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Historical research through terminology

Creating a term bank for historical terminology in the field of theatre
machinery

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Ondergetekende Gitta Van Goethem, studente Engels en Italiaans in de opleiding Master in het Vertalen, verklaart dat deze masterproef volledig oorspronkelijk is en uitsluitend door haarzelf is geschreven. Bij alle informatie en ideeën ontleend aan andere bronnen, heeft ondergetekende expliciet en in detail verwezen naar de vindplaatsen.

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Abstract

English

This study has originated during an internship with the Expertise Center for Technical Theatre of the RITCS. The goal of this internship and the subsequent master's thesis is identifying the criteria for a multilingual term bank for historical terminology within the domain of Baroque theatre machinery. The target end users are domain experts of theatre machinery as well as laymen and academics worldwide. After the internship period, the Expertise Center continued to assist this study.

Term records have been developed based on a four-step plan – defining the domain from which terminology will be extracted, designing the term records, composing a corpus and testing the term records by filling them out. These term records will later be incorporated into a digital term bank.

The domain is defined as the structure and components of wooden theatre machinery used from Antiquity until the Second Industrial Revolution. For the design of the term records first the traditionally mandatory and optional data fields have been studied. Afterwards several additional data fields have been added. The fields *dating* and *geographical spreading* are essential for research concerning the evolution of machinery. *Images* and the *relation between components* provide necessary information to comprehend the way machinery functions. When composing the corpus, the aim was to collect a variety of sources based on authors – field experts and linguists or historians – and dating – contemporary or modern sources. While a historical text from an expert is likely to provide the most accurate information, modern, history-oriented books or dictionaries are much more common and easy to find. A number of term records have been filled out to test the earlier developed template of the term records. Thanks to these tests some necessary improvements concerning missing data fields or any other issue have been implemented, until the term records fulfilled all the criteria identified in the second step.

As a final step, a software program has been developed for a digital version of the term bank.

This study has illustrated that the criteria for this term bank differ greatly from those of a conventional term bank. The differences stem from the specific character of the domain and the diverse backgrounds of the target users.

Dutch

Dit onderzoek is ontstaan tijdens een stage bij het Kenniscentrum Podiumtechnieken van het RITCS. Het doel van de stage en bijgevolg deze masterscriptie is het identificeren van de criteria voor een meertalige terminologiedatabank van historische terminologie met als testdomein barokke theatermachinerie. De eindgebruikers zijn zowel vaklieden uit de theaterwereld als leken en academici, wereldwijd verspreid. Na de stageperiode is het Kenniscentrum dit onderzoek blijven begeleiden.

Via een vierstappenplan – het afbakenen van het domein waaruit de terminologie geselecteerd wordt, het ontwerpen van de termfiches, het samenstellen van een corpus en het invullen en testen van de termfiches – zijn termfiches ontwikkeld die in een digitale databank verwerkt zullen worden.

Het domein beperkt zich tot de structuur en onderdelen van houten theatermachinerie, gebruikt van in de oudheid tot aan de tweede industriële revolutie. Bij het ontwerpen van de termfiches is eerst gekeken naar de traditioneel vereiste en optionele informatievelden. Daaraan zijn nog enkele nieuwe velden toegevoegd: *datering* en *geografische spreiding* zijn essentieel voor onderzoek naar de evolutie van machinerie, *afbeeldingen* en het *verband tussen de onderdelen* zijn noodzakelijk voor het begrip van de werking van de machinerie. Voor het corpus is gestreefd naar een verscheidenheid aan bronnen op basis van auteurs – vaklieden en taalkundigen of historici – en datering – hedendaagse of historische teksten. Waar historische teksten van vaklieden betrouwbaarder zijn, zijn hedendaagse en geschiedkundige bronnen of woordenboeken talrijker beschikbaar. Enkele termfiches zijn ingevuld bij wijze van test. Hierbij zijn de nodige verbeteringen aangebracht voor elk probleem of ontbrekend informatieveld, totdat de fiches voldeden aan alle criteria die eerder geïdentificeerd zijn.

Ten slotte is software ontwikkeld voor een digitale versie van de terminologiedatabank.

Dit onderzoeksproces heeft aangetoond dat, omwille van het specifieke domein en de uiteenlopende achtergronden van eindgebruikers, de criteria voor deze databank erg verschillen van deze voor een traditionele terminologiedatabank.

1. Introduction

1.1. Motivation

The first inspiration for this thesis originated from the internship I did during my Master of Translation at the University of Antwerp. For my first experience in the work field, I assisted the Expertise Center for Technical Theatre, a research group of RITCS/EHB¹, with exploring the possibilities of using term banks for their research projects concerning the history of theatre machinery. They were especially interested in the techniques and machines used for the movements of sets and people in theatres from the earliest theatres in Ancient Greece until the Second Industrial Revolution.

The exact goal they had in mind was the creation of a multilingual term bank for historical terminology from the field of technical theatre. For the purpose of this project, the Expertise Center and I have defined “historical” terminology as terminology “used from the Antiquity until the Second Industrial Revolution”. This time period comprises an almost unchanged tradition of wooden theatre machinery limited by the origin of the first Greek theatres on the one hand and the first use of steel in machinery due to the Second Industrial Revolution on the other. Within the world of technical theatre, we have limited ourselves to all (moving) parts of stage and scenery, namely the machinery”. Machinery used during this time period is also called Baroque machinery.

A term bank containing the terminology from this domain could be used for charting the evolution and migration of machinery, but at the same time help people to read and understand old texts on the subject of Baroque machinery. Eventually, the term bank would be made available to colleagues of the Expertise Center in Europe. This way, they could add terminology or additional information in their languages to the term bank and fill in the gaps.

After a little research it became clear that there are many different existing term banks, such as IATE² or Digital Theatre Words³, with different aims, specialties

¹ RITCS stands for Royal Institute for Theatre, Cinema and Sound and is the School of Arts of the Erasmus University College of Brussels.

² The IATE term bank can be found on iate.europa.eu.

and characteristics. A term bank such as IATE is specialized in translations of terms. It provides the user with as much information as possible to ensure correct use of the term, such as the domain, definition, context sentence, source reference and reliability. Digital Theatre Words on the other hand focuses on understanding of the term through the use of images and the possibility to redirect to related terms. While all the listed features are undoubtedly interesting and relevant to understanding terms, none of these term banks seemed ideal for collecting historical theatre terminology. The main reason for this is the lack of possibilities to express the history of a term. Has a term changed through time and how can this be expressed in a term bank?

Some of the options that were missing in these term banks according to our needs are: dating of the terminology and a way to chart the migration of concepts or terms. Without a way to express when and where a term or the concept it refers to was used, it is impossible to correctly understand its evolution throughout history. Another reason the above-mentioned term banks are not ideal for this project is the technical nature of the domain. To correctly comprehend the way Baroque machinery functions, an accurate understanding of the different components and how they are related is essential. A final issue concerns the matter of handling concepts that refer to a broader or narrower concept in another language. While this is a not an uncommon occurrence, none of the consulted term banks offered a clear-cut solution. From these considerations resulted my main research questions:

- Which data is needed to render the correct and complete historical context of a term?
- How can the evolution of terms be represented, both in time and geographically?
- How can the data be organized in a clear, meaningful and useful manner?
- How can term records in language A be linked to the equivalent term records in language B and C?
- How can the relations terms have within the system of concepts be shown?

³ More information on Digital Theatre Words can be found on the following website: <http://www.oistat.org/Item/Show.asp?m=1&d=1442>.

One additional question posed itself concerning not the term bank itself, but the corpus from which terminology and data would have to be extracted, namely:

- Which types of sources can be used to create a corpus, that contains complete and correct data necessary for this specific term bank?

After being confronted with the issues discussed above, it was decided a tailor-made term bank would best suit our needs. By doing some research into the creation of term banks, I noticed there have been many studies on terminology management, but none have focused on the aspect of historical terms. In a conventional term bank, it is key to keep the terminology updated, since in a lot of fields terminology is rapidly changing. The terminology we are interested in, however, would have been used up until the Second Industrial Revolution and therefore it no longer changes. At the same time, historical theatre terminology has changed in the past as well, sometimes due to new developments or because of the migration to different language areas. There was no theory available to guide us on how to deal with the evolutions and migration of terms that might not even be in use anymore. Therefore, we had to develop our own theory.

1.2. Research approach

The problems and questions encountered during my internship are what inspired me to write this thesis. This paper describes the process followed during my internship and the continued collaboration with the people of the Expertise Center afterwards. It starts with the initial research into terminology management and ends with a first trial version of a digital term bank, but in the end, the entire research revolves around the question:

“What are the criteria for a multilingual term bank in Dutch, English and French contain to reflect the evolution, location and migration of theatre machinery up to the Second Industrial Revolution?”

While the research is based on theatre machinery, the first step in this thesis was becoming acquainted with the field of terminology. This was done through a thorough study of terms and terminology, the different ways to collect and store terminology – in term bases or term banks –, terminology management methods and the possibilities different kinds of corpora can offer. The analysis of this

theoretical research can be found in chapter 2. Based on the theory, the research questions listed in the previous subchapter have been formulated. They are addressed in chapter 3 together with the main research question above.

Apart from the research (sub-)questions, the literature studied in chapter 2 also provided me with a theory onto which the structure of the entire thesis is based. Two linguists, Görög and Van der Vliet (Görög & van der Vliet, 2016), developed a theory of terminology management which consists of a four-step plan to build and manage term banks. These steps are comprised in chapters 4 through 7. Chapter 4 – Step 1: defining the domain; chapter 5 – step 2: developing the term records; chapter 6 – step 3: creating a corpus; chapter 7 – step 4: testing the term records.

The final chapter, chapter 8, elaborates on the process of creating the digital version of the term bank. After discussing the software and technical difficulties the chapter ends with an example of a term record in the digital term bank.

The final version of the digital term bank in this thesis is only a trial version. In time, the Expertise Center will develop a more complete version of the term bank online which will also have the option of adding term records in additional languages. This way, the term bank will be accessible and editable by the researchers of the EC and their foreign colleagues.

2. Theory on Terminology

Terminology science has several key concepts that will be elaborated on in this section. The two most prominent concepts are “term” and “terminology” itself. Since this thesis will be focusing on terminography and terminology management, some additional concepts must be defined, namely “term record”, “terminology management”, and “corpora”.

2.1. Term

Terminology consists of three key notions. “Term” is the first key notion and to better understand “term” the other two key notions, “concept” and “definition”, are required (Bowker, 2008, p. 286).

According to Bowker (2008), “terms are linguistic designations assigned to concepts. Because terminology deals with specialized domains of knowledge, terms refer to the discrete conceptual entities, properties, activities or relations that constitute knowledge in a particular domain” (p. 286). This definition refers especially to terms as part of terminology.

The second key notion is “concept”. A concept can be defined as a “unit of thought (Bowker, 2008, p. 286)”, a way to structure information, to make it understandable and relatable to other concepts. A term is the lexical unit we use to refer to a concept. To put it very simply, a term is a concept’s name.

The third key notion is “definition”. While a term is a way to designate a concept, its definition puts the concept into words. It creates a description of a concept which limits the meaning as well. In this sense, the definition links a concept to the associated term and simultaneously differentiates it from other “concept-term units”. It can thus be concluded that a term, its concept and their definition are inextricably bound up with each other (Bowker, 2008, p. 286).

While the section above focused solely on the three key notions needed to understand terms and terminology, there are many more descriptions and definitions for the term “term”, which include other important aspects of terms: Domain and the lexical aspect of terms.

Sager, for example, defines “term” as follows: “The items which are characterised by special reference within a discipline are the ‘terms’ of that discipline, and

collectively they form its 'terminology' " (Sager, 1990, p. 19). A key aspect, which is prominent in Sager's definition, is "discipline". Bowker mentions "specialized domains of knowledge" and other definitions⁴ mention "domain" or "a specialized subject field".

The fact that terms belong to a specific domain is considered one of their main criteria. The extralinguistic aspect of "domain" is one of the characteristics that differentiate terms from words. "From a linguistic point of view, at least, terms behave like words" (L'Homme, Heid, & Sager, 2003, p. 154). But whereas a word is a lexical unit in general language, the term is a lexical unit in a specialized language. Some terminologists are now regarding terms as part of a subject field, while others go even further and "consider terms as having corpus-based reference" (L'Homme, Heid, & Sager, 2003, p. 155).

To clarify the meaning and limits of "lexical unit" in this context, we should add two considerations.

Firstly, not all terms are lexical units. Kageura (2015) explains this as follows:

"the definitions [...] explicitly limit the range of the formal aspect of terms or *designations* as linguistic elements by referring to 'linguistic symbols', 'lexical unit' or 'lexical item'. It is a matter of choice whether we should include extra-linguistic symbols that represent concepts or objects in a specialized domain such as chemical formulae or mathematical symbols and there is no inherent reason to exclude these and limit the range of designations to linguistic systems" (pp. 47-48).

In other words, not every term is a word or even a linguistic symbol according to some, for instance, Kageura. While considering extra-linguistic symbols to be terms or not depends on whoever is collecting terms or managing a term bank, there is still one criterion all these possible terms must fulfill. Any term, extra-linguistic symbol or not, cannot be considered a term unless it belongs to a specific domain.

The second consideration concerns terms that are designated by lexical items. When a term or designation is expressed through a lexical item, this is not

⁴ Bessé, Nkwenti-Azeh and Sager, 1997, p.152
Bowker, 2015, p. 304

always through a single word. Wright (2001) gives a list of possible forms a term can take, such as single-word and multiword terms, set phrases, collocations, standard texts, abbreviated forms of terms and canonical forms of terms (pp. 14-16).

This section on terms is concluded by saying that terms can be seen as “a polyhedron with three viewpoints: the cognitive (the concept), the linguistic (the term) and the communicative (the situation)” (Cabr , 2003, p. 187).

2.2. Terminology

Now that the concept of terms has been clearly explained, the concept of “terminology” will be defined. According to Kageura, referring to Sager (1990), the term “terminology” can refer to one of three things. 1) the set of practices and methods used for the collection, description and presentation of terms, also called terminography, 2) the theory on the relationships between concepts and terms, and 3) the specialized language used in a certain field or domain (2015, p. 45).

The paragraph will be dedicated to terminography, the professionals who engage in this type of work and how it has evolved. Afterwards, the General Theory of Terminology will be discussed along with some alternative theories that might be useful for this thesis. Since the definition under 3) concerns specialized language as a whole, which was sufficiently discussed in the previous section about terms, I will not expand any further on this.

The first meaning of terminology, according to Kageura (2015, p. 56), is terminography, the discipline of collecting, describing and presenting terms, also called terminology work or applied terminology. Terminologists are the main group of people working in terminography, but at times, translators engage in terminology work as well (Bowker, 2008, p. 288).

Whereas originally, all terminological research was done by hand using paper sources, nowadays the ever-growing amount of digital texts and the tools to research them has changed terminography considerably. The change is so fundamental that researchers now use the term “terminotics” to refer to computerized terminology work. The first step in doing this automatic

terminology work, is the creation of a corpus; a collection of texts to work on. Once this collection is available, the required information can be extracted from the texts with the help of several tools. There are many different tools available. One example are programs which convert PDF files into texts that can be edited. Other tools are more specifically designed and used for terminology work. In this section, we will discuss the two specific tools which are used most commonly: terminology-extraction systems and concordancers.

Terminology-extraction systems all have in common that they automatically scan the corpus and present all possible terms in a list. The two main approaches of these systems are the linguistic approach and the statistical approach. The linguistic approach starts from the morphological and syntactic structure of terms i.e. characteristics of term formation patterns which are expressed as part-of-speech code sequences (e.g. N N, N prep N, Adj N). This means that linguistically-based systems are always language dependent. The statistical approach is language independent and is based on quantifiable characteristics of term usage. One such characteristic is that terms tend to occur more frequently in specialized texts than in general domain texts (Macken, Lefever, & Hoste, 2013, p. 496). Hybrid systems combine both approaches. Each of these techniques has its pros and cons and although technology has come a long way already, with either of these approaches human control is still necessary. The systems will inevitably make mistakes and identify non-terms as terms, and they might not recognize some terms as terms at all. This is why this is called semi-automatic term extraction.

The second tool that is commonly used, allows more in depth research. Concordancers will search for a specific term within a corpus and generate a list containing the specific term in its context sentence each time it appears. This allows for a better idea of the correct context in which a term is used, and helps to better understand the meaning of a term. Apart from context, this tool can also provide valuable information on collocations. To limit the vast amount of information in the list, it is possible to enter restrictions, such as how far away two possible collocates can be apart from each other. In a last comment, we would like to emphasize that the program only composes a list of sentences and

does no actual research. It is up to the user to search through the list and interpret the results.

According to Sager's (Sager, 1990, p. 3) second definition, terminology can also refer to "a theory, i.e. the set of premises, arguments and conclusions required for explaining the relationships between concepts and terms[...]". There are several theories, but the first theory of terminology is the GTT, the General Theory of Terminology, based on the work of Eugen Wüster (Bowker, 2008, p. 287). The goal of Wüster's theory was to eliminate ambiguity and achieve standardization. To achieve this, he created a prescriptive theory based on 4 principles: onomasiology, clear-cut nature of objects, univocity, and synchrony (Bowker, 2008, p. 287).

Onomasiology, or an onomasiological approach, means to begin with a concept and look for a term to designate it. The opposite is a semasiological approach, where you have a term and research to find its meaning.

With "the clear-cut nature of concepts", Wüster not only designates the description and limits of the concept, but also its place in the conceptual structure of a specialized domain.

Univocity refers to the "concept-term unit". This principle represents the idea that each concept has only one term and each term only refers to only one concept in a certain domain.

The last principle is synchrony. With this principle, Wüster expresses the importance of recording the current meaning of a term, rather than its historical evolutions (Bowker, 2008, p. 287).

This theory was established during the second half of the 20th century and has received much criticism since. Its supporters claim that the GTT "has developed substantially as a result of later contributions, which, they argue, obviate the critiques made of the model" (Cabr , 2003, p. 167). Still, as a result of the criticism a number of new theories of terminology have developed.

As a reaction against the prescriptive nature of Wüster's theory, a descriptive theory was developed called socioterminology. The supporters of this theory believe that it is more important to focus on the actual occurrence of language in use instead of creating rules for a perfectly standardized language. They question

whether there can be such a thing as clear-cut nature concepts. Additionally they study synonymy and polysemy to support this descriptive take on terminology (Bowker, 2008, p. 287).

A second theory is that of sociocognitive terminology. Whereas the GTT is an objectivist theory and is based on clear-cut concepts, the sociocognitive theory's approach is based on experience. This experientalist theory claims that anything; objects, actions, concepts, only exist the way we perceive them. "[...]all knowledge comes from experience and is perceived and expressed through an inescapable filter (i.e. language)" (Bowker, 2008, p. 287) and therefore there can be no such thing as a clear-cut concept.

A Communicative Theory of Terminology or CTT was first called for by Sager. In Wüster's theory, terms were assumed to be context-independent, content bearing lexical units. According to the CTT, terms are context-dependent and should be studied in texts. This theory also incorporates the linguistic, cognitive and communicative dimensions of terms, which were discussed earlier (Bowker, 2008, p. 287).

2.3. Term records

Term records are the files onto which all the information regarding a term-concept unit is gathered. Not all term records are alike. They are designed based on the needs of the term bank they will be used in. Some pieces of information are mandatory for any term record, while including some other types of information is optional. However, not everyone agrees on which information belongs to which of those two categories.

According to ISO⁵ 12616, only three types of data are mandatory: the term, its source and the entry date of the term record (Bauer, 2015, p. 335). Since ISO's goal is to improve standardization, these first three categories should definitely be included on a term record. Reiner Arntz agrees on the first two of the three data categories from ISO, as he also mentions the term and its source, but adds three more categories, namely subject, definition and context (1993, p. 8). The Handbook of Terminology (Pavel & Nolet, 2001, p. xix), which refers to definition, and context as textual supports, agrees with Arntz' claim for the

⁵ The International Organization of Standardization

necessity of these data categories. Pavel and Nolet also add “the languages dealt with” and the “usage labels” of the terms as main components. Görög and van der Vliet (2016) not only call for certain categories, but divide them into three levels: any term record must contain information on concept level, term level - terms and their translations - and attributive level - sources, definitions, context, collocations, grammatical information, etc. (Görög & van der Vliet, 2016) Based on the four different sources cited above, it can be concluded that the recurring elements are mandatory: the term, a definition, a subject field, context, a source, and, in case of a multilingual project, the languages concerned.

All sources agree on the fact that additional data can be added. Examples are grammatical information, linguistic information such as synonyms and antonyms, collocates, information on register, regional language usage, preferred usage.

In conclusion, terminologists enjoy a lot of freedom when designing a term record, however, which information to include and which to leave out must be carefully considered, based on the goal of the term records in question. When the goal of the future term bank and its term records is set, the information to be included can be determined and the term record can be designed.

2.4. Terminology management

After discussing the constituents of a term bank, the terms and term records, it is time to have a closer look at terminology management. There are two ways to handle terminology: The ad hoc method and the systematic method.

The ad hoc method is most commonly used by translators and as the name suggests, this method is performed on the spot: a translator will research possible equivalent translations for a specific and immediate translation problem when coming across them while translating a text (Bowker, 2015, p. 311). Since searching for an exact and fitting equivalent of a term is very time consuming, translators collect their findings to save time in the future. These findings mostly consist of equivalent terms and information concerning context, without too many extra details. The information collected serves a production-oriented purpose and is generally descriptive. Not every term will be needed in

its canonical form in a translation and as such, terms might be recorded in a more commonly used form or together with collocates. Some of the expressions recorded might not even be terms, but more general language. Since translators usually specialize in one field or one domain, the terms they collect are often limited to this area (Bowker, 2015, p. 307). Assuming a translator regularly works for the same client, it is interesting for him or her to also keep records of the terms and phrasings preferred by clients in order to be able to reuse them for future assignments. In time, this personal collection of terms will grow and become a term base. Although generally speaking such a term base is a personal resource, at times, translators share their term bases to help each other out and increase their efficiency.

Another way to increase efficiency and to decrease the time spent on a translation is the use of bilingual sources such as TMs or Translation Memories. These TMs contain existing translations aligned with their source texts and may help in creating new translations about similar subjects. The TMs can also be linked to the translator's term base or insert translations directly into a target text (Bowker, 2015, p. 312). This combination of own research, suggested or preferred translations in a term base and TMs allows the translator to work even faster and more efficiently.

The second approach is the systematic method. This method follows a stricter planning and creates a more structured result than the ad hoc method. Terminologists are the main users of the systematic method and use it to create term banks, in which they collect all the terms belonging to the system of concepts of a specific domain. As mentioned before, the creation of a term bank takes a lot of time and effort, but this investment will save time in the long run. A term bank often generally covers different domains and the term records it holds tend to be very detailed and contain more data fields than those in a term base. Term banks can either be prescriptive, descriptive, or somewhere in between. Prescriptive term banks dictate which terms to use in a specialized domain. This practice of standardization improves communication within specialized domains or companies. A descriptive term bank represents the current state of specialized language in a certain domain. It can be a valuable tool when

translating or for linguistic research (Wright & Budin, 2001, pp. 18-19). Terminologists may be the ones constructing term banks, but “translators continue to count term banks among their valued resources as sources for resolving translation problems that they encounter” (Bowker, 2015, p. 308). A well-managed term bank will not only help a translator find equivalents faster, it also increases the chances of the equivalent being correct and idiomatic. To ensure that the translated equivalents in a term bank are in fact correct and idiomatic, terminologists prefer to only use original language sources and avoid translated works.

