una cappella minor della navata sinistra di detta chiesa.	Darauf übernahm er für die Mönche von Vallombrosa in der Abtei von Santa Trinita in Florenz eine große Tafel. Er wendete großen Fleiß auf dies Werk, um dem Ruf zu genügen, den er sich schon erworben hatte, und zeigte darin noch viel bessere Erfindung und schöne Stellungen. ~~~ Es war eine Mutter Gottes, mit dem Kind auf dem Arm und vielen Engeln umher, welche sie anbeten, auf Goldgrund. ~~~ Dieses Bild stellten jene Mönche über dem Hauptaltar ihrer Kirche auf, von wo es später weggenommen und in eine kleinere Kapelle des linken Seitenschiffs der Kirche gebracht ward, um dem Gemälde von Alessio Baldovinetti Platz zu machen, welches noch heute auf jenem Hauptaltar steht.

In the future, the corpus will be expanded to include the translation by the *Kunsthistorisches Institut* (KHI) in Florence (2004–2015), a translation that stands out from all previous ones because of its focus on Vasari's style and specialised vocabulary.

3. Case Study: *disegno/disegnare* and Their Translation Counterparts

As indicated above, Vasari's parallel database will be integrated in the LBC-Platform whose one of the main objectives is facilitating the translation, in different foreign languages, of texts belonging to diverse discourse types in the domain of Fine Arts. The parallel corpus will thus certify new translation equivalents of the lemmas (words and collocations) which will be included in the future LBC-dictionary so as to provide quality lexicographical information (Farina & Billero, 2020), given that the multilingual lexicographic and lexical resources in print and online are not always adequate or helpful in identifying possible translation counterparts. In our small case study, we will concentrate on the lexemes *disegno* ('drawing', noun)[4] and *disegnare* ('to draw', verb) in order to give a glimpse of this future innovative lexicographical application. These two lexemes have different variants of meaning, enriched over time, entering in the specialised lexicons of various disciplines or areas of experience (Ballestracci, 2023, p. 22). In Vasari's masterpiece they have a complex and multifaceted semantic potential, characterised by multiple meanings. The frequency is high: the noun/

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[4] These lexemes have been studied previously by Luporini (2023) in one English translation and by Balestracci (2023) in the *Vita di Raffaello* and its German translation (Kupper, 2008 and KHI), using the LBC database while alignment of source/target texts was still in progress.

lemma *disegno* has 1433 occurrences and the verb/lemma *disegnare* 530 occurrences, among the most frequent nouns and verbs in the entire work (*disegno* is the 7th most common noun, following *cosa* ('thing'), *opera* ('work'), *figura* ('figure'), *mano* ('hand'), *tempo* ('time') and *anno* ('year'), while *disegnare* is the 30th most common verb).

Interesting patterns are revealed by examining their counterparts in the aligned corpora. In the English translation by De Vere (1912–1915), *disegno* corresponds in order of descending frequency to *design* (142), *drawing* (53), *draughtsmanship* (11), *draw* (8), *draughtsman* (3), *likeness* (1), *proof* (1), while *disegnare* is rendered with *to draw* (49), *to design* (16), *drawing* (10), *outline* (4), *draughtsman* (2), *draughtsmanship* (2), *to copy* (1), *to intend* (1), *to propose* (1), *to take* (1), *to trace* (1). These findings confirm Luporini's (2023) observations concerning the three most common interpretations of *disegno*: *design*, *drawing* and *draughtsmanship*, and offer two new (albeit much less common) alternative translations: *proof* and *likeness*. The same three most common counterparts of the noun *disegno* are present among the most common translations for the verb *disegnare*, as well as a fourth technical meaning corresponding to *outline*, *trace* and a fifth, non-technical interpretation rendered by *intend* or *propose*. It is interesting to note, with reference to Luporini's "cline" from abstract to concrete, that the verb *disegnare* is most often interpreted in the most concrete sense of *draw/drawing*, while the median interpretation *design* is more common for the noun *disegno*. For both, the most abstract interpretation corresponding to *draughtsmanship* is the least common of the three main meanings. The parallel database thus provides a comprehensive overview of the semantic profile of these words as revealed in their alternative translation counterparts.

In French, so far only the chapters known as the *Teoriche* (especially *Introduzzione Di Messer Giorgio Vasari Pittore Aretino Alle Tre Arti Del Disegno*) have been semi-automatically aligned with Weiss (1903) for a total of about 50.000 words. In these chapters, which are missing from most other translations but are particularly interesting from a terminological point of view, the most common translation counterparts for *disegno* are: *dessin* (81), *dessiner* (3), *composer* (1), *composition* (1), *contour* (1), *dessein* (1), *modèle* (1), *propriété* (1). The verb *disegnare* most commonly corresponds to: *dessiner* (22), *dessin* (4), *chercher* (1), *marquer* (1), *reproduire* (1), *tracé* (1), *traiter* (1). The polysemy of *disegno* and *disegnare* is thus apparent in their translation counterparts.

In German, only a quarter of the Italian source text has been aligned so far (24,112 words). The lemma *disegno* (330 occurrences, of which 289 are of *disegno* and 50 of the plural form *disegni*) is translated mostly by *Zeichnung* ('drawing') (131) and *Zeichnungen* ('drawings') (32) often adding the corresponding word in Italian in square brackets [*disegno*], in those cases where the translated term has a more precise meaning than the German (see also Ballestracci, 2023, pp. 22–23). Other translation counterparts with substantives include *Zeichenkunst* (24) ('drawing art', mostly followed by the Italian *disegno* in square brackets in those cases); *Plan* ('plan'), when it is used with verbs like *entwerfen* ('to draft') or *zeichnen* ('to draw'); *Angabe/Angaben* (5) ('indication/indications'); *Blatt/Blätter* (3) ('sheet/sheets'); *Entwurf/Entwürfe* (2) ('draft/drafts'); *Modell* (1) ('model'); *Arbeit* (1) ('work') and *Werk* (1) ('work'). In some cases the lemma is translated with verbs like *zeichnen* ('to draw') or substantive verbs like *Zeichnen* ('drawing'). In a few cases the lemma is not translated at all. Interesting cases, in which the lexeme has other meanings, are the translations of *disegno* with *nach richtigem Verhältnis* ('according to the correct ratio'), with *was hast du vor?* ('what are you planning to do?') and with *so gut* ('so good'). The verb *disegnare* (65) is translated mainly by the verb *zeichnen* (46) ('to draw') or with *ausführen* (3) ('to carry out'), *entwerfen* (2) ('to draft'), *malen* (1) ('to paint'), *darstellen* (1) ('to represent'). In some cases there the verb is translated with the nouns *Zeichnung* (3) ('drawing'), *Blatt* (1) ('sheet') with the phraseme *von seiner Hand* (1) ('by his Hand') or not translated at all. This quick overview of some of the most used translation counterparts in German highlights several potential meanings (more general, more specific, phraseological) of the lexemes in the source language.

4. Conclusion

Parallel corpora are not only important for the linguistic analysis of translation but also from a contrastive point of view: work on parallel corpora makes it possible to conduct quantitative and qualitative analyses on large quantities of data, focusing on Vasari's style and specialised vocabulary, comparing lexical and syntactic aspects between original texts and translations.

The polysemy of lexemes like *disegno* can be revealed in translation, delineating interlingual correspondences that are useful for specialist translation in the field of art. Careful qualitative analysis elucidates semantic peculiarities that are central for lexicographic purposes. 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 study of *disegno* and *disegnare* and their counterparts in English, French and German reveals that in Vasari, these lexemes were 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 and also phraseological uses.

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. Also, the French and German translators chose corresponding terms that have now become stabilized, according to their purpose and intended public.

Future work in the LBC project will involve the alignment of other translations. In French the alignment of Leclanché & Jeanron (1839–1842) will be completed, followed by the alignment of translation by a renowned French art historian, Chastel (1981). In German, for example, the alignment of the translation of KHI is planned, which contains even more counterparts for *disegno* highlighting its semantic complexity (Ballestracci, 2023, p. 30). The alignment of *Le Vite* with its translations in other languages of the LBC Project like Spanish and Russian is planned as well.

No comprehensive inquiry into translation in the field of the fine arts and art history has yet been undertaken, due to the technical difficulties inherent in creating diachronic parallel corpora, but the work carried out by the LBC team is an attempt to promote new research in this field which will have a clear impact also in the field of cultural heritage.

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