Based on these two descriptions of the possible methods of terminology management and the product these methods generate, I have concluded that the second method is most suitable for this research project. The aim of this thesis is to discover the ideal way to collect historical terminology in a term bank and therefore I will follow the systematic method, most commonly used by terminologists.

Taalunieversum, a project of the Dutch Language Union⁶, published a guide for translators on systematic terminology management. This guide offers a four-step plan of action that explains in detail how to start up a term bank. The four steps are detailed below:

- 1) Get to know the domain for which the database is to be created, read up on it and define the field to be researched.
- 2) Once the domain has been determined, design a template for a term record, consider which information must be collected and how this information will be represented and organized.
- 3) Once the data to be collected is decided on, start with the third step: the creation of the corpus⁷. Once this collection of source texts is created, the term extraction can begin.
- 4) Finally, once all three previous steps are finished, all of the information that has just been gathered can be entered into the model and thus a term bank has been created.

⁶ Nederlandse Taalunie

⁷ For further information on corpora, please refer to 2.1.5 .

There is, however, a second part to step 4. This part concerns what to do after all the information has been entered into the term bank, namely constantly managing, updating and further completing the term bank in order for it to reach its optimal potential (Görög & van der Vliet, 2016).

While this four-step process does not seem to be too complicated, in reality it actually can be quite challenging. The next section will therefore elaborate on each of these four steps.

The initial step calls for getting to know the domain. In order to do this, a system of concepts can be a resource of great value. Such a system structures the relations concepts have within a domain in a comprehensible chart-like form using the terms as labels to designate the concepts. This structure is based on hierarchy and thus concepts are either subordinated, superposed or juxtaposed. This entails that each concept falls under a broader concept, a relationship of superposition, and consists of narrower concepts, the subordinated concepts (Arntz, 1993, p. 8). The chart pictured below is an example of (part of) a system of concepts with a domain, machinery, and four levels of concepts belonging to the domain hierarchically ordered.

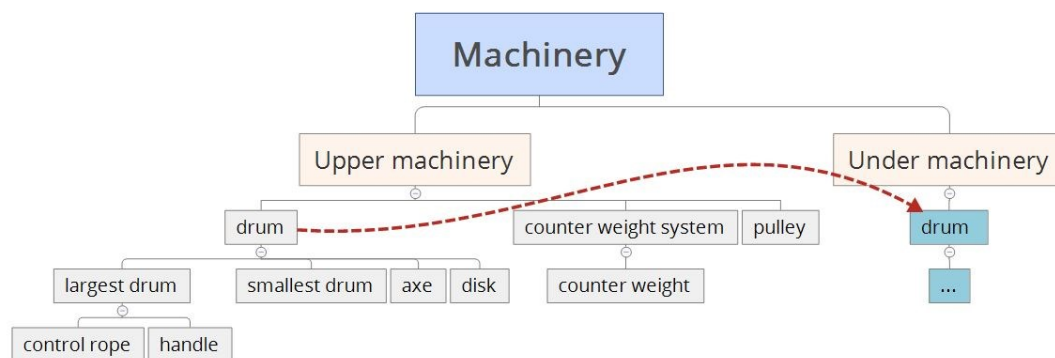


Figure 1: Diagram showing a section of a system of concepts.

Ideally, after creating such a system, the entire domain is described and the search for terms matching the concepts can begin. When put into practice, however, this is not the case. Looking for terms will almost inevitably lead to new concepts that were not previously incorporated in the system, thus leading to adjustments of the system. This may again lead to the discovery of new terms and so on. This ongoing development perfectly illustrates the “dynamic nature of all terminology management activity” (Wright & Budin, 2001, p. 22). Another

element to take into account is the “differing subdivision of reality by means of language” (Arntz, 1993, p. 5). In case of a multilingual term bank, a concept system should be created for each language independently. The concepts in the system should then be compared based on their level of equivalence. Concepts can either be completely equivalent, the concepts can overlap, one concept can include another, or there is absolutely no equivalent concept. Regardless of the degree of equivalence, it is key to make any term in the concept system of one language comprehensible for a native speaker of the language of another concept system (Arntz, 1993). For example, a good concept system in English and its equivalent in French must be able to make a native English speaker comprehend that the English term X is expressed by terms Y and Z in French. In a final remark on this first step, we would like to add that in reality a term bank often covers more than one domain (Bowker, 2015, p. 307).

The second step is concerned with deciding which information to collect and how to present it on the term records in the term bank. Since the mandatory and additional fields of term records have been previously discussed, I will not go into this subject again⁸.

When compiling a corpus for research purposes in a specific domain, such as in the case of a term bank, one should always take into account the writer of the source texts that are used for the corpus. Especially in specialized fields, reliable source material is of the essence. Therefore, all sources should be written by a field expert. Equally important is the date of publication, since credible and usable sources need to be up to date with the field. In case of doubt, oral clarifications by an expert can be valuable as well (Arntz, 1993, p. 8).

Once the corpus is created, the term extraction can begin. The tools discussed earlier may help with term extraction, but a person must always make the final decision and selection. The critical question when extracting terms is: What do I consider to be a term? The answer to this question is dependent of each term bank separately, and mostly of its target users. There are however two criteria one should always keep in mind when selecting terms, namely “termhood” and

⁸ For further information on which information to collect on a term record, please refer to 2.1.3 .

“unithood”. Kageura and Umino define termhood as “the degree that a linguistic unit is related to [...] domain-specific concepts” (1996, pp. 260-261). In other words, is a word specific enough within a certain domain to be considered a term, or does it belong to general language instead? The second criterion is unithood. This concept refers to how strongly terms collocate with other lexical units. As we mentioned at the end of section 2.1, not every term is expressed by a single word. As such the concept of unithood requires consideration of whether a concept should be designated by a single-word or multiword term, a set phrase, collocation, standard text, abbreviated form, or a canonical form (Wright & Budin, 2001, pp. 14-16).

After considering the termhood and unithood of a term, the terminologist must look at the project at hand. According to Bowker, term banks, unlike a translator’s personal term base, are often used by in house translation teams or produced by teams of terminologists (2015, p. 307). This means that whoever extracts the terminology must not only keep in mind what they consider to be terms, but also what another user might find useful. A potential user might not have the same technical knowledge as the terminologist producing the term bank. In addition, one must consider also adding outdated terms or terms which are not the preferred term. Any term someone may encounter and need extra information about to understand could be considered a possible entry for a term bank. In the case of non-preferred terms, however, this should be labeled or made clear somehow in the term record. This still only refers to terms, however. General language might not always be understood, but can be found in dictionaries and as such does not need to be added to the term bank (Wright & Budin, 2001, p. 19).

During part one of the fourth step, all the collected data will be entered into the term records created for the term bank. Some types of information are easy to find or indisputable. Examples of these types of information are the sources in which a concept or term was found, a context sentence in which a term occurs, and grammatical information. Terms, their translations and definitions on the other hand, can be more difficult to find or decide on.

In a multilingual term bank, it is not unusual to come across a term with no complete equivalent in one or more languages or even no existing translation in some languages at all. When a term in one language has a broader or narrower meaning than that in another language, they cannot be considered exact equivalents. These translations may still be used, but this shift in meaning should be indicated clearly on the term record. This way the exact concept the translated term covers is still clear to the user of the term bank. When there is no equivalent term in one of the languages included in the term bank at all, there are several options for adding a translation or equivalent after all: borrowing, loan word, or a loan translation, adaptation, creating an equivalent phrase, or a new term. When entering this new equivalent into a term record, it is equally important as in the previous cases, to indicate that the term is a suggested translation, instead of existing standardized language.

As mentioned earlier, terminology is meant to standardize specialized language and as a result, term banks are a representation of the specialized language within a certain field. This is a critical issue when it comes to definitions, since sometimes several definitions exist describing the same term. Other terms might not have any definition at all.

When there is no definition at hand a new one will have to be written and this is preferably always done based on the same criteria. The most common type of definition used in terminology work is the intensional definition. ISO 1087-1 (2000) defines intensional definitions as a “definition which describes the intension of a concept by stating the superordinate concept and delimiting characteristics” (International Standards Organization, 2000, p. 6). These definitions “have a long tradition and can be an appropriate tool to portray concepts and concept systems in a consistent way using natural language” (Löckinger, Kockaert, & Budin, 2015, p. 60). The reason intensional definitions are such an appropriate tool to define concepts is because the concept’s superposed concept is incorporated in the definition. In addition to the superposed concept, intensional definitions also use delimiting characteristics to differentiate a concept from the ones it is juxtaposed and subordinated to. As a result, the structure according to which these definitions are written is similar to

the structure of concept systems: a concept always has a superposed concept and is differentiated from subordinated and juxtaposed concepts.

Löckinger, Kockaert and Budin have drafted up a list of rules for writing a qualitative intensional definition. These rules concern criteria of what to avoid, ensure and pay attention to when writing such a definition. Some of these rules include, but are not limited to preciseness and conciseness, referencing to the immediate superordinate concept, objectivity, referencing to the relevant domain, and avoiding to translate other intensional definitions (2015, pp. 67-74). When a term has several definitions, one definition must be chosen to include in the term bank. This choice must be carefully made with the goal of the term bank and the concept of standardization in mind. When a definition more closely follows the rules of how to write an intensional definition by Löckinger e.a., it is likely to be a more appropriate choice from a terminological point of view (Löckinger, Kockaert, & Budin, 2015, p. 67). An additional factor that may complicate the choice of a correct and equivalent definition is the difference in phrasing and structure depending on the language the definition is written in. The definitions of two equivalent terms might not seem equivalent at first due to the description used. Analyzing and selecting definitions of specialized terms is therefore not possible without a large degree of expert knowledge (Arntz, 1993, p. 11).

Once all the information is entered onto the term records, the term bank has been created, but the work is not done. As mentioned earlier, terminology management is a circular activity even after the term bank is created. Terminology, as well as the domains it belongs to and its specialized language, evolve constantly. As a result, a term bank will never be finished. As Bauer (2015, p. 338) puts it: "Terminology is not an end product".

2.5. Corpora

A corpus is a collection of texts or utterances that is used as a basis for conducting some kind of linguistic investigation. At first, translators used printed corpora for their terminological research, but technology has evolved and "recently the term 'corpus' has come to refer to a large collection of electronic

texts that have been gathered according to explicit criteria” (Bowker, 2002, p. 44).

Each corpus is different, depending on the needs of its creator, but there are some characteristics that define all corpora. The three most important characteristics of a corpus are all mentioned in Bowker’s quotation above: “large”, “explicit criteria” and, in almost all recent cases “electronic texts” (Bowker, 2002, p. 44).

While the size of a corpus is always important, there is not an exact number of texts or words that a corpus should at least contain. Generally, the larger a corpus is, the better, since it will create a more representative source of information. If however, there are not many texts that fit the selected criteria, the creator of a corpus should always opt for quality rather than quantity.

The second characteristic is the use of “electronic texts”. Thanks to modern technology we can collect our selected texts in a digital corpus. The development of specialized tools has made it even easier to search a great volume of texts efficiently and in very little time. With the support of these tools, extracting information from a large corpus has become a lot easier and more accurate compared to when a translator only had access to printed sources (Bowker, 2002, pp. 44-45).

The last characteristic concerns the explicit criteria according to which the texts in a corpus are selected. There are several different types of corpora and each has its own criteria. Not only the type, but also the purpose of a corpus determines which texts are to be used or not. Some of the most evident criteria are the language(s) of texts, the text subjects, the register used, and their communicative goal. Another possible criterion, which is much less apparent at first sight, is whether or not the selected texts are translations. Although these are some common criteria, there are many more characteristics that can be used to decide which texts to use for a certain corpus.

After briefly going over the main characteristics of corpora, the different types of corpora and what they are used for will be discussed. It was previously stated that each type has its own criteria, and those will be used to define the different types.

The first type's criterion is that there are none. Or at least, there are no criteria excluding certain text types. When compiling a general corpus, the main goal is to balance the text collection "by containing texts from different genres and domains of use including spoken and written texts, private and public" (Kennedy, 2014, p. 20). These corpora are compiled without a specific research project in mind. They are usually used for linguistic research, for example in vocabulary or grammar. Their opposites are specialized corpora. They all have in common that they were created with a specific research in mind, but there are many different types within this category, such as corpora to study child language development or dialect corpora (Kennedy, 2014, p. 20).

As mentioned before, the most evident difference between corpora is that related to language. However, the use of one or more languages as the only criterion for defining a particular type of corpus, does not suffice. For example, an English monolingual corpus can consist of texts originally written in English only, or it can also contain translations from a certain language into English. This is called a monolingual comparable corpus, "defined by Baker[...] as two separate collections of texts in the same language: one corpus consists of original texts in the language in question and the other consists of translations into that language from a given source language (SL)" (Bowker, 2000, p. 19). A requirement for this type of corpus is that only parallel texts are used. This means that all texts are written with the same communicative goal and independently of each other in the different target languages.

Bilingual or multilingual comparable corpora do not contain translations. Instead they are collections of original parallel texts (Bowker, 2000, p. 21). Bi- or multilingual corpora that do contain translations are called aligned corpora. These text collections align, or link together, a sentence or section of a text with its translations in one or more languages.

Two other types of corpora, which focus on completely different text elements than language, are synchronic and diachronic corpora. Synchronic corpora are most common and refer to a corpus which contains texts from the same point in time. As a result, research can be done to study a certain element of a language at a certain point in time, whether this is the current time, or some point in history. Diachronic corpora, on the other hand, are collections of texts written over

different periods of time. These corpora can therefore illustrate how a language has evolved. A collection of French texts from contracts from 1600 until 2000 for example, is an example of a monolingual diachronic corpus (Kennedy, 2014, p. 22).

A final type of corpus which will be discussed here, although there are many more, is the spoken corpus. The original definition of what a corpus is, goes: “a collection of texts or *utterances*”. Even though most corpora consist of written texts, there also collections that contain the transcriptions of texts that were originally spoken. These texts are often far more valuable and realistic when it comes to natural language, but since transcribing takes a lot of time and effort, most corpora still are written corpora.

To conclude, who uses corpora and possible applications of corpora will briefly be discussed.

A first group of users consists of researchers who do linguistic research. Linguists study language aspects such as vocabulary, grammar, sentence structure etc. used in different text types, circumstances, registers, and times. Corpora can help with this type of research. For example, using an English synchronic corpus or dialect corpus a linguist can do research on the different vocabulary or sentence structure used by Americans who live in different states. A spoken corpus containing a politician’s speeches can illustrate the typical vocabulary used by this person. A monolingual comparable corpus of car manuals and their translated counterparts can help identify typical constructions used in technical translation. A diachronic corpus containing different versions of the fairytales by the brothers Grimm can show an evolution in the language we use for children.

Translators are a second group of people that often use corpora. Especially aligned bilingual corpora can be very helpful when a translator is looking for a specific translated equivalent. The translator looks up a sentence or word from his source text and will be shown the translated equivalent in the target language text. When one translated term is present several times, the translator can decide to use it as a translated equivalent in his target text. Another type of corpora is becoming ever more popular among translators, namely specialized

target language corpora. Instead of looking at already translated texts, translators use these corpora to search for original target language words or phrases. This way, the chance of choosing an idiomatic translation increases.

Although these two are the most common groups of users of linguistic corpora, they are not the only ones. One other example are publishers, who can use corpora to check word frequency in order to publish up to date dictionaries (Kennedy, 2014, p. 20).

2.6. Conclusion

This theoretical section will be concluded by summarizing those aspects that are especially relevant to the research discussed in the rest of this thesis.

The most beneficial method of terminology management for this thesis is the systematic approach mostly used by terminologists. The four-step plan by Görög and van der Vliet (2016) can be used as a systematic guide during the process of creating a term bank and managing it afterwards.

First, the domain of the term bank must be defined.

Second, the term records must be designed and their data categories chosen. The mandatory categories according to the sources mentioned above are the term, its definition, a subject field, the context of the term, a source and languages with the corresponding translations. Whether to collect any additional data should be decided on based on the project goal and target users.

Third, the corpus must be created by collecting texts according to predefined criteria.

Fourth, the information extracted from the corpus must be entered into the term records designed in step 2. After this step, the term bank must be managed and updated regularly.

3. Research methodology

Having surveyed the field of terminology and some of the uses of corpora, it is time to re-address the research question of this study: *“What are the criteria for a multilingual term bank in Dutch, English and French contain to reflect the evolution, location and migration of theatre machinery up to the Second Industrial Revolution?”* This main research question has been operationalized in the following sub-questions:

1. Which data is needed to render the correct and complete historical context of a term?
2. How can the evolution of terms be represented, both in time and geographically?
3. How can the data be organized in a clear, meaningful and useful manner?
4. How can term records in language A be linked to the equivalent term records in language B and C?
5. How can the relations terms have within the system of concepts be shown?
6. Which types of sources can be used to create a corpus, that contains complete and correct data necessary for this specific term bank?

Based on the theories tackled above, we have decided that the step-by-step process for terminology management is the most suitable process to follow and as such it will serve as a clear guideline throughout the rest of this thesis. All four of these steps are necessary to design and construct a fully functioning term bank that suits our needs, and following these steps will also help answer the sub-questions above. Each of the next four chapters will therefore be focused on one of these four steps.

1. Domain: During the first step, we will study the field for which we are developing this term bank, namely the field of theatre machinery. We will start by studying the field as a whole, and then define the field we will be using in this research project by defining the specific limits and characteristics that are important to our work. Once we have defined our field, we will have a closer look at one of the aspects specifically: the

historical aspect. We will illustrate the history of this domain and its evolution over time, while also elaborating on the relevance of the historical period we have limited ourselves to.

After precisely defining and illustrating our domain, we will also elaborate more on our target audience and the origins of the demand for this research project, namely the Expertise Center for Technical Theatre. As Cerrella Bauer (2015, p. 334) puts it: “no terminology project should be tackled behind closed doors but in an open discussion. Getting input from [...] potential beneficiaries is vital to address project planning.” In other words, even though the section on the target users does not add anything to the definition of the domain, it is a crucial aspect that must be discussed prior to starting the following steps.

2. Term record: In the second step, we will design a term record for our term bank, keeping our research questions in mind and using them to discover and decide on the correct information to collect in our term records. We will do this in three phases and elaborate on these in three different sections. In the first section, we will determine which data categories are necessary for our future term bank. Some elements will literally be taken from the theory, but others are added based on the specific needs of this research project. Sub-questions 1 and 2 are the most important ones here. These questions focus on portraying the history and evolution of terms. Sub-question 3 will be key in the second section, where we will make an attempt at creating a clear, sensible and easy layout for our term records. The third section of this step concerns the way term records are linked to each other and the system of concepts. Questions 4 and 5 will be the guideline and inspiration in this section.
3. Corpus: During the third step, we will start by discussing which type of corpus best suits our needs based on the different types of corpora discussed in 2.5. A first section of this chapter will help us answer the 6th sub-question. Based on the outcomes of this section, we will create a corpus and elaborate on the sources gathered in the second section. We will also look into the unique possibilities and difficulties this specific collection of texts might offer us. As a third section of this third step, we

will use our corpus and discuss the most effective way to extract and gather data from our source texts.

4. Filling out the term records: During the fourth step, we will enter the data we gathered into our term records and see whether they function for the project at hand. We will fill out the term records of a selected set of terms as a proof-of-concept to help us detect any problems in layout, relations between term records, or other issues we might have missed. Since the length and time spent on this thesis are limited, however, it is not unrealistic to think that future use will discover the need for more developments and adaptations.

4. Domain: Theatre machinery

The field which is the subject of this research is that of technical theatre and more specifically that of theatre machinery. Rather than focusing on present-day machinery, this research project will focus on terminology concerning Baroque machinery. To fully understand this field, a short introduction to its characteristics and history is necessary.

4.1. What is machinery?

First of all, what exactly is machinery? When this term is used in this thesis, it refers to performance machinery: all the systems and installations used to move sets, people and objects around a stage. The terms describing the motions and actions performed by the installations are included here as well. The equipment situated above the stage is called upper machinery, while everything underneath the stage is referred to as under machinery. The term “stage machinery” is used to refer to the machinery as a whole. Since the Second Industrial Revolution this term is also used to designate the newly developed machinery situated on stage instead of above or beneath it.

Second, I would like to point out that even though I use the term performance- or theatre machinery, this does not mean that the equipment and techniques described are unique for the field of theatre. On the contrary, many of these systems are found in other industries such as harbors, construction sites, churches and mills as well (Van Goethem, 2016, p. 169).

As a third remark, it must be pointed out that whenever the term “machinery” is used in this thesis, it refers to Baroque machinery, except when specifically mentioned otherwise. The term “wooden machinery” may be seen as a synonym here.

A fourth element of the machinery discussed in this thesis concerns the geographical distribution of the machinery. While the developments in continental Europe led to what is called “Baroque machinery”, Elizabethan theatre followed a different course completely. The techniques used in those theatres are unique for Great Britain. Apart from Great Britain, these techniques can only be found in the Netherlands and even there the use of the Elizabethan machinery was rather exceptional (Izenour G. C., 1996).

Lastly, the concept of Baroque machinery used in this study is not limited to performance machinery from the Baroque era, but rather everything up until the Second Industrial Revolution, i.e. the late 1800s. The following brief historical outline should clarify why this distinction is a relevant one.

4.2. History and development of theatre machinery

Although the tradition of theatre machinery has always largely depended upon the same concepts, as will be demonstrated later on, the same cannot be said of the theatre tradition in general. The upcoming chapter will therefore divide the history of theatre in Western Europe into three sub-chapters when discussing and illustrating its importance for this thesis. This division is based on the structure maintained in the reference work "*Theater. Een westerse geschiedenis*" by Crombez, Koopmans, Peeters, Van Den Dries, and Vanhaesbrouck (2015).

4.2.1. Theatre in the Antiquity

The earliest sources that mention the use of machinery in theatre date back to the Greek and Roman times. There is evidence that both upper and under machinery already existed during Antiquity.

The most famous example of upper machinery in this period of time is without doubt the *deus ex machina*. While nowadays this concept refers to a sudden and unexpected solution to an unsolvable problem in a book, play or film, it originally had a much more specific meaning. In Greek or Roman plays, an unsolvable problem would be resolved by a god (deus) who was lowered down onto the stage using a type of crane (machina). This crane is an early example of upper machinery and although its famous name comes from the Romans, the technique was first used by the Greek playwright Euripides in 425 B.C. Another example of a playwright from this period that eagerly made use of the *deus ex machina* is Aristophanes, who "has the character appeal to the stagehand not to let him fall" in one of his comedies (McKinven, 1995).

The Colosseum in Rome is a great example of the use of under machinery during the Antiquity. Under the wooden floors of this famous circus, the Romans installed elevators and capstans⁹ to move the animals from down in the

⁹ *Capstan*: a vertically positioned winch.

dungeons into the arena with the fighters (Blitz, 2015). Even though they used different materials besides wood, like bronze for the bearings, the concept and ideas behind these systems are identical to those found in theatres from the 1800s all over Europe. The Colosseum arena is also a fitting example of the use of these techniques in buildings other than theatres.

4.2.2. Theatre in the Middle Ages

By the time the Middle Ages came around, plays were held in churches more and more often instead of in open-air arenas such as during Antiquity. In some churches, the construction cranes were never removed after the church was finished. These cranes were set up in the towers or hung in the roof beams, and originally served for hoisting building materials, but sometimes remained so that church bells and chandeliers could be lifted up and down. As mentioned before, the crane systems use the same principles as the machinery used in theatre. And therefore they were sometimes used as theatre machinery for plays inside of the churches as well. In some cases, even be additional temporary pieces of machinery were constructed to increase the technical possibilities on stage.

When theatre was performed outside during the Middle Ages, plays generally took place on wagons and moveable platforms. At times these temporary stages were built very high so they could hold under machinery. Upper machinery rarely existed in this type of stages.

During the early Renaissance, theatre was aimed more towards for the upper class of society and the theatre tradition moved back inside. In this period, most of these indoor stages were constructed for temporary use. Existing buildings were adapted into improvised theatres, as there was no demand for permanent theatre buildings yet. Since prominent landlords built most of these theatres in great halls and castles or gardens, this type of theatre is also called court theatre. The Ulriksdals Slottsteater Confidencen in Stockholm is a unique example of a temporary theatre, since it was never taken down. Even though it was constructed and inaugurated in 1753, much later than the temporary theatres from the early Renaissance, it is still a valuable representative of this type of theatre since it is the only one of its kind still standing. This theatre was a temporary construction in the riding arena of Ulriksdal Palace and the fact that it

is still intact, makes it a unique and ideal specimen for researchers to study this type of stage and its technical theatre tradition and possibilities (Confidencen, 2016).

There are two aspects all temporary theatres from the early Renaissance have in common. The first is that the existing structures greatly limited the possibilities in terms of machinery, especially under machinery was dependent of the available space but also the machinery above the stage had its limitations. A second aspect is that of necessity. Since these theatres were never meant to last, the choice of equipment and techniques always depended on the play that would be performed and what its specific needs would be.

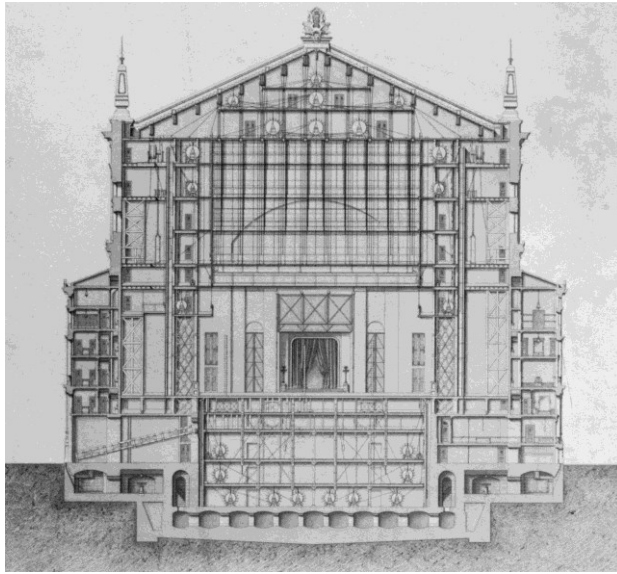
All throughout the Middle Ages plays, acting, audiences and stages have evolved greatly and moved locations several times. In spite of this, technicians and scenographers have always kept on using and improving the same techniques and installations.

4.2.3. Theatre after the Middle Ages

From 1500 on, theatres and their machineries developed more and more until they led to permanent, independent structures and the technology reached its peak. This evolution started in Italy and the Italians became pioneers in the development of Baroque theatres and their wooden machineries.

In fact, the very first permanent indoor theatre constructed in continental Europe, was the one built in Vicenza, Italy. The Teatro Olimpico, as it was called, still stands today and is still completely intact (Consorzio Vicenza). The design of this building was based on the old Roman outdoor theatres. Some important differences with the Roman theatres were the slanted scene and the extremely realistic backgrounds, painted in perspective to create a sense of depth. However, the Teatro Olimpico may have been a pioneer when it comes to architecture, this was not the case when it comes to machinery, as it had almost none (Encyclopaedia Britannica). After this first theatre, however, many other theatres followed and the use and development of performance machinery flourished. These purposely-built theatres created much more space for the machinery, with some buildings having several floors of under machinery and upper machinery (Izenour G. C., 1996, pp. 22-28). An extraordinary example is

the Opéra de Paris, illustrated below, with its 5 floors of under machinery and 3 floors of upper machinery.



(Izenour G. C., 1996, p. 25)

Thanks to all this permanent space and technological advancements, the Baroque period became the peak time in terms of progress and development in technical theatre. One example of the technical advances is the development of the *changement a vue*¹⁰, which allowed for much more complex movement of sets on stage.

All over Italy and more and more beyond the Italian borders as well, people were erecting permanent playhouses. A unique phenomenon occurred in the Italian Marches region, however. This region consists of numerous small towns on hilltops and in many of these towns, prominent citizens wanted to construct permanent public theatres, but due to the landscape there was a lack of space. This lack of space meant that the towns could not find areas or pieces of land large enough to construct new buildings to serve as theatres. Instead, they solved this problem by remodeling existing buildings to a great extent to fit the needs of a fully equipped permanent public theatre. "Bringing the machinery in a permanent environment [...] meant that the building itself could be adapted and that more complex combinations were possible. (Van Goethem, 2016, p. 169)"

¹⁰ *Changement a vue*: the (simultaneous) moving of sets or backdrops during a play and in sight of the audience.

The closer to the Industrial Revolution, the more theatres became public again. The new theatres opened up to the greater public, but still had lodges or balconies for the more upper class public. The Bourla theatre in Antwerp is one of the last remaining examples of Baroque theatres from this period with its machinery intact (Agentschap Onroerend Erfgoed, 2016). It is also one of the last examples, since it was constructed at the end of the era, when the technologies were at their absolute peak.

The use of wooden Baroque machineries came to an end as a result of the Second Industrial Revolution. New materials such as construction steel came into use and these materials enabled rapid advancements and new techniques. The old concepts were either improved and adapted, or fell into disuse.

Up until this point, people had always kept using the same equipment, regardless of the locations, circumstances or whether a stage was meant to be used once or several times. But “it is not the equipment itself, but the purpose, the use and the unique combination of machines and rigging¹¹ that makes Baroque machinery so fascinating. (Van Goethem, 2016, p. 169)” Sadly, together with the installations falling into disuse, the craft of rigging the machinery has been lost as well.

4.3. Target groups

After discussing the exact domain of the term bank, the target users will be identified. There are two different target groups for the term bank that is being developing in this thesis. On the one hand, there is the Expertise Center for Technical Theatre, who came with the idea and subject for this term bank. In order to successfully create a term bank for historical terminology in the domain of Baroque machinery, the goals of this research group and their expectations must be taken into account. On the other hand the needs of the other target users must also be considered. The EC may have commissioned this project, but for a qualitative result the needs of the potential users of a term bank like this one must be discussed and determined as well.

¹¹ While the term also exists in other domains, in this context, rigging refers to the (hemp) rope-based systems used to operate machinery, and the act of operating machinery itself.

4.3.1. Expertise Center for Technical Theatre

The Expertise Center for Technical Theatre is a research group within the technical theatre department of RITCS at the Erasmus University College of Brussels. The EC has grown organically, as a result of the research- and education projects conducted by the department. Their task is double. On the one hand they conduct research and are a central point for all research results relating to technical theatre in Flanders. On the other hand they have an important networking function. The Expertise Center creates a link between the work field and the academic world, both nationally and internationally. This way, they stay in contact with the “real life” of the industry, but also with training providers and policy makers. They value their relationship with the working field and the industry greatly, as they aspire to remain “part of reality, rather than observing it” (Kenniscentrum Podiumtechnieken, 2016).

In order to achieve all their goals and tasks, the Expertise Center has several focus points:

- Develop competence systems in the technical fields of the performing arts, including the accurate definition of the profession content.
- Develop teaching techniques and simulation techniques.
- Develop training programs for industry and intermediaries - training providers.
- Promote health and safety and sustainability.
- Research the history of technical theatre.” (Kenniscentrum Podiumtechnieken, 2016)

For this thesis, the most relevant focus point is the last one: research the history of technical theatre. This research aims to preserve, document, and validate historical technical equipment and methods. First of all, they believe this heritage is not only important from a historical point of view, but might also be relevant for people in the field today. Just as they have done in the past, these installations and this equipment can inspire future generations of scenographers, technicians, architects and product developers. Additionally, the more the EC knows and succeeds to find out about the original usage,

construction and maintenance of historical theatres and their machineries, the better they become at preserving this heritage as well.

There are three ongoing projects at the moment, related to the history of technical theatre. The first is called "*Changemang a Vue*¹²" and is a collaboration with SADA, the Stockholm Academy of Dramatic Arts. This project studies the language of movement, based on historical performance machinery. The second project is the "*Visit Theatres*". With this initiative the Expertise Center promotes tours or visits of historical theatres in Great Britain, Belgium and the Netherlands with their partners from Theatres Trust and others (The Theatres Trust Caritable Fund). The third project is more general and simply called "*Geschiedenis van de Podiumtechnieken*", or "*History of Technical Theatre*". This is the specific project with which they aim to preserve, document and validate the heritage of technical theatre (Kenniscentrum podiumtechnieken).

My project with the Expertise Center, the subject of this thesis, is a direct result of this more broad and general third project. The final goal of this sub-project, however, is not solely the documentation of the history of technical theatre, but also the creation of a source of information, which can be disseminated, and co-used or co-managed by the (foreign) partners of the Expertise Center. These partners include educational institutes like SADA and Academia Teatro alla Scala, museums such as Initiative TheaterMuseum Berlin, AED Museum, the Backstage Heritage Collection and their umbrella organization SIBMAS¹³, professional organizations with research teams for history such as the Association of British Theatre Technicians (ABTT), the Deutsche Theatertechnischen Gesellschaft (DTHG), and the Flemish Professional Association of Producers, Designers and Technicians of the Arts and Event Sector (STEPP), research organizations such as the OISTAT¹⁴ Research Commission, heritage organizations like Theatres Trust¹⁵ and het Firmament, and individual enthusiasts and collectors.

¹² "Changemang a vue" is the Swedish version of the French term "Changement a vue".

¹³ International Association of Libraries, Museums, Archives and Documentation Centres of the Performing Arts

¹⁴ Organisation Internationale des Scénographes Techniciens et Architectes de Théâtre

¹⁵ The national advisory body for theatres in the United Kingdom

4.3.2. Other target users

As will have become apparent from the above enumeration, the extended group of target users potentially consists of a wide array of people and organizations. To develop a term bank that suits all their needs within the limits of this thesis is not possible. The result of this thesis therefore aims to be a template, a trilingual trial version for a term bank that can be expanded to become much larger and that can be used by researchers and field experts from several different countries and in many different languages. In order to make the creation of such a flexible term bank possible, one that future users can really benefit from, it is necessary to take their diverse needs into account as well.

The aim of this thesis is to create a term bank that can be used by at least the following different types of users: historians who are interested in the evolution of Baroque machinery, technicians who are interested in the equipment of their field, laymen or experts who happen to read a text on Baroque machinery in a foreign language or who are writing a text on this subject and who are looking for translations. Generally, historians have had a rather theoretical education and are used to processing large quantities of (source) texts. Several sources already available today will help historians to better understand a concept and its context. Any additional information on the history, evolution, synonyms, related terms and so on will only increase their understanding of the concept they are researching. Technicians on the other hand, generally have a more practical mindset. Whereas a historian can get his information from literature, a technician will prefer visual material such as plans, models and drawings. While it is impossible to incorporate actual models in a digital term bank, schematic drawings with annotated components are a great asset for these practical thinkers. Similarly, a clear, understandable and accessible system of concepts may also help them see the bigger picture. The last target group is people who are not necessarily interested in an explanation of a concept itself, but merely wish to find a translation. For these people, it is mostly translations that matter, but also the possibility to check the use of these translations in context sentences for example. Other information on term use such as synonyms, collocations or grammatical information are valuable for this target group as well.

4.4. Definition of the domain

The goal of this chapter was to define the domain of the terminology used for this project and to identify the target users and their needs.

The domain for which this thesis will construct a term bank is defined as follows: wooden or Baroque machinery refers to all the systems and installations used to move sets, people and objects around a stage, used from the first theatres during the Antiquity up until the Second Industrial Revolution in Continental Europe and in the United States.

The term bank must contain the required information for the three possible groups of target users. Additionally, the developed term bank must be possible to use as a template to incorporate more languages in the future.

5. Term record

This chapter will discuss the term records for the term bank under development, based on step 2 of the four-step plan. First, the data that the term records must contain will be carefully considered and selected. Second, the term records themselves will be designed. What will they look like? Which information goes together, must and can be combined and on what grounds? Furthermore the chapter will investigate how the term records must relate to each other. Which records link up with other records and how can these links be established?

5.1. Data on the term record

The first step is to look at the data which will be collected on our term records. To do so, the purpose of the term bank that is being developed, must be established. The goal is to design a multilingual term bank in Dutch, English and French, containing terms from the field of theatre machinery from the Antiquity up until the Second Industrial Revolution. The term bank will be used by scholars, doing research on the evolution and history of Baroque machinery, by theatre technicians, who read about this technology in a language that may not be their own, and by enthusiasts of technical theatre, who wish to better understand this technology or the texts they are reading. Based on this information, the people from the Expertise Center and I believe the following data should be present in the term records:

1. **Term.** We have decided to only enter the term itself in the term records, but not add any grammatical information, since it is not particularly relevant for our target users.
2. **Definition.** For the definitions of the concepts, we will attempt to use existing definitions in as many occasions as possible. We especially prefer definitions written by field experts who were contemporary to the techniques they described since these definitions are most likely to be accurate. When deciding whether or not to use a historical source, it must be kept in mind that a modern day user must be able to fully comprehend the definition and all elements it refers to. For the same reason, in the case of very old sources, which use outdated language that is difficult to comprehend by modern readers, the language use in the definition will be

updated. When there are no definitions available, or when the existing ones are not ideal or do not cover the complete meaning of a concept, a new definition will be created. Any newly written definition will follow the principles of intensional definitions¹⁶ and will be based off all explanations and descriptions of the term in question we do have.

3. **Language.** Since a term is a lexical unit designating a concept, terms are language dependent. Therefore, it is necessary to point out the specific language of a term on its term record.

In this thesis, which is in fact a trial for an actual, larger term bank, only term records in Dutch, English and French will be used. In time, the final project will have the option for additional languages, such as Italian, a language with a very relevant history in theatre, and Swedish, a language with a very active group of theatre history researchers. While these are the languages we currently have in mind, there should be no limit on the number of languages that may be added in the future.

4. **Translation.** Any translation for a term that was found or extracted and that is conceptually exactly identical will be visible on the term record. Translations will be organized by language. In case of several equivalent translations in one of the target languages, all options will be summed up, as to give the most complete information possible.

5. **Image.** Since the techniques, installations and equipment described in this term bank date back to before the Second Industrial Revolution it is possible that some concept no longer exist in their former shapes today. Therefore we have decided to add images as an additional source of information.

A second argument in favor of these images is our target user group. The Expertise Center for Technical Theatre called for visual material because according to them, technicians and creative people think in a graphical way rather in than a textual way and therefore may benefit more from a visual aid then from extensive explanations and definitions.

6. **Domain.** Even though the term bank developed in this thesis is limited to the domain of Baroque machinery, we feel like it is necessary to have the

¹⁶ The principles of intensional definitions is explained further in chapter 2.4.

option of adding or specifying the domain of the term. The goal of this research project is to develop a term bank for terms related to machinery, but the Expertise Center has expressed the possibility of adding other fields, such as lighting and scenography. To accommodate this future option, a field for the domain will be added.

7. **Type.** Apart from any possible extensions of the domain described in this term bank, there will also be a distinction within the domain itself. Most of the terms, as mentioned before, will refer to mechanical components. Some other ones, however, will concern the actions or movements of the machinery, and the functions or job descriptions of the people working the machinery. Therefore, we will add a label “Type” with the options “*Component*”, “*Action*” or “*Function*”.
8. **Location.** This field will clarify in which part of the theatre a certain piece of machinery is located. Some machines can be found in different places, but be designated by different terms depending on this location. Adding a location will also aid in the general comprehension of the machinery as a whole.
9. **Dating.** In order to be able to chart the evolution and history of certain terms, a field for dating will be added to the term records. This refers to the period during which the term was used, not the moment the source that mentions it was written. In several cases this will be the same date, but various other sources are more modern works about history.
The dating of a term will be expressed by the following phrase: “*This term has been in use from... until...*” Rather than summing up every single point in time of which we know the term was in use, the earliest and latest date on which the term has been mentioned will mark the period in which the term existed.
10. **Geography.** The reasoning behind adding the geography is identical to that of the dating of the term. If a researcher can see where a term existed and when, he can discover how technology migrated and where there were advancements and evolutions at which points.
11. **Relations in the system of concepts.** The following two points will be the fields used to represent the system of concepts of Baroque theatre

machinery within the term records. Since the domain subject is machinery, and therefore mostly machines and objects will be described, the term “system” of concepts may be taken quite literally here. We hope that these fields will help clarify the actual structure of the machinery as well.

- a. The field “*Component of*” will identify the term(s) that are superposed to the term that is the subject of the term record. Since the concepts are parts of machinery, in most cases the superposed term designates the mechanical part of which the concept in the term record is a component. Some components can be used in different parts of machinery and as a result, it is possible that a term has several superposed terms.
- b. The field “*Components*” shows the exact opposite relation. It shows the terms that designate the subordinated mechanical part(s) or concept(s).

12. Other structure-related relations. While the data above in 11 refer only to the componential aspect of a piece of machinery, there are also other ways in which pieces of machinery can have an influence or importance to each other.

- a. Two pieces of machinery may need to be attached to each other in order to become a fully functioning piece of mechanical equipment. This can be designated by the field “*Connects to*”.
- b. In other situations, a machine will be used together with another machine, in which case this will be indicated by saying something “*Interacts with*” another term. The difference with “*Connects to*” above may seem vague, but is very precise: the first refers to a physical connection, while the latter signifies a link through rope or simultaneous actions.

13. Status. This refers how a term is being used compared to possible synonyms. The information added in this section may mark a term as being outdated, a local dialect or point out whether or not the term is the preferred term when there are synonyms.

14. Linguistic information.

- a. *Synonyms*. The terms designating certain pieces of technology may have changed through time or the technology could have existed simultaneously in two different places, such as Flanders and the Netherlands, or France, Switzerland and the Walloons. To be able to include all possible terms, a field with synonyms will be included on the term records.
- b. *Antonyms*. Especially when talking about motions used to describe specific movements of pieces of machinery, antonyms can provide a very interesting source of information.
- c. *Collocations*. Some pieces of equipment have their own verbs, solely used for the motions they create or necessary to handle them. These collocations may help the comprehension of a text or present valuable suggestions when writing a text.
- d. *Specific or standard versions*. Some machinery installations are given a different name, depending on where they are used or as a part of which system they are operated. By adding a field “*specific version*” or “*standard version*”, any confusion about the term can be avoided. Additionally, distinction will allow for a more profound understanding of these terms within the machinery as a whole.

15. **Sources**. In this section, all relevant sources in which the term has been found will be added, together with a citation that can either be a context sentence or an additional definition. Each source reference will be dated, to ensure that we can keep track of which sources are contemporary with the term, and which are more modern.

Where possible, we will add the dating of the term according to the source, and the geographical location where the source places the term as well. While the section “*Dating*” above only mentions the first and last recorded moment of use of a term, all the sources in this section will be individually dated and thus contain information on the term at one set point in time. By combining the moment a term was used with the place a term was used, we will collect valuable information that will enable to chart the migration patterns of machinery in the section “*Geography*”. This could lead to a definition being mentioned twice on the same term record:

once as the definition of the term and once in the list of this section, with the additional information of dating and location. To achieve all of the above, this section will contain the following fields:

- a. *Dating term*
- b. *Citation/context sentence*
- c. *Source reference.* To ensure that all source references are written in a consistent way, any source reference in this term bank should be written according to the rules of APA.
- d. *Location term*

16. **Notes.** Realistically, there will always be exceptions or unexpected situations. To avoid losing interesting data due to not being prepared, the option of entering additional information through notes will be added. The option of adding notes may be added several times, to ensure that the information in the note is closest to the information it elaborates on.

A specific version of these notes is the scope note. This data category allows for the specification of another data field to which the scope note belongs.

We believe all the elements mentioned above are essential to render the most complete image of a term possible. There are some more technical fields that will be included as well, but that are not directly related to the terms themselves. These four additional fields will not be elaborated on any further in this thesis, since they need an actual database to fully function, in which case they will also be included and updated automatically. They have been added here to render a more complete image of what a final digital term bank should look like.

1. **History of editing.** If a term record has been edited after it was first made, there will be an option to be able to view the history of a term record, or what it looked like before.
2. **Editor.** Term records will also mention who has filled out or edited the content.
3. **Final update.** On any term record you will be able to find the date of the last time the term record was edited.

4. **Unique identifier.** The final technical field is not related to the term, but to the concept it designates. Since a concept is technically invisible unless designated by a term, there still needs to be a way to tie terms and their translations together. Therefore, every concept will have a number, a unique identifier. This number will be linked to every term record that refers to the corresponding concept.

To conclude this section, a diagram was included depicting how all the data categories in the term bank are related to each other. Hopefully, this diagram will aid in the comprehension of our decisions concerning the data categories and the structure of the term records in the next section.

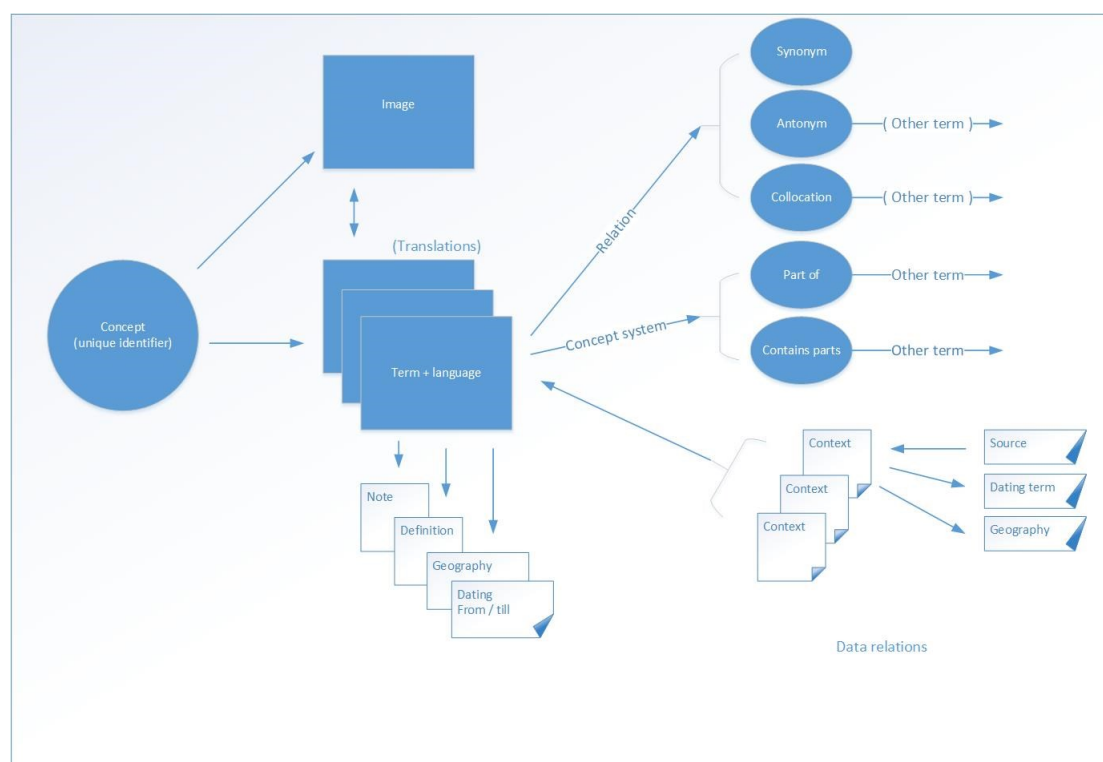


Figure 2: Diagram presenting how all the data categories are related to each other in the term bank

5.2. Layout of the term record

Now that we have decided which information to include in the term records, the layout must be developed. The labels of the fields will come first, the structure of the term record second, and finally the way the information is presented to the user.

First of all, the names of the data fields will be decided. Most of these fields will retain the titles of the data categories stated above, but some will be altered.

The title "*Image*" will not be visible in the layout of the term records for users. While editing the term record, however, this field will become visible and with it the ability to enter an image.

The title "*Geography*" will be altered and named "*Geographical distribution*". The emphasis should lie on the total area where a term can be found and therefore the term distribution was considered a better fitting name for this field.

The title "*Relations in the system of concepts*" will be excluded altogether, because, the two fields described under it do not need an overarching title. The same applies to "*Linguistic information*" and "*Other structure-related relations*".

After labeling the data fields, the structure of the term records will be decided. We have organized the information from the top of the term record to the bottom, based on how important or common the information is. Information any type of user requires will be at the top, while more target user specific information, such as components, will be ranked more towards the bottom.

Term and definition, being the two key notions to describe the concept, are the first information on the term record. A third category will be added to the top of the term records: "*Scope notes*". With this field, an editor will be able to add information needed to correctly understand the definition. He can for example specify within which context a definition functions.

The term records end with the option to add notes, since hopefully these notes will not be needed.

Right above the notes, the source material will be placed. While the sources themselves are indispensable for filling out the term records, the specific source information is not relevant to every possible user. It could be argued that the section "*Sources*" should be listed higher up on the term record, since the information on dating and location added under this title is what makes this term bank so unique. But since this information is resumed in the fields of "*Dating*" and "*Geographical distribution*", the elaborated section on source material will be listed below.

Apart from organizing the data according to important and frequency of use, information will be structured in such a way that categories stay together. One example are the fields referring to the structure of the system of concepts. “*Domain*”, “*Type*” and “*Location*” come first, followed by “*Component of*”, the superposed concept and “*Components*”, the subordinated concepts and “*Interacts with*” and “*Connects to*”. For the same reason the linguistic information such as “*Synonyms*”, “*Antonyms*” and “*Collocations*” “*Specific/Standard version*” is put together as well.

That leads to the following order: “*Term*” and “*Definition*” first, followed by “*Language*”, “*Translation*” and “*Status*”. Next come “*Dating*” and “*Geographical distribution*”, the fields on structure, the linguistic information, the source information, and finally “*Notes*”.

Now that the labels and order of the information have been discussed, it is time to decide what the term records will look like for a user and how someone who is editing will see them.

A first question about the layout to consider is what to do with empty data fields. All the types of data discussed above are those we find beneficial for the understanding of the terms. This does not necessarily mean, however, that all this information will be available for every single term. Therefore, it has been decided that some fields will be labeled as mandatory. These are the fields, which according to us, contain the minimum information required for the understanding of each term. Other fields, or the possibility to enter an additional option for mandatory fields will be optional and not visible to a user when they are not filled out. When editing a term record, these fields will become visible again. The mandatory fields are the language of the term record, “*Term*”, “*Definition*”, “*Domain*”, “*Type*” and at least one source. These are the minimum required fields to be able to publish a term record and make it available to users. When editing a term record, the mandatory fields are much less. Only the term and language are required to be able to save a term record, together with the unique identifier.

Something that is relevant mostly to people who edit and manage the term bank, are the types of fields. While most fields are unrestricted open text fields, some

types of information benefit most from restrictions or other types of entries, such as drop down menus. To avoid confusion, any text field not discussed in this paragraph will be an open text field. Drop down menus will be used for *“Language”*, *“Status”*, *“Domain”*, *“Type”*, and *“Source reference”*.

The reason the languages will be expressed through drop down menus is that this way there will be a consistent use of the abbreviations that designate the languages. The abbreviations will be taken from the ISO 639-2 list. This list best suits this term bank, since it also includes options for dated languages, such as Middle Dutch, Middle and Old English, and Middle and Old French. Apart from dated languages, this list also includes dialects and language varieties such as Low German, Sicilian and Neapolitan. While Walloon has an abbreviation, there is no mention of Flemish in the list (Wikipedia, 2016). Since the distinction between Flemish and Dutch spoken in the Netherlands may be necessary in the term records at times, the options *“vla”* and *“nnl”* will be added to designate these language varieties.

There will be several different options for *“Status”*, such as *“preferred term”*, *“regional”*, *“dialect”*, and *“still in use”*, all present in one list so the editor of a term record can simply select the correct label in a drop down menu.

Uniformity in the description of the type of term is the main motivation to opt for drop down menus for this *“Domain”* and *“Type”*. Additionally, using this type of field will limit the possible types to either a component, action or function. Thanks to this distinction, one can limit a search enquiry in the term bank to terms belonging to only one of the three types.

Finally, for the source references, drop down menus will be provided for the comfort of the users. Any new source that is added to the term bank will also be added to the options in the menu. Afterwards, every time a specific source is selected an additional time, the term record or context sentence will be linked to the source information. This way, all data belonging to the same source can be collected in one spot. An additional advantage is that source references are less likely to have spelling errors or other mistakes and the spelling of the sources is uniform.

Another type of entry which will be used is that of date fields. This will be used in both dating fields to limit the entered information to dates written in numbers.

Based on all the ideas and considerations above, a template for a term record has been designed. For clarity, a complete and an empty template have been added below.

Term					Language	ENG				
Definition										
Scope notes										
Language	Translation	Status								
NLD										
FRA										
...										
Dating	This term has been in use from ... until ...									
Notes:										
Geographic distribution										
Domain	Component of	Components	no image available							
Type										
Location	Interacts with	Connects to								
Synonyms	Dating									
Antonyms	Dating									
Collocations	Definition									
Specific/standard version *	Dating									
Sources										
Dating term	Quote	Source reference					Location	Notes		
Notes:										

Figure 3: Empty template of term records that has been developed.

The second term record has been filled out, but since not all information was available, only the filled out data fields are visible.

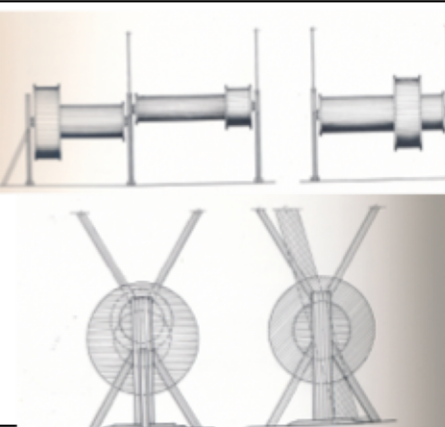
Term	Drum				Language	ENG
Definition	A piece of machinery that consists of two connected cylinders and reduces the force needed to move a load, but also increases the distance the rope has to move.					
Language	Translation	Status				
NLD	Tamboer	Prefered term				
FRA	Tambour	Prefered term				
...						
Dating	This term has been in use from 1762 until 1830.					
Geographic distribution	Europe					
Domain	Component of	Components				
Machinery	Upper machinery	Smallest drum				
	Under machinery	Largest drum				
Type	Interacts with	Axle rope				
Component	Fly rail system					
	Counterweight system					
	Wing carriages					
Synonyms	Datation					
Tambour						
Collocations	Definition					
Rigging the drum	Attaching ropes to a drum and connect them to the piece of machinery the drum will operate.					
Specific version	Datation					
Multiple speed drum						
Compound drum	1762					
Sources						
Dating term	Quote	Source reference	Location	Notes		
1830	The drum reduces the force needed to move a load.	p4, Wood and Canvas, 2014				
1762	The flying wires are wound on the small drum above the gridiron, fed through fixed pulleys in the upper left grid iron and then through a traveller, down to the stage floor.	p49, Stage Flying: 431 B.C. to modern times, 1995	France			
1762	By manipulating the compound drum, the performer can be made to fly an undulating path as the traveller moves him across the stage from right to left.	p50, Stage Flying: 431 B.C. to modern times, 1995	France			

Figure 4: Filled out term record for the term "Drum"

5.3. Relations between term records

After discussing which information to include in the term records and what the layout of those term records looks like, the people of the Expertise Center and I looked at the possibilities for linking the different term records to each other and leading to one another.

A first way term records will be linked to each other will be through their translations. All possible translations for a specific term are mentioned in the section "*Translation*" and the user will be able to click on any of these translated equivalents. If an equivalent is a preferred term, it will lead to the term record of that specific term. When a translation is a term in a dialect and not a preferred term, however, clicking on it will lead to the term record of the preferred term of

the same concept. On this translated term record, the equivalent that has been clicked on will be listed as a possible synonym. When a translated term does not yet have its own term record, it will be added to the list of translations, but will not lead anywhere.

Another way one term record can lead to another is by the terms listed in the components section. The fields "*Component of*" and "*Components*" are crucial pieces of information when it comes to understanding the system of concepts or even just how certain pieces of machinery function. Because of this, clicking on the terms in either of these two categories will lead to the term record of that term. This way, it will become much easier for a user to get an insight into the system as a whole.

The terms listed under "*Interacts with*" and "*Connects to*" will lead to other term records in the same way as those under components do.

As mentioned before in section 5.1, we have decided to add images to the term records because according to us they are a vital source of information for several reasons. But what relation do these images have to the terms and concepts in our term bank?

In certain ways, you could say that images are equal to terms, and in others they can be considered similar to concepts. While an image is a visual representation of a concept, both image and concept need a term to designate them. Neither is tied to a language either. On the other hand, an image can be a visual way to designate a concept the same way a term does. For the purpose of this project, images will be regarded as a type of language independent visual translation, and thus as terms.

Just like clicking on a translation will lead a user to the term record of the translation, clicking on an image will lead to another term record. The term records developed for images will be different from those for normal terms, since they are language independent. As a result any language dependent information will not be able to be included. Concretely, this means that translations will be listed, but definitions will not. The subordinated and superposed concepts will not be listed, but indicated on the image using arrows with numbers. Each of these numbers will lead to the term record of the image

designating the concept indicated by that number. In some cases, the image in these term records will be identical, but the translations will be adapted to the concept of the term record.

The collocates of a term may lead to another term record, but only when part of the collocate can be considered a term as well. “Rigging the machinery” is an example of a collocation containing two terms: rigging and machinery.

One final thing to consider is the evolution of terms. In some cases, a concept may remain unchanged for several decades or centuries, while the term designating it has been adapted unrecognizably. In this case, a term record will be dedicated to whichever term was used the longest, but it will mention any other term in the synonym section and dates will be added to mark a period of use.

6. Corpus

Following the four-step plan by Görög and van der Vliet, the next step is to create the corpus. In order to do so, it must first be decided which type of corpus is needed to extract terms from, afterwards the corpus will be created using a number of selected texts. During the final step of this chapter, the data for the corpus will be extracted so it can be entered into the term bank afterwards.

6.1. Type of corpus

As discussed in section 2.5, there are several types of corpora and they all have their advantages and disadvantages depending on the project at hand. In this section, the type of corpus most suitable for this project will be discussed. The corpus must allow the collection of data for a term bank containing historical terms from the field of technical theatre and more precisely, Baroque theatre machinery.

First of all, the first criterion for this corpus is that it is a specialized corpus. The subject or content all collected texts should have in common is that of the technical equipment and techniques built, developed, and operated in theatres from the first theatres during the Antiquity up until the Second Industrial Revolution. These installations are also called Baroque machinery. As mentioned before, the techniques used in theatre machinery are not unique to this domain. Therefore, sources on harbors or mills for example, could also turn out to be valuable resources and can be considered part of this specialized corpus.

Since machines and installations from over a period of almost 2000 years are the subject of this term bank, this research requires a diachronic corpus. Such a corpus may help discover evolutions throughout history as it is compiled of texts from different eras. The use of a diachronic corpus also enables the use of modern sources written from a historical point of view.

In order to create a multilingual term bank, the required source texts must be written in different languages. For this specific project, the source texts gathered in the corpus will be in English, French and Dutch.

Another advantage of this multilingual text collection is the geographical distribution it provides. To correctly portray the evolution of machinery in

Europe, the focus must not only lie on the evolution of terms, but also on the migration of the techniques used. Sources written in different languages will likely be written in different countries which in turn might have different theatre traditions as well. Therefore, these sources may help chart the migration of the pieces of machinery that are being described in the term bank.

In addition to sources in English, French and Dutch, the use of sources from different languages could also prove beneficial. These sources will not be used for the translations of the terms in the term bank, but they will provide additional information about the geographical distribution of pieces of machinery. These sources may turn out to be useful for another type of information as well, namely imagery. Images are universal and as such the drawings from, for example, an Italian book, may depict an installation that has been incorporated in the term bank, but still lacks an image.

Rather than focusing on translations, this project requires information on specific concepts or machinery in a specific place at a specific time. While translated texts may be useful for additional translations or context phrases, the initial focus will lie on parallel texts in their original languages.

Based on all the advantages and characteristics cited above, the most suitable corpus for this research project is a specialized, multilingual, diachronic, comparable corpus.

Keeping in mind this type of corpus, there are a number of different types of sources which could be incorporated. In the following section each source type will be discussed along with its characteristics and possible advantages or problems.

Manuals are interesting sources since they can offer insights in the technology and installations as a whole, but also in the individual parts and how they are connected. Additionally, these sources provide valuable information on the context and function or movement of the installations used in machinery. Another great asset of this type of source is that manuals are almost always written by an expert from the field, ensuring that these sources provide the correct information and term-concept combination. The best kind of manuals for

this corpus are those written in the period of Baroque machinery. Modern sources may offer other, but equally interesting insights as well.

(Specialized) **dictionaries and encyclopedias** such as "*Dictionnaire du théâtre*" by Pougin are especially useful because they provide a clear list of terms with a definition already present. The downside of this type of sources is that they are not usually written by experts of the field, but rather by linguists or scholars in general. The abovementioned example concerns a dictionary of theatre terms in general. Other possible subjects of dictionaries can be technical theatre specifically, architecture, or any of the fields in which the same equipment is used, such as harbors, mills, and construction sites. This type of source exists both contemporary with Baroque machinery and also in more modern editions.

One of the advantages of modern-day **history books** is that they are generally written in a language that is up to date and therefore easy to comprehend. This is not always the case for some of the works written before the Second Industrial Revolution. One of the disadvantages is that the number of history books dedicated to the technical side of theatre is very limited. Books on the history of theatre generally do contain some information on machinery, but this information tends to be a single phrase or a side note.

Historical books or reference works can be focused on one specific moment in time, offering extensive information on that specific period, or on a longer period of time, providing information on the evolution of theatre and machinery. While the people who wrote these works have undoubtedly conducted a lot of research prior to writing and publishing them, there is always the risk of historical inaccuracies. This is the greatest disadvantage of these sources.

Since **plans and drawings** are language independent, images can be found in a source written in any language and still be useful for this corpus. Construction plans can help understand how certain pieces of machinery function exactly and how different pieces of machinery installations interact with each other and the stage. Other types of drawings can depict machinery as a whole, components or even how the machinery affects the actors or is used by them or how the machinery is perceived by the audience.

One type of source that is very specific to this domain are **stock set reference books**. These books originate from the second half of the 19th century, towards the end of the period of Baroque machinery. They contain photographs annotated with drawings that show how the machinery a theatre has in stock should be constructed.

The term **course material** here refers mostly to the curriculum created for students of technical theatre today. Their text books are mostly focused on the machinery used in current day, but most books also have one or two chapters dedicated to the history of machinery. What makes these books especially useful is that they are written from a very specialized and technical point of view.

Annotated playbooks and prompt books are a very unique type of source material. A director or technician would use a playbook to add notes, speech, sound and light cues, and of course the moving of the sets and scenery. A prompt book is a more elaborate and structured version of an annotated playbook and is also called the director's Bible. This type of source provides information on exactly what certain pieces of machinery were used for and what the possibilities were with this technology. These sources are definitely written by field experts from the time the machinery was used and thus these sources contain very exact and trustworthy information. Sadly, this type of source is hard to find, and when found playbooks or prompt books are not always legible or comprehensible.

While most **letters with descriptions of plays and performances** will focus on the acting on stage, rather than the machinery above and under it, there are some exceptions. The bishop Abraham of Suzdal, for example, has written several letters with very detailed explanations of the machinery he witnessed on his travels. Such letters provide information on dating, location and use of theatre machinery.

While most sources are restricted to the information they contain on paper, **exposition panels or informational cards** almost always refer to an actual object. While, of course, it is not possible to add these objects to a corpus, the information on the cards accompanying the objects is generally very detailed and definition-like. Exposition panels often have sections of text next to images

illustrating the content of the text. While the pictures or objects may be old, the texts, however, are generally written now. Wood and Canvas, by Theatreurope, is a good example of an exposition which exhibited actual pieces of machinery along with exhibition panels containing texts and images.

Sales brochures and catalogues are a type of source that was created towards the end of the Baroque period. In the case of specialized brochures for theatres, some of the products demonstrated, will belong to theatre machinery. These sources are contemporary with the technology and written for experts and therefore valuable resources. Perhaps even more useful than the information in machinery itself, however, is the information on other users. The brochures would try to promote their products by listing all the theatres that use their technology as well and those lists are extremely helpful for charting the geographical distribution of machinery.

While **reviews of plays and performances** today are mostly focused on the acting or directing, it has not always been that way. Before the Second Industrial Revolution, sets were stocked and reused on any possible occasion. Because of this, a new piece of décor was important enough to get its own review. Similarly, the effects used in theatre were still being developed and sometimes reviews would be published commenting on new special effects as well. Ordinary theatre reviews are also possible sources of information, since sometimes the use of machinery can be deduced from them.

Legal documents that may be added to this corpus include reports on accidents, guidelines and rules for safety measures and contracts of scenographers, stage hands, actors and other people working in the theatre. These sources provide indirect information on the way the machinery functioned and on the people operating it.

A final type of sources to be included in this corpus are **bills and accountancy documents**. These sources may provide information on which types of machinery were popular and purchased in which time period. Additionally, they may illustrate the durability of some parts of machinery better and which people were hired to operate the machinery.

6.2. Collected sources

Based on all the criteria and suggested source types above, possible sources have been collected and the corpus was created. Most of the selected sources are only available in printed form. Some works have already been digitalized, but the majority of the books, manuals, dictionaries or documents that are collected for this corpus are physical sources. As a result the term extraction from these sources will have to be done manually.

While generally the theory was followed, there is one suggestion that was disregarded, namely the writer of the source. Section 2.4 states that the writer of a source should always be a field expert and for the purpose of this corpus a contemporary field expert was preferred. Sadly this is a criterion that was not always met. In the case of some of the sources collected in the corpus, such as *“Pratica di fabricar scene e machine ne'teatri”* by Nicola Sabbatini from 1638, the writer was in fact a contemporary field expert. But these sources are rare. There are a number of sources written by contemporary linguists or academics, for example, the French dictionary in two volumes *“Dictionnaire du Théâtre”* by Pougin from 1885. There are also several sources written by 20th century field experts, like *“Theatre Technology”* by George Izenhour.

Based on the criteria discussed above and in 6.1, a number of sources were found and collected in the corpus. All these sources, are included in the bibliography, but a short overview in numbers will follow here.

The corpus contains:

- 49 physical and 26 digital sources.
- Of the physical sources 22 are in English, 6 in French, 9 are in Dutch, 6 in German, and 6 in Italian.
- Of the digital sources 17 are in English, 3 in French, 3 are in Dutch, 2 in German and 1 in Italian.
- There are 6 sources that are dictionaries or encyclopedia, 4 are manuals, 3 illustration books, 1 book contains letters, 1 contains patents and many articles and history books.

- 3 sources were written before the Second Industrial Revolution, all the others were written after, while many contain excerpts from older documents, such as the letters and patents mentioned above.

6.3. Data extraction

After the creation of the corpus, the next step was to extract terms and data from the sources. As mentioned before, a lot of the terms are physical sources and therefore the term extraction was done manually.

Together with the Expertise Center, I decided to limit the terms for the term records used in this thesis to only mechanical components and leave out actions and functions. All components are expressed through nouns or compound words and therefore no non-lexical units will be considered terms in this specific project.

Initially, I used one excel file to collect all the data I extracted from the source texts. The greatest advantage of an excel file as a first test version, is that it is a very versatile type of document. I could try and add or delete different data fields without having to adapt a lot or greatly influence the rest of the structure or information.

In order to keep track of the terms and their equivalents, each concept had a number and these numbers were identical for each term that refers to the same concept, regardless of its the language.

In the end, once the document became larger it was harder to manage. For example, once there were several sources or definitions for the same term, they had to be listed under each other and were no longer aligned with the term they belonged to. This issue was solved by repeating the term and its corresponding number on each line, but this did not take away the fact that the document still remained rather confusing and cluttered looking.

Once a basis had been collected in this excel, it was possible to start filling out term records. Any information found afterwards was directly inserted into the term records, the result of which can be found in the following chapter.

7. Filling out the term records

In this chapter, the template that was developed in chapter 5 will be tested. During this test, a selection of 39 term records will be filled out to see whether the templates based on the theories and ideas in chapter 5 function in practice as well. 21 term records will be in English, the largest number of term records in a single language. 8 term records will be filled out in Dutch and 5 in French. Finally, there will also be 5 term records on the language independent level, namely the term records based on images. These term records will contain merely images and the corresponding terms in all languages available.

The large quantity of English term records allows for a more profound test of the content of the term records. It will help answer the question of whether all types of information can be included and if the information is arranged in a logical order. Testing the translation fields and the relations between translated term records required records in several languages. Therefore the Dutch and French records were added as well. Additionally, the functionality the template in all three target languages will be tested. The image records are added to illustrate what these term records would look like, how they incorporate the structure of the system of concepts, and how they may lead to other term records.

Before selecting the terms and filling out the term records, a system of concepts of Baroque machinery has been drawn up. This system was structured in a tree diagram as shown in figure 5 below. Since some concepts and/or terms occur in more than one type of equipment, it is possible that a term is used several times in the diagram. Additionally, some terms have been put between brackets. The brackets indicate that two pieces of mechanical equipment are used together – most often one operates the other – but are not components of the same piece of machinery.

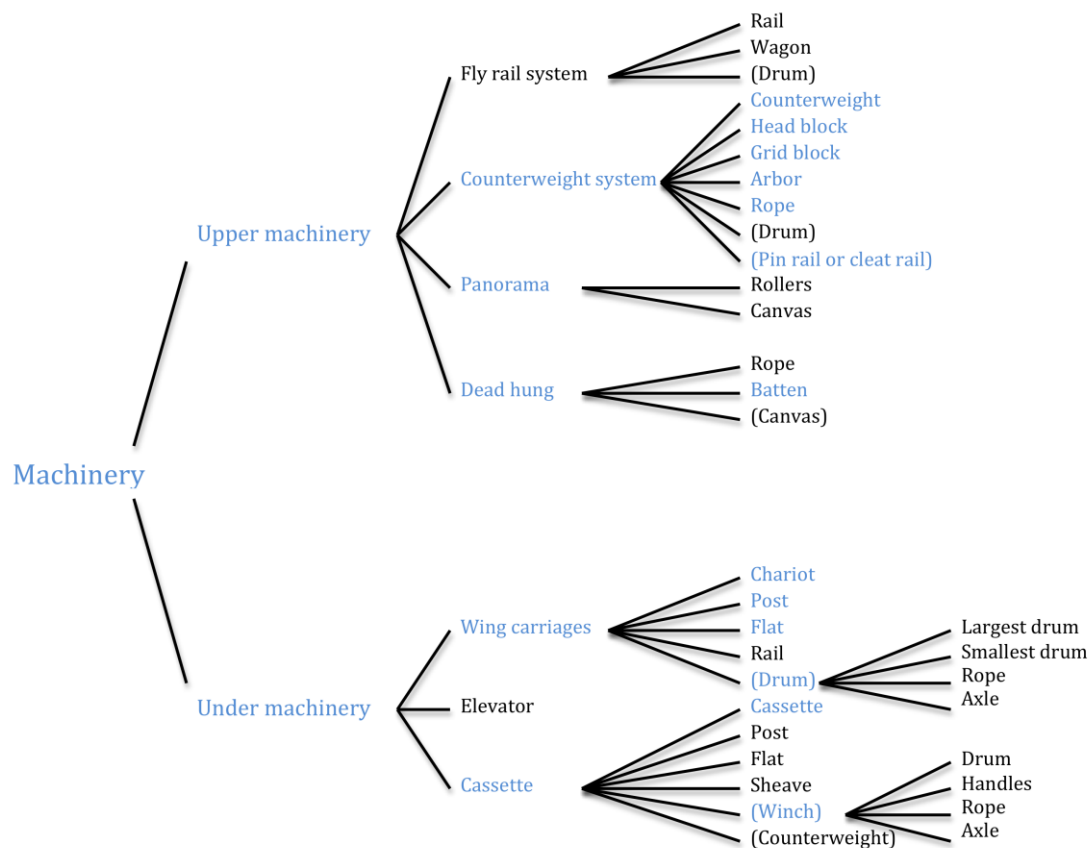


Figure 5: Tree diagram of the system of concepts of Baroque theatre machinery

The blue terms in the diagram are those that have been used to create the term records for the test.

Three concepts, missing in this tree diagram, will be included in the term records, i.e. “Pulley”, “Multiple speed drum”, and “Flyrail”. These three concepts were not added to the tree diagram, since they do not have a fixed position within the system of concepts based on superposed or subordinate relationships such as the other terms. A “Multiple speed drum” is a specific type of “Drum”, which can be used in any situation where a drum can be used. “Pulley” is the collective noun for all blocks, such as “Head block” and “Grid block”, which were incorporated in the tree diagram. And “Flyrail” is the collective noun for “Pin rail” and “Cleat rail”.

The filled out term records below are structured according to the tree diagram in figure 5. Figure 6 below presents the blank template of the term records. The records will follow the diagram from left to right and from top to bottom beginning with “Machinery”. Term records created in several languages start with the English record, followed by the Dutch version and then by the French

one. It might also be possible, however, that a term record is only translated in one or two languages.

The term records based solely on the images will follow at t(Franziskaner Museum, 2013)he end, to be able to show the structure between them.

Term record template

Term					Language	ENG
Definition						
Scope notes						
Language	Translation	Status				
NLD						
FRA						
...						
Dating	This term has been in use from ... until ...					
Notes:						
Geographic distribution						
Domain	Component of	Components	no image available			
Type						
Location	Interacts with	Connects to				
Synonyms	Dating					
Antonyms	Dating					
Collocations	Definition					
Specific/standard version *	Dating					
Sources						
Dating term	Quote	Source reference	Location	Notes		
Notes:						

Figure 6: The template used for the term records

Machinery (ENG)

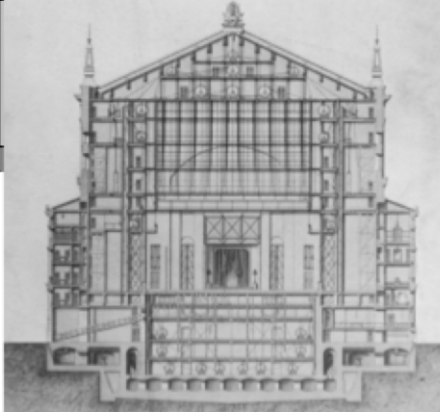
Term	Machinery		Language	ENG
Definition	All the systems and installations used to move sets, people and objects around a stage.			
Language	Translation	Status		
<i>NLD</i>	Machinerie			
<i>FRA</i>	Machinerie			
...				
Dating	This term has been in use from ... until today.			
<i>Notes:</i>				
Geographic distribution	Europe and North America			
Domain	Component of	Components		
Machinery		Upper machinery Under machinery		
Type				
Component				

Figure 7: Term record Machinery (ENG)

Machinerie (NLD)

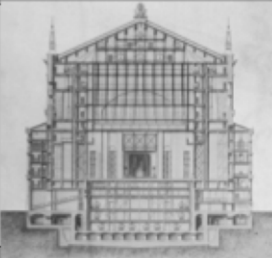
Term	Machinerie			Taal	NLD
Definitie	Het geheel van systemen en installaties waarmee mensen, decorstukken en objecten verplaatst worden op het toneel.				
Taal	Vertaling	Status			
ENG	Machinery				
FRA	Machinerie				
...					
Datering	Deze term was in gebruik van ... tot vandaag.				
<i>Opmerkingen:</i>					
Geografische spreiding	Vlaanderen				
Domein	Onderdeel van	Onderdelen			
Machinerie		Bovenmachinerie Ondermachinerie			
Type					
Onderdeel					
Synoniemen	<i>Datering</i>				
Toneelmechaniek Theatermechaniek					
Bronnen					
Datering term	<i>Citaat</i>	<i>Bron referentie</i>	<i>Locatie</i>	<i>Opmerkingen</i>	
	De mechanische inrichting van het toneel.	p68, Theater A-Z II, 1959	Vlaanderen		

Figure 8: Term record Machinerie (NLD)

Machinerie (FRA)

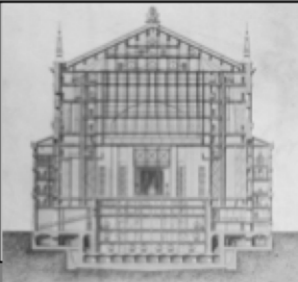
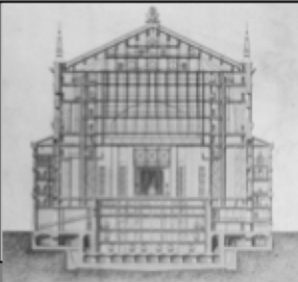
Terme	Machinerie			Langue	FRA
Définition	L'ensemble des machines qui animent un théâtre.				
Langue	Traduction	Status			
<i>NLD</i>	Machinerie				
<i>ENG</i>	Machinery				
...					
Datation	Ce terme est utilisé depuis le 16ième siècle jusque aujourd'hui.				
<i>Notes:</i>					
Répartition géographique	France				
Domaine	Composant de	Composants			
Machinerie		Machinerie des cintres			
Type		Machinerie du dessous			
Composant					
Sources					
<i>Datation du terme</i>	<i>Citation</i>	<i>Reference</i>	<i>Localisation</i>	<i>Notes</i>	
depuis le 16ième siècle	Les machinistes sont les hommes qui entretiennent et font fonctionner la machinerie d'un théâtre.	p84, Dictionnaire raisonné et illustré du théâtre a l'italienne, 1992	France		
1885	Le mot <i>machinerie</i> n'est pas admis par les lexicographes; mail il est absolument passé dans la langue théâtrale, et son utilité pratique lui donne forcément cours dans le langue usuel.	p485, Dictionnaire du théâtre G-Z, 1885	France		
16ième siècle	La machinerie classique a été conçue pour l'equipement et la manoeuvre des <i>châssis</i> , des <i>fermes</i> , des <i>rideaux</i> , enfin des <i>vols</i> et des <i>apparitions</i> .	p513, Traité de Scenographie, 1984	France		

Figure 9: Term record Machinerie (FRA)

Upper machinery (ENG)

Term	Upper machinery				Language	ENG
Definition	Machinery above the stage.					
Scope notes						
Language	Translation	Status	no image available			
NLD	Bovenmachinerie	Preferred term				
FRA	Machinerie des cintres	Preferred term				
...						
Dating	This term has been in use from 1850 until today.					
Notes:	Upper machinery is still in use today, but has evolved after the Second Industrial Revolution.					
Geographic distribution	Europe and North America					
Domain	Component of	Components	no image available			
Machinery	Machinery	Counter weight system				
Type		Fly rail system				
Component		Panorama				
Location		Dead hung				
Fly tower						
Synonyms	<i>Dating</i>					
rigging	19th century					
Sources						
<i>Dating term</i>	<i>Quote</i>	<i>Source reference</i>	<i>Location</i>	<i>Notes</i>		
19th century	In the 19th century in Europe and North America, we installed under machinery and upper machinery.	p13, Nobody Looks Up: The History of the Counterweight Rigging System: 1500 to 1925	Europe and North America			
1850	The upper machinery is mostly used to hang objects parallel to the stage opening, ropes can be lowered everywhere, so hanging objects diagonal or perpendicular to the stage opening is possible. The system makes it also possible to fly 3D objects.	p9, Wood and Canvas, 2014	Europe			
1850	In theory there's nothing permanent in the upper machinery. It is an empty fly floor or grid with openings to let the ropes through.	p9, Wood and Canvas, 2014	Europe			

Figure 10: Term record Upper machinery(ENG)

Bovenmachinerie (NLD)

Term	Bovenmachinerie		Taal	NLD
Definitie	Machinerie boven het toneel.			
Scope notes				
Taal	Vertaling	Status		
ENG	Upper machinery	Voorkeursterm		
FRA	Machinerie des cintres	Voorkeursterm		
...				
Datering	Deze term was in gebruik van 1850 tot vandaag.			
<i>Opmerkingen:</i>				
Geografische spreiding				
Domein	Onderdeel van	Onderdelen	afbeelding niet beschikbaar	
Machinerie	Machinerie	Vliegsysteem		
Type		Panorama		
Onderdeel		Fokkerdijzen		
		Systeem met tegen-gewichten		
Locatie				
Toneeltoren				
Synoniemen	<i>Datering</i>			
bovenmechaniek				

Figure 11: Term record Bovenmachinerie (NLD)

Machinerie des cintres (FRA)

Terme	Machinerie des cintres		Langue	FRA
Definition	La machinerie dans les cintres, dessus de la scène.			
Scope notes				
Langue	Traduction	Status		
NLD	Bovenmachinerie	Terme préféré		
ENG	Upper machinery	Terme préféré		
...				
Datation	Ce terme est utilisé depuis ... jusqu'à aujourd'hui			
Notes:				
Répartition géographique				
Domaine	Composant de	Composants	image indisponible	
Machinerie	Machinerie	Faux cordages Panorama Equipe contrebalaancée		
Type				
Composant				

Figure 12 : Term record Machinery des cintres (FRA)

Counterweight system (ENG)

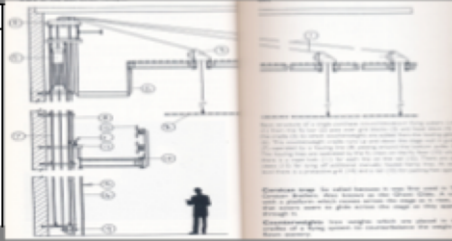
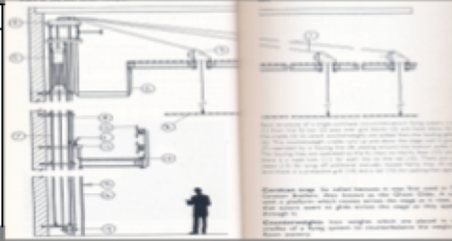
Term	Counterweight system			Language	ENG
Definition	A system to raise or lower scenery with ropes that pass over different types of pulleys and are connected to counterweights.				
Scope notes					
Language	Translation	Status			
NLD	Trekkenwand	Preferred term			
FRA	Equipe contrebalaancée	Preferred term			
...					
Dating	This term has been in use from 1500 until today.				
<i>Notes:</i>					
Geographic distribution	Europe and North America				
Domain	Component of	Components			
Machinery	Upper machinery	Counter weight Head block Grid block Rope Arbor			
Type					
Component					
Location	Interacts with				
Grid	Drum				
Chimney	Pin rail or Cleat rail				
Sources					
<i>Dating term</i>	<i>Quote</i>	<i>Source reference</i>	<i>Location</i>	<i>Notes</i>	
	The hemp and the counterweight systems are not related, except by application. But, even if we were to agree that they are related, they are - at best - second cousins.	p27, Nobody Looks Up: The History of the Counterweight Rigging System: 1500 to 1925	Europe and North America		

Figure 13: Term record Counterweight system (ENG)

Counterweight (ENG)

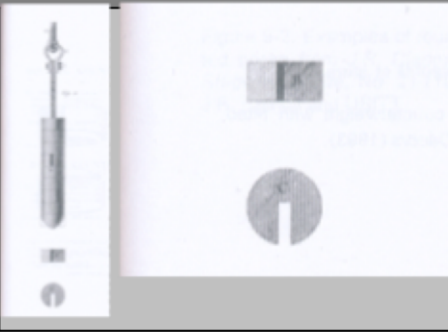
Term	Counterweight				Language	ENG
Definition	A weight, usually a heavy metal disk, attached to an arbor to balance the weight of a piece of scenery					
Language	Translation	Status				
NLD	Tegengewicht	Preferred term				
NDL	Kluit	Regional				
VLA	Broodje	Regional				
FRA	Contre poids	Preferred term				
FRA	Fromage	Outdated term				
FRA	Pain	Regional				
...						
Dating	This term has been in use from 1751 until today.					
Notes:						
Geographic distribution	Europe and North America					
Domain	Component of	Components				
Machinery	Counterweight system					
Type						
Component						
Location		Connected to				
Chimney		Arbor				
Synonyms	<i>Dating</i>	<i>Status</i>				
Pig		Regional - AME				
Brick		Regional - AME				
Sources						
<i>Dating term</i>	<i>Quote</i>	<i>Source reference</i>	<i>Location</i>	<i>Notes</i>		
	Dead haul is stage or flying machinery moved by hauling a line directly by hand (or motor) without balance from counterweights.	p23, The ABC of Stage Technology, 1995				
	The lowly counterweight brick must do four things: it must counterbalance loads; it must be removable and replaceable to facilitate the counterbalancing of varying loads; it must not fall free of the arbor; and the package created by one load of bricks must have a sufficiently small footprint as to allow for a high density of line sets arranged side-by-side	p89, Nobody Looks Up: The History of the Counterweight Rigging System: 1500 to 1925	Europe and North America			

Figure 14: Term record Counterweight (ENG)

Head block (ENG)

Term	Head block				Language	ENG
Definition	A pulley at the end of the grid which redirects the ropes coming up vertically from the chimney horizontally to the grid blocks.					
Language	Translation	Status	no image available			
NLD	Verzamelschijf	Preferred term				
FRA	Mère de famille	Preferred term				
...						
Dating	This term has been in use from ... until ...					
<i>Notes:</i>						
Geographic distribution	Continental Europe					
Domain	Component of	Components	no image available			
Machinery	Counterweight system					
Type						
Component						
Location	Interacts with	Connects to	no image available			
Grid	Rope					
Sources						
<i>Dating term</i>	<i>Quote</i>	<i>Source reference</i>	<i>Location</i>	<i>Notes</i>		
	Head blocks are the blocks at the side of the grid, immediately above the fly floor. Their grooved pulley wheels change the direction of the ropes (or wires) from vertical to horizontal.	p46, The ABC of Stage Technology, 1995				

Figure 15: Term record Head Block (ENG)

Verzamelschijf (NLD)

Term	Verzamelschijf		Taal	NLD		
Definitie	Een reeks omloopschijven op het einde van het grid die alle touwen van horizontaal naar verticaal draaien.					
Taal	Vertaling	Status				
ENG	Head block	Preferred term				
FRA	Mère de famille	Preferred term				
...						
Datering	Deze term was in gebruik van ... tot ...					
Opmerkingen:						
Geografische spreiding						
Domein	Onderdeel van	Onderdelen	afbeelding niet beschikbaar			
Machinerie	Systeem met tegengewichten					
Type						
Onderdeel						
Locatie	werkt samen met					
Rooster	Touw					
Synoniemen	Datering					
Bovenste keerschijf						
Antoniemen	Datering					
Collocaties	Verklaring					
Algemene versie	Datering					
Omloopschijf						
Bronnen						
Datering term	Citaat	Bron referentie	Locatie	Opmerkingen		
	De staalkabels zijn aan de bovenkant van de gewichtshouder bevestigd en lopen via de boven- of verzamelschijf en de andere schijven naar de roe.	p13, Trekkenwand en hulpmiddelen, 1990	Nederland			

Figure 16: Termfiche Verzamelschijf (NLD)

Terme	Mère de famille		Langue	FRA
Definition	Des poulies dans les cintres qui changent la direction des fils de horizontale à verticale.			
Langue	Traduction	Status		
NLD	Verzamelschijf	Terme préféré		
ENG	Head block	Terme préféré		
...				
Datation	Ce terme est utilisé depuis ... jusque...			
Notes:				
Répartition géographique				
Domaine	Composant de	Composants	image indisponible	
Machinerie	Equipe contrebalancée			
Type				
Composant				
Localisation	Interagit avec			
Le cintre	Fil			
Type de base	Datation			
Poulie				

Mère de famille (FRA)

Figure 17: Term record Mère de famille (FRA)

Grid block (ENG)

Term	Grid block		Language	ENG
Definition	A pulley located on the grid used to redirect a rope rope from lying horizontally on the grid to going down vertically towards the stage with a piece of scenery or machinery.			
Language	Translation	Status		
NLD	Omlooprol	Preferred term		
FRA	Moufle	Preferred term		
...				
Dating	This term has been in use from ... until ...			
<i>Notes:</i>				
Geographic distribution				
Domain	Component of	Components	no image available	
Machinery	Counterweight system			
Type				
Component				
Location	Interacts with			
Grid	Rope			
Standard version	Dating			
Pulley				
Sources				
<i>Dating term</i>	<i>Quote</i>	<i>Source reference</i>	<i>Location</i>	<i>Notes</i>
	A pulley block pounted on the grid to change the direction of a flying line from horizontal to vertical so that it drops between two adjecent slats.	p41, The ABC of Stage Technology, 1995		

Figure 18: Term record Grid block (ENG)

Pulley (ENG)

Term	Pulley			Language	ENG
Definition	One or more grooved wheels mounted in a wooden framework.				
Language	Translation	Status			
<i>NLD</i>	Omlooprol				
<i>FRA</i>	Poulie				
...					
Dating	This term has been in use from 1500 until 1925.				
<i>Notes:</i>					
Geographic distribution					
Domain	Component of	Components	no image available		
Machinery	Counterweight system Cassette system				
Type	...				
Component					
Synonyms	<i>Dating</i>				
Block	<i>Dating</i> <i>Status</i> Regional - AME				
Specific version					
Head block					
Grid block					
Mule block					
Divertor					
Billy block					
Idler block					
Return block					
Loft block					
Spot Block					
Sources					
<i>Dating term</i>	<i>Quote</i>	<i>Source reference</i>	<i>Location</i>	<i>Notes</i>	
1500 to 1925	A block is a simple machine that includes a grooved sheave with an axle, a housing and a method of attachment to a portion of the building structure	Nobody Looks Up: The History of the Counterweight Rigging System: 1500 to 1925	Europe and North America		
Notes:	A pulley is a grooved wheel used to guide or divert ropes. The pulley has different names depending on where it is used, what it's function is or how it looks. Therefore the term pulley itself is less frequently used.				

Figure 19: Term record Pulley (ENG)

Arbor (ENG)

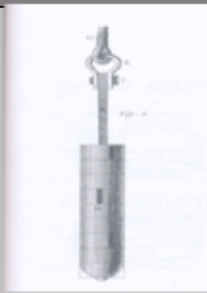
Term	Arbor		Language	ENG
Definition	A vertical bar with a handle onto which counterweights can be hung and to which ropes can be attached.			
Language	Translation	Status		
NLD	Tegengewichtstang	Preferred term		
FRA	Tige du cointrepoids	Preferred term		
...				
Dating	This term has been in use from 1751 until 1925.			
<i>Notes:</i>				
Geographic distribution	Europe and North America			
Domain	Component of	Components		
Machinery	Counterweight system	Bar Handle		
Type				
Component				
Location		Connected to		
Chimney		Counterweight		
Synonyms	<i>Dating</i>	<i>Status</i>		
Counterweight cradle		regional - AME		
Sources				
<i>Dating term</i>	<i>Quote</i>	<i>Source reference</i>	<i>Location</i>	<i>Notes</i>
	Bricks made of wood have been used as spacers on arbors when the length of the arbor causes access challanges	p89, Nobody Looks Up: The History of the Counterweight Rigging System: 1500 to 1925	Europe and North America	

Figure 20: Term record Arbor (ENG)

Rope (ENG)


Term	Rope				Language	ENG
Definition	Rope made from hemp.					
Language	Translation	Status				
NLD	Touw	Preferred term				
FRA	Fil	Preferred term				
...						
Dating	This term has been in use from 1500 until today.					
Notes:						
Geographic distribution	Europe and North America					
Domain	Component of	Components				
Machinery	Counterweight system					
	Drum					
Type	Winch					
Component	Dead hung					
	Interacts with	Connects to				
	Pulley	Pin rail Cleat rail				
Collocations						
To slack the rope	<i>Definition</i> To loosen a rope to make something move away from you					
Sources						
<i>Dating term</i>	<i>Quote</i>	<i>Source reference</i>	<i>Location</i>	<i>Notes</i>		
	Ropes were wrapped around the tambour and, via pulleys, were connected to the chariots.	p48, Nobody Looks Up: The History of the Counterweight Rigging System: 1500 to 1925	Europe and North America			

Figure 21: Term record Rope (ENG)

Touw (NLD)



Term	Touw		Taal	NLD
Definitie	De touwen gebruikt in Barok theater werden gemaakt van hennep.			
Scope notes				
Taal	Vertaling	Status		
ENG	Rope	Voorkeursterm		
FRA	Fil	Voorkeursterm		
FRA	Corde	Regionaal		
...				
Datering	Deze term was in gebruik van ... tot vandaag.			
<i>Opmerkingen:</i>				
Geografische spreiding	Vlaanderen en Nederland			
Domein	Onderdeel van	Onderdelen		
Machinerie	Systeem met tegengewichten			
Type	Fokkerdijzen			
Onderdeel	Tamboer Windas			
	Werkt samen met	Verbonden met		
	Omlooprol	Merk		
Synoniemen	<i>Datering</i>			
Koord				
Collocaties	<i>Verklaring</i>			
Touw laten vieren	Een touw langzaam loslaten om een decorstuk of machine van je weg te laten bewegen.			

Figure 22: Term record Touw (NLD)

Fil (FRA)



Terme	Fil		Langue	FRA
Définition	Les fils en théâtre sont faites du chanvre.			
Scope notes				
Langue	Traduction	Status		
<i>NLD</i>	Touw			
<i>ENG</i>	Rope			
...				
Datation	Ce terme est utilisé depuis ... jusqu'à aujourd'hui.			
Répartition géographique	France			
Domaine	Composant de	Composants		
Machinerie	Equipe contrebalancée Tambour			
Type	Treuil			
Composant	Faux cordages			
	Interagit avec	Connexion		
	Poulie	Repère Rail des chevilles		
Synonymes	<i>Datation</i>	Status		
Corde		Régional		

Figure 23: Term record Fil (FRA)

Pin rail (ENG)


Term	Pin rail				Language	ENG
Definition	A beam with holes and pins through them used to attach ropes to. Pulling out the pin would immediately release the rope.					
Language	Translation	Status				
NLD						
FRA	Rail des chevilles	Regional				
...						
Dating	This term has been in use from 1886 until today.					
Notes:						
Geographic distribution	Europe, but mostly North America					
Domain	Component of	Components				
Machinery	Counterweight system	Beam Belaying pin				
Type						
Component						
Location		Connects to				
Fly floor		Rope				
Standard version	Dating					
Flyrail						
Sources						
Dating term	Quote	Source reference	Location	Notes		
	A horizontal timber (or steel) beam through which cleats, modelled on ship's belaying pins are slotted for tying off manual flying lines.	p62, The ABC of Stage Technology, 1995				
1886	By 1886, we find a belaying pin in the first J.R. Clancy catalogue. (...) Somewhere between 1821 - when the Woodrow's cleat rail was found in the park - and 1886 - the year of the Clancy Catalogue, the pin rail made the move to land and displaced the cleat rail.	p22, Nobody Looks Up: The History of the Counterweight Rigging System: 1500 to 1925	North America			

Figure 24: Term record Pin rail (ENG)

Cleat rail (ENG)

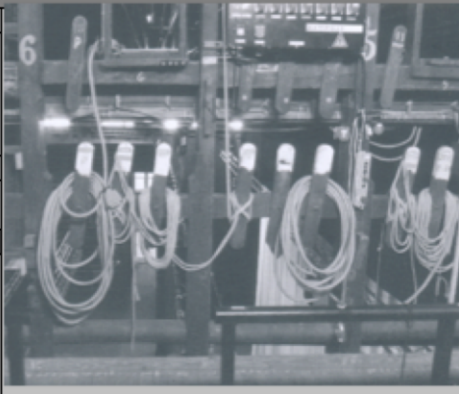
Term	Cleat rail				Language	ENG
Definition	A fly rail with cleats attached to it for fixing ropes to.					
Scope notes						
Language	Translation	Status				
NLD						
FRA						
...						
Dating	This term has been in use from 1751 until ...					
Notes:	The first mention of this term in a theatre context we have found was in 1751. The term is also very common in the nautical world and has a longer history there.					
Geographic distribution	Europe					
Domain	Component of	Components				
Machinery	Counterweight system	Beam Cleats				
Type						
Component						
Location		Connects to				
Fly floor		Rope				
Standard version	<i>Dating</i>					
Flyrail						
Sources						
<i>Dating term</i>	<i>Quote</i>	<i>Source reference</i>	<i>Location</i>	<i>Notes</i>		
1886	(...) one would expect that we should find pin rails in the oldest of theatres that featured rigging. We don't. We find cleat rails. We should find pin rails in not so old theatres. We do not. We find cleat rails. We should find pin rails in theatres all over Europe - the birthplace of the modern theatre. We do not. We find cleat rails.	p20, Nobody Looks Up: The History of the Counterweight Rigging System: 1500 to 1925	Europe			

Figure 25: Term record Cleat rail (ENG)

Flyrail (ENG)


Term	Flyrail			Language	ENG
Definition	A beam onto which all the ropes holding the scenery are attached.				
Scope notes					
Language	Translation	Status			
NLD					
FRA					
...					
Dating	This term has been in use from 1751 until ...				
<i>Notes:</i>	This earliest date is in fact the earliest mention of the cleat rail, a specific type of flyrail				
Geographic distribution	Europe and North America				
Domain	Component of	Components			
Machinery	Counterweight system				
Type					
Component					
Location	Interacts with				
Fly floor	Rope				
Specific version	<i>Dating</i>				
Cleat rail					
Pin rail					
Sources					
<i>Dating term</i>	<i>Quote</i>	<i>Source reference</i>	<i>Location</i>	<i>Notes</i>	
	The flyrail is generally a deep lattice or trussed grinder running from the back to the front, it need be very strong for upon it are fixed all the 'cleats' to which the ropes holding the scenery are secured.	p21, Nobody Looks Up: The History of the Counterweight Rigging System: 1500 to 1925	North America		

Figure 26: Term record Flyrail (ENG)

Panorama (ENG)

Term	Panorama		Language	ENG
Definition	A vast scenic back drop which is attached to vertical rollers and can be moved from one side to the other.			
Language	Translation	Status		
NLD	Panorama			
FRA	Panorama			
...				
Dating	This term has been in use from ... until ...			
<i>Notes:</i>				
Geographic distribution	Europe			
Domain	Component of	Components	no image available	
Machinery	Upper machinery	Canvas Vertical rollers		
Type				
Component				
Location	Interacts with			
On stage	Drum Winch			
Notes:	Even though the panorama itself is placed on the stage, it is considered upper machinery since it is operated from above.			

Figure 27: Term record Panorama (ENG)

Dead hung (ENG)

Term	Dead hung		Language	ENG
Definition	A fixed suspension for scenery or lights which cannot be raised or lowered.			
Scope notes				
Language	Translation	Status		
NLD	Fokkerdijzen	Preferred term		
FRA	Faux cordages	Preferred term		
...				
Dating	This term has been in use from ... until ...			
Notes:				
Geographic distribution	Europe			
Domain	Component of	Components	no image available	
Machinery	Upper machinery	Rope Batten		
Type				
Component				
Location		Connects to		
Fly tower		Canvas Dead line		
Notes:	The dead hung is considered part of the machinery even though it does not have any mechanical elements itself.			

Figure 28: Term record Dead hung (ENG)

Fokkerdijzen (NLD)

Term	Fokkerdijzen		Taal	NLD	
Definitie	Decorelementen of licht dat aan niet-beweegbare trekken hangt in de toneeltoren.				
Taal	Vertaling	Status			
ENG	Dead hung				
FRA	Faux cordages				
...					
Datering	Deze term was in gebruik van ... tot ...				
<i>Opmerkingen:</i>					
Geografische spreiding	Antwerpen				
Domein	Onderdeel van	Onderdelen	afbeelding niet beschikbaar		
Machinerie	Bovenmachinerie	Touw Trek			
Type					
Onderdeel					
Locatie		Verbonden met			
Toneeltoren		Canvas			
Bronnen					
<i>Datering term</i>	<i>Citaat</i>	<i>Bron referentie</i>	<i>Locatie</i>	<i>Opmerkingen</i>	
	Een methode die nu in onbruik geraakt is, (...) is het weghangen van ongebruikte decorelementen, vooral doeken, aan zogenaamde 'faux cordages'. Deze 'valse touwen' zijn door de Antwerpse machinisten verbasterd tot 'fokkerdijzen'.	p99, De Bourla schouwburg, 1993	Antwerpen		
Opmerkingen:	Fokkerdijzen worden beschouwd als deel van de bovenmachinerie, ondanks het feit dat ze geen bewegende, mechanische component hebben.				

Figure 29: Term record Fokkerdijzen (NLD)

Batten (ENG)


Term	Batten		Language	ENG
Definition	A wooden beam either attached to the top and bottom of a canvas or used for joining flats together.			
Language	Translation	Status		
<i>NLD</i>	Trek	Preferred term		
<i>FRA</i>	Âme	Preferred term		
...				
Dating	This term has been in use from 1850 until today.			
<i>Notes:</i>	When using the term batten today, one generally refers to an iron or steel version also called pipe batten or barrel.			
Geographic distribution	Europe			
Domain	Component of	Components		
Machinery	Dead hung	Batten clamp Beam		
Type	Interacts with			
Component	Counterweight system			
Collocations	<i>Definition</i>			
To batten out a flat	Joining flats together in preparation for flying by screwing timber battens across them.			
To grid the batten	To pull a batten up in the fly tower.			
Sources				
<i>Dating term</i>	<i>Quote</i>	<i>Source reference</i>	<i>Location</i>	<i>Notes</i>
1850	Battens are wooden beams or sticks, mostly with a diameter of 5 to 7 cm. They are used to hang soft goods, drops, legs, borders, etc. and connect them to ropes from the fly tower.	p5, Wood and Canvas, 2014		
	A horizontal bar that can be raised or lowered as part of a fly system and to which lighting, scenery or other equipment can be attached.	Digital Theatre Words		

Figure 30: Term record Batten (ENG)

Trek (NLD)


Term	Trek				Taal	NLD
Definitie	Een houten staaf met een diameter van 5 tot 7cm die vast hangt aan de touwen van het rooster of de fokkerdijzen en waaraan decorstukken of licht gehangen wordt.					
Taal	Vertaling	Status				
ENG	Batten					
FRA	Âme					
...						
Datering	Deze term was in gebruik van 1665 tot vandaag.					
Opmerkingen:	In hedendaags taalgebruik verwijst het woord "trek" voornamelijk naar de metalen versie.					
Geografische spreiding	Vlaanderen en Nederland					
Domein	Onderdeel van	Onderdelen				
Machinerie	Fokkerdijzen Trekkenwand					
Type	Werkt samen met					
Onderdeel	Systeem met tegengewichten					
Synoniemen	<i>Datering</i>					
Trekro						
Bronnen						
<i>Datering term</i>	<i>Citaat</i>	<i>Bron referentie</i>	<i>Locatie</i>	<i>Opmerkingen</i>		
1665-1772	Trek: Een horizontale houten lat of staaf waaraan friezen of schutschermen hangen.	p200, De schouwburg in beeld, 2012				
	Contragewicht: Metalen gewichten die op een houder worden gelegd als tegenwicht voor de last die aan de trekken hangt, of als gewicht op toneelschoren.	Digital Theatre Words				

Figure 31: Term record Trek (NLD)

Under machinery (ENG)

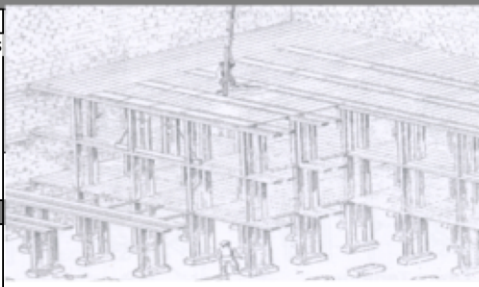
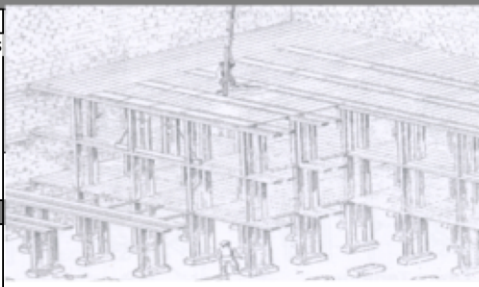
Term	Under machinery			Language	ENG
Definition	Machinery below the stage consisting of several levels.				
Scope notes					
Language	Translation	Status			
NLD	Ondermachinerie	Preferred term			
FRA	Machinerie du dessous	Preferred term			
...					
Dating	This term has been in use from 1500 until today.				
Notes:	Under machinery is still in use today, but almost only in larger theatres and operas.				
Geographic distribution	Europe and North America				
Domain	Component of	Components			
Machinery	Machinery	Wing carriages Cassette Elevator			
Type					
Component					
Location					
Under the stage					
Sources					
Dating term	Quote	Source reference	Location	Notes	
19th century	In the 19th century in Europe and North America, we installed under machinery and upper machinery.	p13, Nobody Looks Up: The History of the Counterweight Rigging System: 1500 to 1925	Europe and North America		
1850	If needed the shaft could even be connected to the under machinery.	p9, Wood and canvas, 2014			
1850	The stage floor is in fact a puzzle of different types of openings for the under machinery.	p3, Wood and canvas, 2014			

Figure 32: Term record Under machinery (ENG)

Ondermachinerie (NLD)

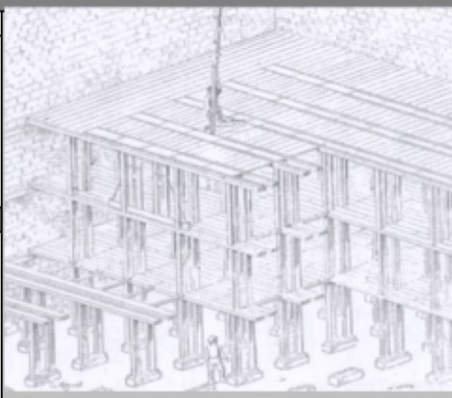
Term	Ondermachinerie		Taal	NLD
Definitie	Machinerie onder het toneel.			
Scope notes				
Taal	Vertaling	Status		
ENG	Under machinerie	Voorkeursterm		
FRA	Machinerie du dessous	Voorkeursterm		
...				
Datering	Deze term was in gebruik van ... tot vandaag.			
<i>Opmerkingen:</i>				
Geografische spreiding				
Domein	Onderdeel van	Onderdelen		
Machinerie	Machinerie	Wagensysteem Lift Staaklift		
Type				
Onderdeel				
Locatie				
Onder het toneel				

Figure 33: Term record Ondermachinerie (NLD)

Machinerie du dessous (FRA)

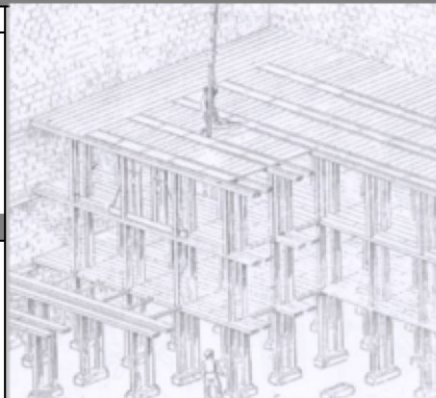
Terme	Machinerie du dessous		Langue	FRA
Définition	Machinerie dans le dessous du théâtre.			
Scope notes				
Langue	Traduction	Status		
<i>NLD</i>	Ondermachinerie	Terme préféré		
<i>ENG</i>	Under machinery	Terme préféré		
...				
Datation	Ce terme est utilisé depuis ... jusqu'à aujourd'hui.			
<i>Notes:</i>				
Répartition géographique	France			
Domaine	Composant de	Composants		
Machinerie	Machinerie	Cassette Chariot Élévateur		
Type				
Composant				
Localisation				
Dans les dessous				
Synonymes	<i>Datation</i>			
Dessous				

Figure 34: Term record Machinerie du dessous (FRA)

Wing carriages (ENG)

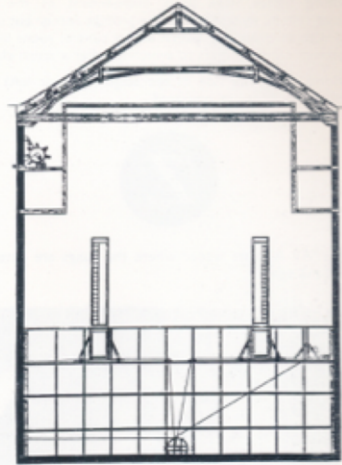
Term	Wing carriages		Language	ENG
Definition	A system which consists of wheeled carriages on the first understage mounted with flats, which move horizontally to enter and exit flats from the stage.			
Language	Translation	Status		
<i>NLD</i>	Wagensysteem	Preferred term		
<i>FRA</i>	Système des chariots			
...				
Dating	This term has been in use from 1500 until today.			
Geographic distribution	Continental Europe and North America			
Domain	Component of	Components		
Machinery	Under machinery	Chariot Post (Wing) Flat		
Type				
Components				
Location	Interacts with			
1st understage	Drum Drum and shaft system			
Synonyms	<i>Dating</i>			
Chariot and pole system				
Antonyms	<i>Dating</i>			
Collocations	<i>Definition</i>			
Specific/standard version *	<i>Dating</i>			
Sources				
<i>Dating term</i>	<i>Quote</i>	<i>Source reference</i>	<i>Location</i>	<i>Notes</i>
19th century	The chariot and pole system comprises a wheeled trolley and one or two removable poles. The chariot is located on the first mezzanine level.	p 14, Nobody Looks Up, 2015	Europe and North America	
18th and early 19th century	During the eighteenth and nineteenth centuries, scene changes in Continental Europe were effected in sight of the audience by substituting sets of wings mounted, through stage floor slots, in basement carriages moves simultaneously by a shaft and drum system.	p106, The ABC of Stage Technology, 1995	Continental Europe	

Figure 35: Term record Wing carriages (ENG)

Chariot (ENG)

Term	Chariot				Language	ENG
Definition	The understage wheeled carriages which support and move flats in the slots of a stage.					
Scope notes						
Language	Translation	Status	no image available			
NLD	Wagen	Preferred term				
NLD	Coulissewagen	Non-preferred term				
FRA	Chariot	Preferred term				
...						
Dating	This term has been in use from 1500 until 1925.					
Notes:						
Geographic distribution	Europe and North America					
Domain	Component of	Components	no image available			
Machinery	Wing carriages	wheels				
Type		Wooden frame				
Component						
Location	Interacts with	Connects to				
1st understage	Winch	Rail Post				
Synonyms	<i>Dating</i>					
Set wagon						
Collocations	<i>Definition</i>					
To walk a chariot	To move a chariot manually					
Sources						
<i>Dating term</i>	<i>Quote</i>	<i>Source reference</i>	<i>Location</i>	<i>Notes</i>		
1850	When a "Changement a vue", a set change in view of the audience, is performed the chariots will be connected to each other and to a shaft for synchronized movement.	p 6, Wood and canvas, 2014				

Figure 36: Term record Chariot (ENG)

Post (ENG)

Term	Post				Language	ENG
Definition	A vertical beam with a hook to attach flats to which can be mounted on a cassette or chariot.					
Language	Translation	Status	no image available			
NLD	Mast	Preferred term				
FRA	Mât	Preferred term				
...						
Dating	This term has been in use from 1770 until early 19th century.					
Geographic distribution	Western Europe					
Domain	Component of	Components	no image available			
Machinery	Cassette Wing carriages	Hook				
Type		Pole				
Component		Connects to				
		Flat				
Sources						
<i>Dating term</i>	<i>Quote</i>	<i>Source reference</i>	<i>Location</i>	<i>Notes</i>		
Late 18th early 19th century	The raked wooden stage floor was slotted both right and left in opposite pairs, through which protruded the vertical tie posts of the wing-supporting, wheeled, track-guided chariots.	p13, Theatre technology, 1996	Western Europe			

Figure 37: Term record Post (ENG)

Flat (ENG)

Term	Flat			Language	ENG
Definition	A lightweight timber frame covered with scenic canvas.				
Scope notes					
Language	Translation	Status	no image available		
NLD	Ferne	Preferred term			
FRA	Ferne	Preferred term			
...					
Dating	This term has been in use from 1770 until 1875.				
Geographic distribution	Western Europe				
Domain	Component of	Components	no image available		
Machinery	Cassette system Wing carriages	Canvas			
		Timber frame			
Type		Connects to			
Component		Pole			
Synonyms	<i>Dating</i>				
Wing	Early 19th century				
Collocations	<i>Definition</i>				
French flat	A scenic flat which is flown into position, also called a Frenchman.				
Specific version	<i>Dating</i>				
Door flat					
Sources					
Dating term	Quote	Source reference	Location	Notes	
1770 - 1875	A set of baroque stage scenery consisted of right and left pairs of wood-framed, canvas-covered masking flats (wings) lashed to the vertical-post members of substage tracked wheeled vehicles (chariots for horizontal movement on and off stage.	p13, Theatre technology, 1996	Western Europe		

Figure 38: Term record Flat (ENG)

Drum (ENG)

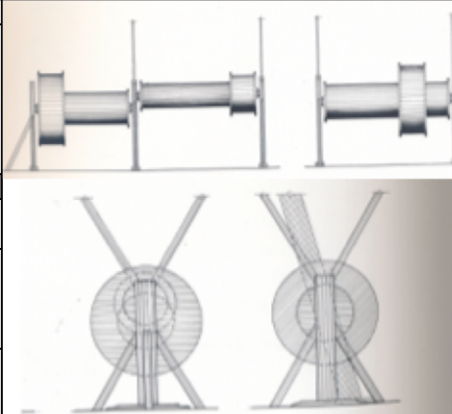
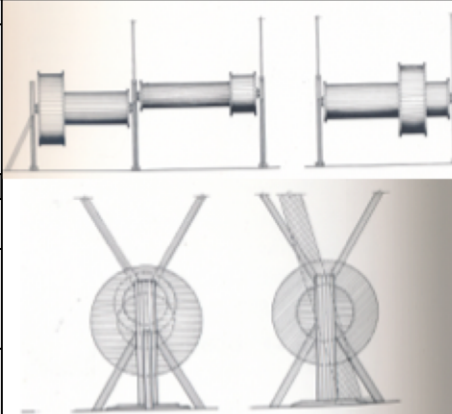
Term	Drum			Language	ENG
Definition	A piece of machinery that consists of two connected cylinders and reduces the force needed to move a load, but also increases the distance the rope has to move.				
Language	Translation	Status			
<i>NLD</i>	Tamboer	Preferred term			
<i>FRA</i>	Tambour	Preferred term			
...					
Dating	This term has been in use from 1762 until 1830.				
Geographic distribution	Europe				
Domain	Component of	Components			
Machinery	Upper machinery Under machinery	Smallest drum Largest drum			
Type	Interacts with	Axle Rope			
Component	Fly rail system Counterweight system Wing carriages				
Synonyms	<i>Datation</i>				
Tambour					
Collocations	<i>Definition</i>				
Rigging the drum	Attaching ropes to a drum and connect them to the piece of machinery the drum will operate.				
Specific version	<i>Datation</i>				
Multiple speed drum					
Compound drum	1762				
Sources					
<i>Dating term</i>	<i>Quote</i>	<i>Source reference</i>	<i>Location</i>	<i>Notes</i>	
1830	The drum reduces the force needed to move a load.	p4, Wood and Canvas, 2014			
1762	The flying wires are wound on the small drum above the gridiron, fed through fixed pulleys in the upper left grid iron and then through a traveller, down to the stage floor.	p49, Stage Flying: 431 B.C. to modern times, 1995	France		
1762	By manipulating the compound drum, the performer can be made to fly an undulating path as the traveller moves him across the stage from right to left.	p50, Stage Flying: 431 B.C. to modern times, 1995	France		

Figure 39: Term record Drum (ENG)

Cassette (system) (ENG)


Term	Cassette		Language	ENG
Definition	Mechanical system that is used to move objects vertically from below the stage onto stage.			
Scope notes				
Language	Translation	Status		
<i>NLD</i>	Staaklift			
<i>FRA</i>	Cassette			
...				
Dating	This term has been in use from 1850 until...			
<i>Notes:</i>				
Geographic distribution	Europe			
Domain	Component of	Components		
Machinery	Under machinery	Cassette Post Flat Sheave		
Type				
Component				
Location	Interacts with			
2nd understage and below	Winch Counterweight			

Figure 40: Term record Cassette (system) (ENG)

Staaklift (NLD)

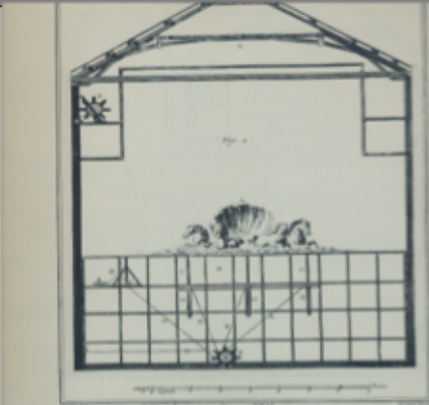
Term	Staaklift		Taal	NLD
Definitie	Een mechanisch systeem dat vlakke decorstukken verticaal het toneel op brengt, bediend door een tamboer of windas.			
Taal	Vertaling	Status		
ENG	Cassette	Preferred term		
FRA	Cassette	Preferred term		
...				
Datering	Deze term was in gebruik van 18e eeuw tot 19e eeuw.			
Geografische spreiding	Antwerpen			
Domein	Onderdeel van	Onderdelen		
Machinerie	Ondermachinerie	Geleider		
Type		Mast		
Onderdeel		Ferne		
Locatie	Werkt samen met	Omlooprol		
2e ondertoneel en lager	Windas Tamboer Tegengewicht			
Synoniemen	<i>Datering</i>			
Cassette				
Bronnen				
<i>Datering term</i>	<i>Citaat</i>	<i>Bron referentie</i>	<i>Locatie</i>	<i>Opmerkingen</i>
	Hier staan ook de elementen opgesteld, die men verticaal wil laten bewegen door middel van de zogenaamde 'staakliften' die in geleiders doorheen de trapillons op en neer bewegen en waaraan vlakke decorelementen, de zogenaamde 'fermes' vanuit het ondertoneel naar boven gebracht worden.	De Bourla-schouwburg, 1993	Antwerpen	

Figure 41: Term record Staaklift (NLD)

Cassette (ENG)

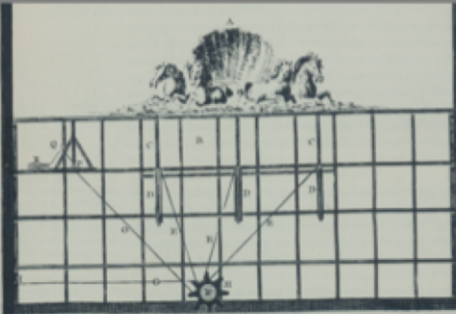
Term	cassette			Language	ENG
Definition	A sliding rail, fixed firmly to the different levels of the under stage, that is used to move objects from below the stage onto the stage				
Language	Translation	Status			
NLD	Geleider	Preferred term			
FRA	Cassette	Preferred term			
...					
Dating	This term has been in use from 1850 until ...				
Geographic distribution	Europe				
Domain	Component of	Components			
Machinery	Cassette				
Type					
Component					
Sources					
Dating term	Quote	Source reference	Location	Notes	
1850	Cassettes are used to move objects from below the stage onto stage (vertical movement).	p 7, Wood and Canvas, 2014			

Figure 42: Term record Cassette (ENG)

Winch (ENG)


Term	Winch				Language	ENG
Definition	A mechanical device consisting of a drum with handles lined with rope used for moving set pieces or operate other parts of the machinery.					
Language	Translation	Status				
NLD	Windas	Preferred term				
FRA	Treuil	preferred term				
...						
Dating	This term has been in use from the 18th century until the early 19th century.					
Notes:						
Geographic distribution	France					
Domain	Component of	Components				
Machinery		Drum Handles Rope Axle				
Type	Interacts with					
Component	Cassette Chariot system					
Specific version	<i>Dating</i>					
Capstan winch						
Sources						
<i>Dating term</i>	<i>Quote</i>	<i>Source reference</i>	<i>Location</i>	<i>Notes</i>		
18th and 19th century	Rotated by several walkin crew, a single (capstan) winch could power the simultaneous substitution of all the wings in the chariots of eighteenth- and early nineteenth-century theatres	p12, The ABC of Stage Technology, 1995				
	Device for gaining mechanical advantage by winding lines around a drum turned, usually through gears, by hand.	p106, The ABC of Stage Technology, 1995				
18th century	Operation of the masking borders, black shutters, and deus ex machina, also by capstan winch and traction-connected counterweights, was handles from a gallery on the opposite side	p17, Theatre technology, 1996	France			

Figure 43: Term record Winch (ENG)

Image record Chariot

Subject	#1
Domain	Machinery
Type	Component
Language	Preferred term
ENG	Chariot
NLD	Wagen
FRA	Chariot

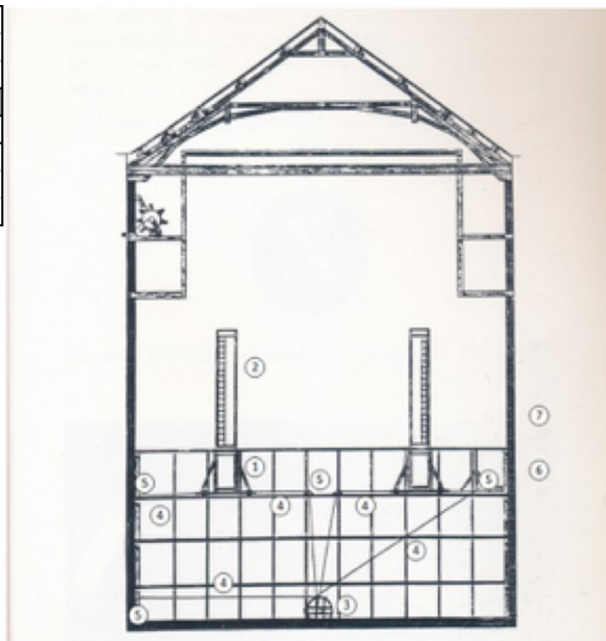


Figure 44: Image record Chariot

Image record Post

Subject	#2
Domain	Machinery
Type	Component
Language	Preferred term
ENG	(Double) post
NLD	(Dubbele) mast
FRA	(Double) mât

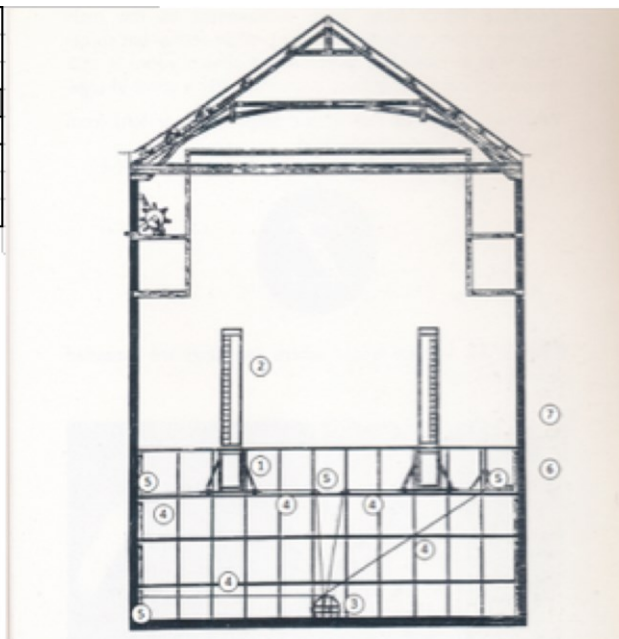


Figure 45: Image record Post

Image record Drum

Subject	#3
Domain	Machinery
Type	Component
Language	Preferred term
ENG	Drum
NLD	Tamboer
FRA	Tambour

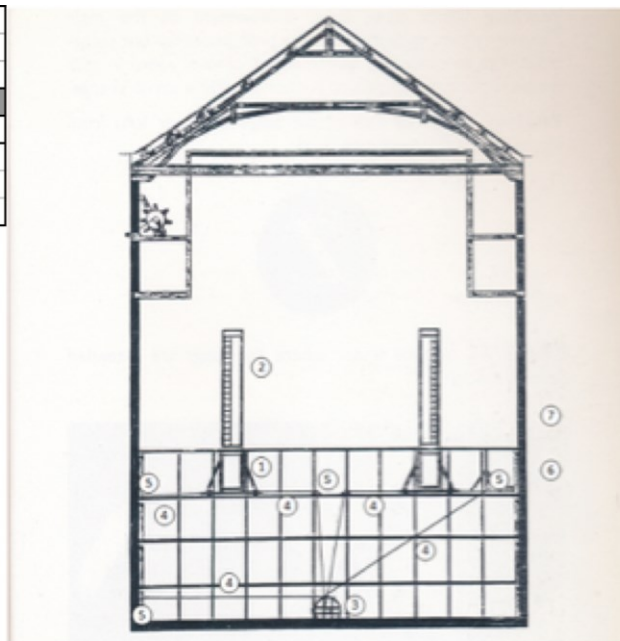


Figure 46: Image record Drum

Image record Rope

Subject	#4
Domain	Machinery
Type	Component
Language	Preferred term
ENG	Rope
NLD	Touw
FRA	Fil

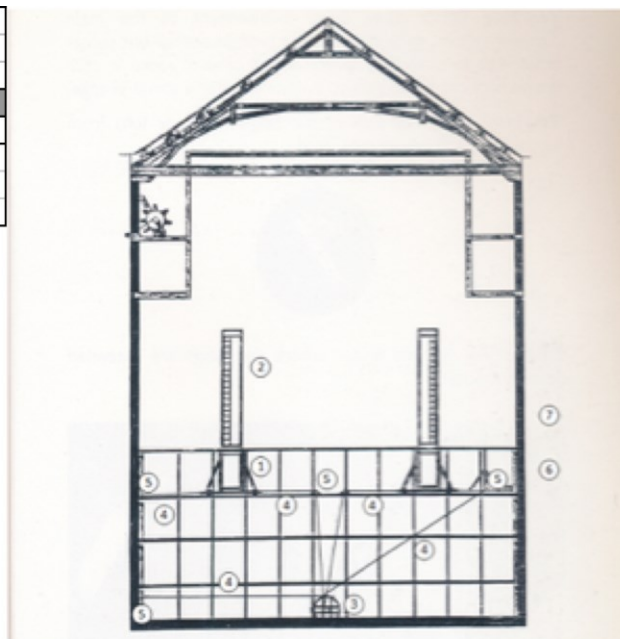


Figure 47: Image record Rope

Image record Pulley

Subject	#5
Domain	Machinery
Type	Component
Language	Preferred term
ENG	Pulley
NLD	Omlooprol
FRA	Poulie

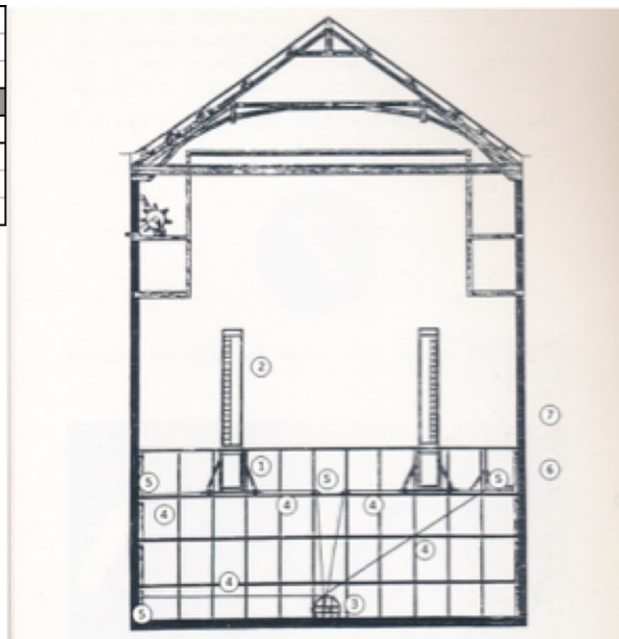


Figure 48: Image record Pulley

While filling out the term records above, several issues came to light, such as missing data fields and unclear elements in the structure. These discoveries led to some adaptations and ultimately the final version of the term record template found above. Although there is still room for improvement, the people from the Expertise Centre and I believe that in their current state, the term records fulfill the needs for a multilingual term bank for the domain of Baroque theatre machinery as we identified them in chapter 5.

8. Creating a digital term bank

Chapter 7, filling out the term records, was the final step in the four step plan by Görög and van der Vliet. In this thesis, one additional step will be added and discussed, one that was not mentioned by the linguists: the creation of a digital term bank. “Digital” in this case does not refer to whether or not the term records exist in a digital form, but to the creation of a digital system in which all the different term records can be collected and from which they can be accessed by users.

The original assignment commissioned by the Expertise Center for the traineeship was to develop a multilingual term bank for historical terminology in the field of Baroque machinery which could be shared with and edited by their international partners. All the first requirements of this assignment, i.e. creating a *multilingual* term bank for *historical* terminology which allows for *research into evolution and migration*, have been met. The final part, i.e. the *international accessibility*, has not been met by the creation of the term records as such.

Indeed, the term records have been developed and filled out with relevant information, but this does not mean that the international partners with whom the Expertise Center collaborates can access them. Furthermore, the term records in chapter 7 are all separate Excel files, which are not synced in any way and cannot be kept up to date collectively. In other words: in the current format of the term records the information cannot be easily shared with and updated by partners in different countries.

That is why the EC created a digital format for an integrated term bank. They possess the technical and IT knowhow required to write the dedicated software. They proceeded as follows: The EC built the structure of the database, based on the findings from the previous chapters of this thesis. The first version of this database was an offline version which served as a proof of concept. Later, an online integrated term bank will be developed based on the structure of the offline version. Whenever the people of the EC had any doubts, came across

problems or had to make decisions regarding the integrated term bank, this was communicated back to me and we worked together to find suitable solutions.

The following chapter will elaborate on this additional feature. First, the selection of the specialized software and the advantages and disadvantages that resulted from this choice are discussed. Second, the basic principles of databases or repositories such as the present one are explained. This elaboration on how databases work is essential to understand the causes for some of the difficulties encountered in the development of the integrated term bank. These difficulties and problems will be discussed next, followed by explanations of how they were solved. Finally, the original term records will be compared to the final ones in the integrated term bank to find out which elements had to be altered and why.

8.1. The software

The first step in creating a digital database is selecting the type of software best suitable for the specific goal in mind. In this case, the specific goal is to develop a term bank meant for a global audience.

As a translation student, the first software that comes to mind for this purpose is SDL MultiTerm. This is a computer program especially developed for terminology management which can be combined with other translation or terminology-related tools. SDL, the company that owns MultiTerm, describes the use of their product as follows:

“Store and manage terminology and share it with all those involved in applying terminology, including engineers, marketers, translators and terminologists, ensuring consistent and high-quality content from source through to translation.” (SDL)

Because SDL MultiTerm is aimed specifically towards terminology management, it has many properties that can be very interesting for the creation of this term bank. But as the company itself says, this software is meant to store, manage and share terminology, while the term bank created in this thesis has a research purpose as well. One of the necessary options for this research is the possibility to list the source material used to fill out the term records. Another is the use of

images to illustrate the exact concept designated by a term. Yet another aspect the term records require, is the possibility to incorporate the system of concepts¹⁷, or at least it's structure, into the term bank. Ideally, this would mean that a term record of one concept can redirect a user to the term records of related terms. For example, on the term record of "wing carriages", the components chariot, post, flat, and rail are listed. By clicking on one of these terms, a user will be shown the term record of that term. On this term record "wing carriages" will be listed under "*Component of*" and lead back to the original term record, thus making it possible for the user to navigate through the system of concepts. The way MultiTerm is designed does not allow for the creation of the tree structure required to connect all concepts.

In addition to the elements above, the price of the software also had to be taken into consideration. Since the goal of this term bank is to reach a wide audience of partners throughout different countries. A program that requires an expensive license is therefore not an ideal choice. All these factors led to the decision to use different software.

The Expertise Center suggested using Microsoft Access as the software to develop a structure for the digital term bank. Later this structure will be recreated in an online version. Microsoft Access is developed by Windows and it "lets you easily create database apps" (Microsoft). While this program is not as specialized in terminology as MultiTerm is, this might actually have some advantages. Since Access does not aim for a specific type of database or audience, this technology offers many different options, angles and possibilities for someone who uses it to develop a database. The downside of this flexibility is that it requires some testing and experimentation to come to a well-working result adapted to one's needs.

An upside to working with Access is its price and availability. Unless it is bought together with other programs in a Microsoft Office pack, it can still be considered rather pricey. But even then, there is only one person who needs to acquire the program: the developer. Once the term bank has been designed and tested in Access, the entire structure can be moved to an online platform, where anyone

¹⁷ A diagram of this system of concepts can be found in chapter 7, figure 5.

will be able to use it. The only situation in which this working method does not function, is if the developer insists on using an Apple computer, since there is no Mac version of Access currently available.

Considering that Microsoft Access can be more easily used by a wider audience, is less expensive and allows the developer to experiment and adapt his database exactly to the needs of his project, this software was selected for the creation of the digital version of this term bank.

8.2. Basic principles of a database

Before elaborating on the software of the integrated term bank that was developed using Access, some basic principles of databases in general will be elaborated here.

The first and maybe most important principle is that people and computers see very differently what is being shown on screen. A person will see a term record with neatly labeled fields containing information as a whole. For a computer, this same term record is in fact a patchwork of all different types of information that are stored elsewhere and temporarily placed together.

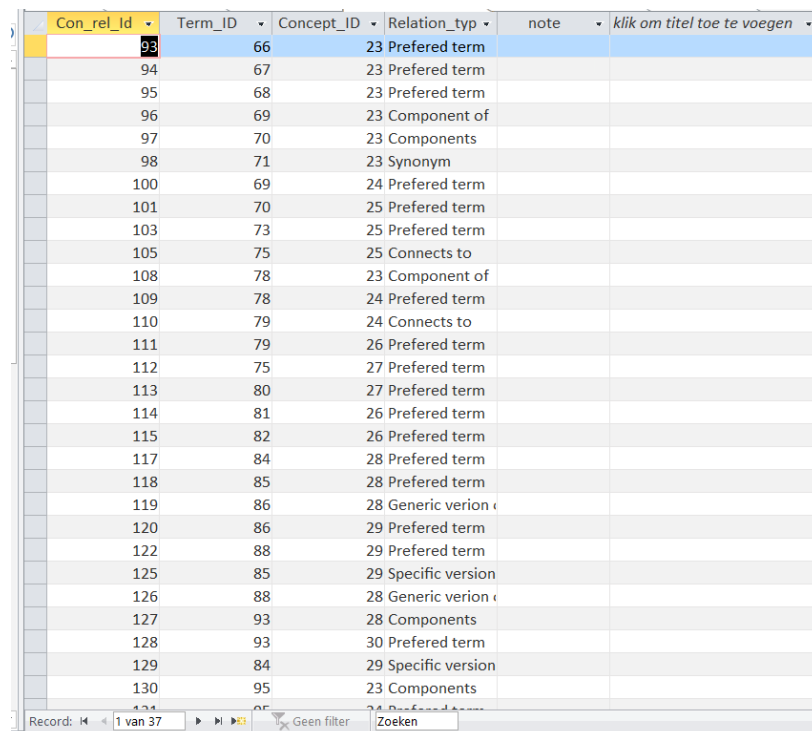
The way this information is stored is the second principle. Databases consist of several tables each containing all the information that belongs together. In the case of this term bank, for example, there will be one table with the different possible relations terms can have with other terms, such as “*Component of*”, “*Components*”, “*Connects to*”... another table with every term, and yet another with all the sources that have been used. These are all the same kind of tables. The figure below is an example of this kind of table.

Relation_typ	Relation type	Language_ID	klik om titel toe te voegen
1	Preferred term	Engels	
2	Synonym	Engels	
3	Antonym	Engels	
4	Component of	Engels	
5	Components	Engels	
6	Connects to	Engels	
7	Specific version	Engels	
8	Generic version	Engels	
*	(Nieuw)		

Figure 49: A table listing the possible relations a term can have

A second kind of tables describes the relations between all the data from the first kind. In these tables, the data is generally represented by ID numbers. This way,

the data can be altered without influencing the relations. Figure 45 below is an example of a relations table.



Con_rel_id	Term_ID	Concept_ID	Relation_typ	note	klik om titel toe te voegen
93	66	23	Preferred term		
94	67	23	Preferred term		
95	68	23	Preferred term		
96	69	23	Component of		
97	70	23	Components		
98	71	23	Synonym		
100	69	24	Preferred term		
101	70	25	Preferred term		
103	73	25	Preferred term		
105	75	25	Connects to		
108	78	23	Component of		
109	78	24	Preferred term		
110	79	24	Connects to		
111	79	26	Preferred term		
112	75	27	Preferred term		
113	80	27	Preferred term		
114	81	26	Preferred term		
115	82	26	Preferred term		
117	84	28	Preferred term		
118	85	28	Preferred term		
119	86	28	Generic version of		
120	86	29	Preferred term		
122	88	29	Preferred term		
125	85	29	Specific version of		
126	88	28	Generic version of		
127	93	28	Components		
128	93	30	Preferred term		
129	84	29	Specific version of		
130	95	23	Components		

Figure 50: A table with the relations between terms and concepts

The third principle is a result of the second: any term, label, source reference or other type of data exists only once in the database, in a table like the one picture above. The information can, however, be used several times and in several places. In this specific case, data are retrieved from the tables and placed at the correct spot on screen when a certain page is generated. An advantage of this system is that every term or label only has to be entered once and will therefore always be spelled consistently. Additionally, any spelling error must only be corrected once and will appear corrected anywhere the word is used.

The developer's job is to create these tables, define the relations, develop an interface for editors and users, and write the commands for the database. These commands tell the software when and where to retrieve the data from the tables and where to place it in the interface.

8.3. Problems during the development of the database

After having elaborated on the basic principles of databases in the previous section, this section will discuss the problems that were encountered while developing the current term bank along with the selected solutions. Not all

issues discussed in the following section were major problems; some were questions or considerations that led to interesting discussions and insights. For clarity, this section is divided into four parts.

- 1) How are the concepts represented and handled in the term bank?
- 2) How are the relations between different types of data established?
- 3) How is the interface set up?
- 4) How is data entered and are term records filled out?

1) How are the concepts represented and handled in the term bank?

Before looking at the way concepts are handled and represented in the term bank, this section will briefly reflect on how this was done in the term records as such. The first step was to create a system of concepts to show the relations between the concepts. This concept system is expressed through a tree diagram¹⁸ and uses terms to designate the concepts since the concepts themselves are intangible and need a type of labels. Second, the term records were tested, starting with the English version, since English was selected as the language for the designators. Later, the term records in Dutch and French were added. To keep track of the concepts, one Excel file represented one concept and contained different tabs with the corresponding term records in different languages. The final term records in chapter 7 were placed together based on their place in the concept system.

This method works because humans can think and draw conclusions by themselves. For example: If the term “Tamboer” is labeled “Translation” and “Dutch” in the term record for “Drum”, and “Tamboer” is the subject of a Dutch term record mentioning “Drum” as an English translation, we realize that “Drum” and “Tamboer” are terms referring to the same concept. A database needs to be told explicitly that both terms belong to an identical concept.

In an ideal situation, the concepts can be made visible to a database by creating a diagram of all concepts within a certain field and use terms in one language as designators. This diagram can then be considered identical to the concept system and used as a frame to which all translated terms can be linked. But since this thesis describes an ongoing research, which will in all likelihood never be

¹⁸ An example of this tree diagram can be found in chapter 7, figure 5.

completely finished, this is far from an ideal situation. And even if it were possible to chart the entire field and identify all concepts, there is no guarantee that the language selected to designate the concepts has a term for every concept in the field.

So how can a software developer make the term base recognize the intangible concepts? For this specific project, the software developer has opted for the use of notes. The editor of the term bank will have a field in which he can add a brief explanation of a concept, preferably in a language that is understood by several editors. This explanation will make clear which concept is referred to and as such, the note *becomes* the concept designator. By creating this note, the concept is also given a number as a reference in the tables. This is the concept ID. For example, the term record of “head block” could have a note stating “pulley at the end of the grid” and be number 6. Apart from making the concepts tangible for the software, these notes also serve as a brief explanation for an editor, who will now know which terms to assign to which concepts. Therefore, the notes must be visible to editors, but not to end users of the term bank, who do not require this information. Similarly, a concept will not be visible to end users if there is no a term to designate it.

This choice is based on the idea that each term has at least one relation¹⁹ with one concept. A term will always either be the preferred term to designate a concept or a synonym of the preferred term.

The final choices considering the representation and handling of the concepts regarded which data fields needed to be linked to the concepts and which ones to the terms themselves. The conclusion to this question was that any language independent data can and must be linked to the concepts. Some examples are “Type”, “Domain”, and the images. The diagram in figure 51 below illustrates this in a schematic manner.

¹⁹ “Relation” in this context refers to the link to the concept, which gives the term a place in the system of concepts.

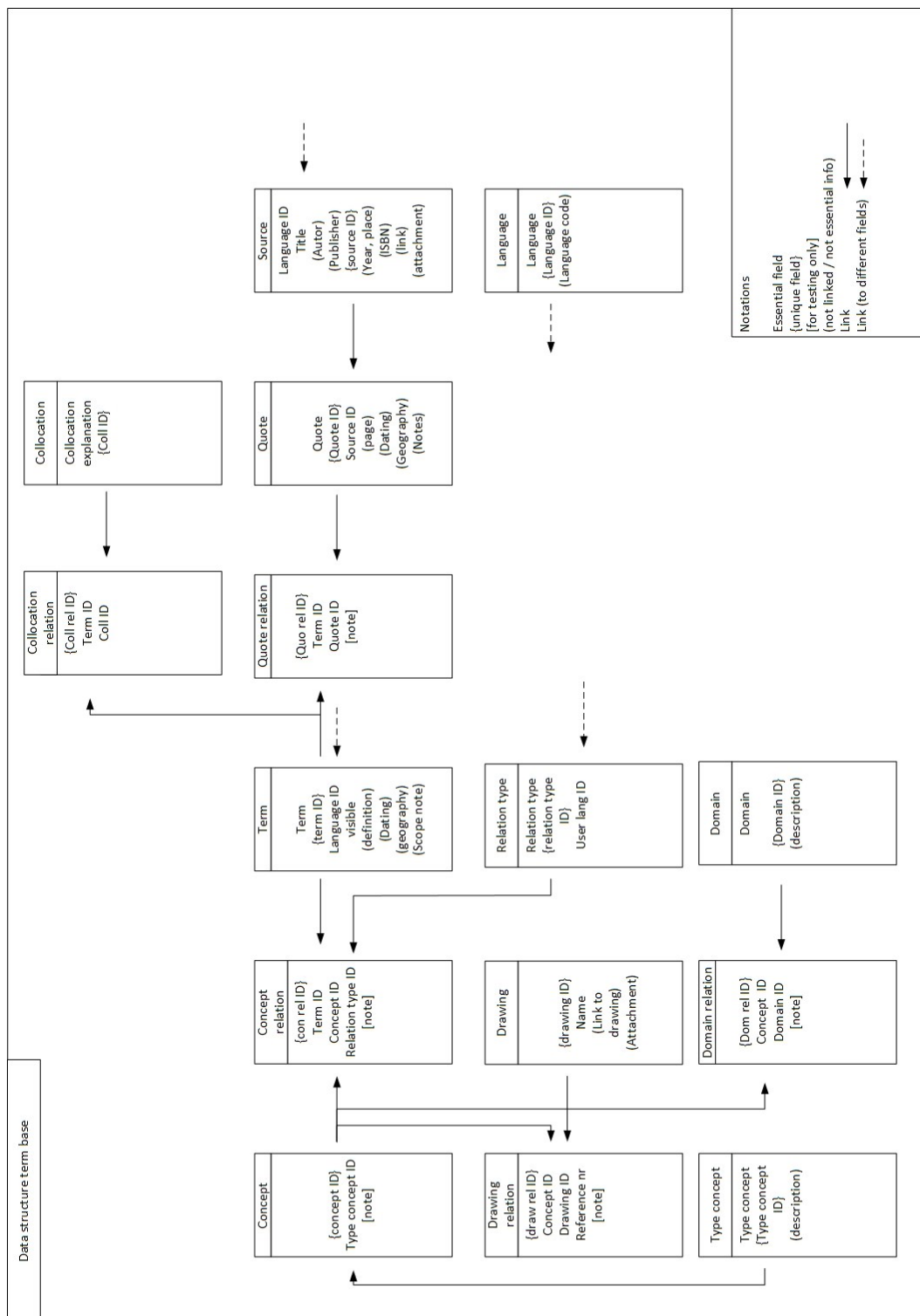


Figure 51: A schematic overview of the data structure of the term base

2) How are the relations between different types of data established?

First to be discussed are the relations between terms and concepts, and terms and terms. As mentioned previously, the relations between either terms and concepts or terms and terms are necessary for the term bank to be able to generate term records containing the correct information. A “relation” in this context refers to any connection between terms. This connection depends on the

concept designated by the term. Antonyms, for example, are the designators in one language of two concepts with an opposite meaning. Translations are terms in different languages designating the same concept. These are both possible relations.

There are two kinds of relations in this term bank: reciprocal and non-reciprocal relations. This difference exists solely for the software and will not be visible to an end user.

Reciprocal relations are connections which work in two directions automatically. If the relation from A to B is added, the relation will automatically be created from B to A. In reality, this is only the case for terms that belong to the same concept, such as translations and synonyms.

Non-reciprocal relations are not automatically generated in both directions. When editing, all the relations a term has will be visible. This way, the editor can check the list and see whether any relations still need to be added. For example, “Head block” has the relation “Component of” with “Counterweight system”. As a result “Counterweight system” will appear on “Head block”’s term record, but not the other way around. When editing “Counterweight system” the editor will see this relation exists and add “Head block” to “Components”. This way, both term records show both terms. Some of these relations, such as “Antonym” will simply use the same relation both ways.

Secondly, the way other types of data are structured within the term bank is explained. A useful tool for illustrating this structure is the diagram in figure 51. This diagram shows the different tables containing data and how they interact with each other. There are two types of tables: those containing data and those where the relations²⁰ between data types are established. The former contains lists of one certain type of data, such as terms, concepts, collocations... The latter is always labeled “X relation” and contains the ID of each of the data types and an ID to label the relation they have. For example, the concept of “Drum” has the number 7 as its ID and the domain “Machinery”’s ID is 1. The table “Domain relation” will connect the domain with the concept. This relations table ensures

²⁰ Relation in this context refers to the fact that both elements belong to the same term record.

that a piece of data, such as the domain, can have relations with more than one piece of data, such as several concepts.

Figure 51 thus shows us that terms can have relations with collocations, quotes and concepts and concepts can have relations with terms, drawings, types and domains²¹. These are all relations between two types of data, except terms-concepts, where the types of relation, such as antonym, synonym, or preferred term, is established through a relation type ID.

3) How is the interface set up?

This section will discuss how the developer has set up the user interface and why he has selected this working method.

The software developer of the Expertise Center has started off with a completely blank database. The first thing to do is create tables to later collect data in. The tables created for this project are all present in the diagram in figure 51.

The next step is to design the term records end users and editors will see when consulting the term bank. The developer used the template of the original term records as a basis for the digital term bank. The original grouping of the data fields into “general information”, “translations”, “historical information”, “linguistic information”, “information regarding the structure”, “citations”, and “images” was maintained.

To create a more user-friendly way to retrieve information the screen was divided into two sections. The left section shows the information term record like on the original templates, and the right section shows the image. If a user is more interested another type of data, however, it is possible to open those data fields on the right side of the screen as well. For example, if someone is interested in the different sources a term appears in they can choose to move the section with the sources to the right to provide more context to the information on the left. This method also avoids having to scroll up and down a long term record if a user is only interested in a few data categories or if an editor is working on one specific type of data.

²¹ Hypothetically there could be more types or domains, but in the current version of the term bank, “Mechanical component” is the only type and “Machinery” the only domain.

4) How is data entered by users and are term records filled out?

After designing and developing the term bank, it is time to start adding data to it. The term bank has been made in such a way that, as the amount of data and terms increase, a system of concepts within the term bank will grow along with it in an organic way. Organic in this context refers to the fact that new term records are generated from terms in old ones or sources and citations. For example, if a term record for “drum” mentions “tambour” as a translation, this translated term will be listed in a table with terms, from which a new term record can later be generated. If this term record mentions “axle” as a component, “axle” will also become a candidate for a new term record.

In practice, this is what happens: A first term record A is filled out. All the data it contains is saved in the corresponding tables. A second, new term record, B, is opened for the same concept in a different language. The software will allow you to retrieve the previously entered translation as the subject of the term record. By clicking on a term listed as component in term record B, a third is generated, C. First a new concept will be created through a note and afterwards the term record can be further filled out. The editor finds an interesting source which mentions this term and that of term record B. He adds the source to term record C, goes back to term record B, and retrieves the source and links it to this term record as well. The source contains several other interesting terms, so the editor adds these to the term bank as terms as well. The new terms do not have term records yet, but when they are linked to a concept, the source will automatically be added to the new term record.

This way, there are different ways to build the term bank, depending on the information at hand, or the expertise or preferred work method of the editor. A linguist may focus more on developing term records through terms, while a historian may prefer to expand the data through source texts.

In short, this means that any term entered in any term record will be saved as a potential term for a term record, but the term record will only be generated when given a relation to a concept, whether it is as a preferred term, synonym or translation.

This section will conclude with two final remarks on the use of sources and citations in this term base. First, is the language in which the context sentences are shown. At this moment, only the citations in the language of the term are shown, but the Expertise Center and its software developer are looking into the possibility to include all available citations regardless of language. A second remark is related to the Expertise Center's use of sources. The EC is considering entering any interesting citation into the term bank, as a collection of context sentences. An easier way to collect interesting source materials would be a great advantage for them. On the other hand, this collection will simultaneously provide a larger collection of citations to be linked with term records as well.

Similarly to the citations, images have their own separate page in which they are added to the term bank. Every image has its own page and all images are provided with a caption or title and a source reference. These images are linked directly to a concept, and not to a term, since images are language independent. As a result, an image will appear in every term record belonging to a certain concept, regardless of language. Due to the nature of the terminology, one image can picture several components and therefore be used to illustrate several concepts. Since the subject of the images are machines, or parts of them, it may be necessary to add more than one image, for example to add a different angle.

8.4. Comparing the digital term bank to the original term records

While most of the features from the term record template were copied for the digital version of the term bank, some aspects were adapted or extra possibilities were added.

The most important aspect of the layout of the term records in the digital term bank, is the existence of three different views. There will be a "master view", a "editor view" and a "user view". The master view contains all fields and options. The extra fields or data, which only the master can view, all have a technical purpose. This way, the master is capable of testing, adapting and improving the functionality of the term bank. In the editor view one cannot see these technical fields, but there are still several tools present to add data and work on the term records. This way, the editor can access all the entered data, add even more, create new term records or update existing ones. He cannot access the

programming of the software itself like the master can. The third view is that which has been developed in this thesis: the user view. The user will only see the end result in a read-only version.

When developing this term base, the master view had to be created first. Once the developer is finished testing the prototype, some fields have to be made invisible for the editor, thus creating the editor view. When this view is tested and proved to work as well, some more fields will be made invisible and the see-only user view will be created.

During the creation of the digital term bank, a problem was encountered regarding the size of the term records in this software. The term records, when completely filled out, are larger than the height of a computer screen. While this is not a severe problem when simply looking for the definition of a term, it becomes more difficult when working with the term record more intensely. For example, when an editor is adding citations and is researching the dating of the terms, it can be a nuisance to have to scroll up and down continuously.

There are two possible solutions for this problem. The first is more common, but a lot more difficult to program, namely the use of sections that can be hidden using a button. While it allows the user or editor to show only those parts he is interested in, it may still lead to an excessively long term record.

As explained in chapter 8.3, the developer opted to try out a second solution instead. Since most of the data is listed vertically, there was space to spare on the sides of the term record. The screen was therefore split into two and while the left contains the basic information on the term – definition, dating, geography,... – the right side of the screen contains tabs with the other types of information. A user can select either the relations, citations or the image and view it next to the general information. In the editor or master view the windows for adding sources or images can also be added to the tabs.

A final addition to the term records in this digital format, is the language of the interface. The term records developed earlier were always entirely in one language, both the titles of the data fields and the data itself. It is not unthinkable, however, that a French person, for example, is looking up information on an

English term. In this case, it would make more sense for the user to still be able to read the titles in his or her own language. Therefore, the digital term bank will allow an end user to choose a user language. This language will be used for anything that is not content, such as the data fields and the labels in the tables.

Based on all the decisions and considerations made above, a filled out term record in the digital term bank could look like the one found below.

TermdrumLanguageEngels

Definition

Scope note

Visible

RelationPreferred term

Concept note drum

	Language	Term	Status
Translation	Nederlands	Winch	Preferred term
	Frans	Tambour	Preferred term

Record: 1 van 2Geen filterZoeken

This term has been in use fromtoenuntillanu

Note

Geographic distributionhier

DomainMachinery

related terms

Component ofUpper machineryEngels

ComponentsaxleEngels

TypeComponent

Record: 1 van 2Geen filterZoeken

Collocationto rig a drum

Quotes

Record: 1 van 1Geen filterZoeken

related terms

Synonymdrum and shaftEngels

From

untill

Drawing

Drawing drum

Nummer



Figure 52: A filled out term record for "Drum" in the digital term base

9. Discussion

Having completed the four steps of the theory by Görög and van der Vliet (Görög & van der Vliet, 2016) and having created the digital term bank, the time has come for some reflection on the previous chapters. Some parts of this thesis have actually raised further questions or could have used additional research. Sometimes a certain option has been chosen even though there was an alternative that might have been just as valid. In some cases, not every decision or idea worked out as planned. These issues are considered in some detail below.

A first point that will be addressed is the domain. In chapter 4, the domain was defined as “all the systems and installations used to move sets, people and objects around a stage, used from the first theatres during the Antiquity up until the Second Industrial Revolution in Continental Europe and in the United States.” Everything included in this definition falls under the term of Baroque theatre machinery and therefore belongs to the domain. For this specific research, however, the limits of the domain have raised some question, especially in regards to the selected period of time.

While the same principles were used in machinery during the entire period described by the domain, sources referring to the earlier periods such as the Antiquity and Middle Ages are very rare. The majority of the collected sources in the corpus therefore focuses on or mentions machinery used during the seventeen and eighteen hundreds. The sixteen hundreds are documented as well, due to Nicola Sabbattini’s “*Pratica di fabricar scene e machine ne'teatri*”(1638) which elaborately describes the structure and use of Baroque machinery. While these three centuries present us with plenty of material for the corpus, this is not the case with the earlier years. This does not entail that the period defined in the domain, that is, from the Antiquity until the Second Industrial Revolution, was wrongly chosen. The doubt concerns the developed term records. Based on this corpus, they have not been thoroughly tested for the representation of evolutions or developments of a term or concept during a period of several centuries.

Additionally, since, as mentioned before, the sources mostly describe the final centuries defined by the domain, the information collected in the term bank will be focused on those centuries. This will limit the possibility to conduct further research concerning the migration and evolution of Baroque machinery throughout the entire period in which this machinery was in use.

The second remark builds on the previous one. Ideally, the geographic distribution of the terms would be pictured on a map: with lines, or colored areas indicating where and when a certain term or concept existed in a clear, graphic manner. However, this could not be done within the scope of the present thesis for two reasons.

The first one is the scarce data extracted from the corpus which is partially due to the lack of sources prior to the Middle Ages as mentioned above. A second reason is the limited languages used in this thesis. For this trial version, only English, Dutch and French sources have been used to fill in the term records. With a broader use of languages, the geographical distribution to which the sources refer will also broaden and a representation on a map will offer a clear and interesting look. On the other hand, the choice to only use three languages in the tests in this research provided the opportunity to truly focus on sources and the ideal term records in these languages. Further use of the actual term bank in additional languages may come across both unforeseen problems and advantages due to the nature of those languages and their culture.

A final point of discussion concerns the term records themselves. While the current term records have been made so that every piece of information and possible relation between terms can be added, at times the term records may be a little elaborate and cluttered looking. At one point, a dilemma arose because of the necessity to opt for either simple and perhaps less precise term records or more detailed ones with many different data fields. Either option held potential for confusion and in the end, the second option was selected. Someone with a theatre technical background may not need all the component fields to understand how pieces function in the whole. These fields may even confuse them, since the difference between "*Component of*", "*Connects to*" and "*Interacts with*" is very small at times. On the other hand, without these fields, it could be a

lot more difficult for a layperson to see the machinery as a whole and understand fully how it is operated.

To limit the size of the term records and keep them as simple and clear as possible, only the data fields which are filled out are visible to an end user. The downside of this solution is that the term records differ in size and length and do not all look uniform.

In a final note, I would like to add that I do believe the current term records are the result of thorough testing and well-founded decisions. When adding new languages or the option to represent geographical distribution on maps, additional testing is required.

10. Conclusion

In the introduction and in chapter three, the main research question and several research sub-questions were formulated. I summarize them here:

“What are the criteria for a multilingual term bank in Dutch, English and French contain to reflect the evolution, location and migration of theatre machinery up to the Second Industrial Revolution?”

1. Which data is needed to render the correct and complete historical context of a term?
2. How can the evolution of terms be represented, both in time and geographically?
3. How can the data be organized in a clear, meaningful and useful manner?
4. How can term records in language A be linked to the equivalent term records in language B and C?
5. How can the relations terms have within the system of concepts be shown?
6. Which types of sources can be used to create a corpus, that contains complete and correct data necessary for this specific term bank?

These questions were used to guide the research conducted in chapters 4, 5 and 6. Based on that research and the testing in chapters 7 and 8, the following five conclusions can be drawn.

The first conclusion focuses on the selected data categories and answers the question: “Which data must be collected to render the correct and complete historical context of a term?” This topic is handled in chapter 5.1, where a number of different data categories were listed which need to be included on the term records to be able to collect every type of relevant data.

This proved that dating and geographical distribution are the most essential data for evolution and migration of machinery. A conclusion that is slightly more surprising, is that the physical structure of the machinery allowed for a section with structural information, which greatly benefits the understanding of the way

these machines used to function. Images have proved to be indispensable for the same reason.

The second conclusion elaborates on the second and third research questions – “How can the evolution of terms be represented, both in time and geographically” and “How can the data be organized in a clear, meaningful and useful manner”. These questions were answered together in chapter 5.2.

The term records contain different types of data fields, such as the fields which illustrate the evolution of terms. This evolution is expressed through two elements: dating and geography. To offer a complete image of the use and evolution of a term, the dating is expressed through a phrase: “The term has been in use from ... until ...” This phrase mentions the earliest and latest dates on which the term has been used. The areas or regions where a term is used is listed right below the dating under the title “*Geographic distribution*” and will in a further stage be depicted on a map. Combining the data from these two data fields allows a researcher to study the migration and evolution of certain terms.

The two above-mentioned data fields are placed together as they contain information belonging to the same category. Other types of data categories, such as translations, linguistic information, related terms,... have been grouped as well. These data groups have been organized on the term records according to importance and how specific the data is. General information any type of user requires will be at the top, while more target user specific information, such as components, will be ranked more towards the bottom.

To ensure that the term records remain clear and easy to browse and comprehend, any empty data fields will not be visible to an end user.

An example of the template of the developed term records can be found in figure

53

Term					Language ENG
Definition					
Scope notes					
Language	Translation	Status			
NLD					
FRA					
...					
Dating	This term has been in use from ... until ...				
<i>Notes:</i>					
Geographic distribution					
Domain	Component of	Components	no image available		
Type					
Location	Interacts with	Connects to			
Synonyms	Dating				
Antonyms	Dating				
Collocations	Definition				
Specific/standard version *	Dating				
Sources					
Dating term	Quote	Source reference	Location	Notes	
Notes:					

Figure 53: A blank version of a term record

The next conclusion will answer research question 4, namely how term records in language A can be linked to the equivalent term records in language B and C. There are two possible answers to this question: one when the question refers to the software and one when it refers to human users. A term record in language A and the equivalent one in language B are linked together through the concept. The concept itself is intangible. Therefore, it is expressed through a unique identifier, a number. This number is the way both term records are linked for the software. An end user is not able to see the concept. He can navigate between term records belonging to the same concept either by clicking on the translations, or by clicking on the image and going to the image record.

The answer to the fifth research question can be found in chapter 5.2 as well. This chapter describes how the relations terms have within the system of concepts can be shown within the term record. Adding fields which illustrate the

subordinate and superposed relations between terms has proven to not only clarify the place and function of each specific term or concept but to also contribute to the general comprehensibility of the way machinery functions as a whole. Four different fields have been developed for this purpose, namely *“Component of”*, *“Components”*, *“Connects to”*, and *“Interacts with”*.

The composition of the corpus is the subject of the sixth and final sub-question. In chapter 6, different types of corpora and their advantages and disadvantages were studied. This resulted in the conclusion that the most suitable type of corpus to extract data from for this term bank is a specialized, multilingual, diachronic, comparable corpus.

The creation of this corpus, however, did not always turn out to be quite that easy. This is due to the nature of the required sources: while there are many different types of historical sources which would be interesting for term or data extraction, most of these have been lost in time. The number of (relatively) modern sources outnumbers the ones contemporary to the technology studied in this thesis. This greatly limits the diachronic character of the corpus.

An additional conclusion, not based on any of the research questions, concerns the creation of the digital term bank. When going into developing the software for the digital term bank, most problems were expected to originate from the possibilities the software did or did not have. Instead, the process of digitalizing the term bank showed how different the needs of different users can be. An editor requires additional fields and options than an end user. Because of this, three different views have been created: the master view, editor view and user view.

In a final remark, the functionality of the term records will be considered in relation to other domains and possible further use. For the purpose of this thesis, the terminology was limited to mechanical components of the machinery. The upside of this decision is the strong link between the structure of the components and the tree of concepts that has been drawn up. The downside is that any functions or actions – job titles and movements, to phrase it differently – have been left out and could have helped us gain interesting insights. For

example, terms related to functions or actions may not be able to be structured in a tree of concepts consisting of subordinate and superposed terms such as the mechanical components. As a result, the fields designating this structure, such as "*Components*" may become redundant. It is therefore necessary to test the current term records for their functionality before using them for terms designating functions or actions.

Since this term bank has been developed especially for the domain of technical terminology, it may not have all the necessary data fields for collecting historical terminology from any other field. While the most sections, such as the ones concerning the term itself, translations, dating and geography, linguistic information and the way the sources are summed up, could be transferable to other domains as well, this will not likely be the case for the section with structural data.

For a domain such as medicine or literature without machines, which are built up out of several components or which interact with each other as a whole, this section may prove rather meaningless or sections containing other types of data may need to be added. Perhaps for a more technical domain such as the auto industry this section may prove useful or the term records may even suffice in their current form. For some other subjects which are very closely related to Baroque machinery, such as harbors or mills, the term records will almost certainly function as they are right now.

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Corrigenda: Historical research through terminology

Due to recent updates in the digital version of the term bank, the following elements must be corrected:

- p108, the final paragraph should read:
The left section shows the data fields on “general information”, “translations”, “historical information”, “information regarding the structure”, and “linguistic information”. The right section contains seven tabs: “Picture”, “Quote”, and “Note” also appeared on the original term records will be visible to all users and “inverse relations”, “Sources”, “Drawing import”, and “Make concepts” will only be visible to editors. A user will now be able to open and use the tab containing the information that is most useful for his needs. For example, if someone is interested in the different sources a term appears in they can choose to open the tab with the sources to the right to provide more context to the information on the left. This method also avoids having to scroll up and down a long term record if a user is only interested in a few data categories or if an editor is working on one specific type of data.
- p109, paragraph 2, the fifth line should read:
By labeling a term listed as component in term record B as a “preferred term”, a third term record, C, is generated.
- p109, paragraph 2, delete the last two lines.

- p111, paragraph 3, the last two sentences should read:
A user can select either the notes, citations or the image and view it next to the general information. In the editor or master view the windows for adding sources, images, or relations can also be viewed on the tabs.
- p112, for figure 52 substitute

Term

Drum

Language

Engels

Definition

A piece of machinery that consists of two connected cylinders and reduces the force needed to move a load, but also increases the distance the rope has to

Scope note

Visible

☐

Relator

Preferred term

Concept note

cylinders to move rop

Translation	Language	Term	Status
	Nederlands	Tamboer	Preferred term
*	Frans	Tambour	Preferred term

Record: 1 van 2

This term has been in use from

1762

until

1830

Note

Geographic distributio

Domain

Machinery

related terms

Component of

Under machinery

Engels

Type

Component

Component of

Upper machinery

Engels

Collocation

related terms

Synonym

Tambour

Engels

From

until

Generic verion of

Compound drum

Engels

From

1762

until

Record: 1 van 3

Pictures

Quotes

Inverse relations

Notes

Sources

Drawing import

Make concepts

Drawing

Drum

Nummer

Record: 1 van 2

Figure 1: A filled out term record for "Drum" in the digital term base