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Roman Bleier, Sean M. Winslow

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Pieces of a Bigger Puzzle: Tracing the Evolution of Artworks and Conceptual Ideas in Artists' Notebooks

Martina Scholger

Abstract

Artist's notes are a rich source for understanding the motivations behind an artwork, but have been largely neglected by both art history researchers and in scholarly editing. Using the digital edition of the notebooks of the Austrian artist Hartmut Skerbisch as a case study, this article discusses the various methodological approaches to versions in different disciplines—(digital) scholarly editing, musicology, and art history—and their transferability to artists' notes. It explores where versions can be found in a single autograph, in contrast to multiple witnesses, and how they can be represented digitally. Special attention is given to the versioning of graphics—prominently used as form of expression in the relevant notebooks—proposing a model for their formal description which makes them more comparable and reveals different versions and, consequently, the artistic development process.

1 Introduction

Ideas do not arise out of nowhere: they are the result of extensive processes of association and thought experiments. Note-taking may seem spontaneous, but notes are the result of a process of learning to write in a way that will communicate with the future reader (Mach 51). Permitting an idea to come to fruition requires a willingness to record it and to keep it as a note (Barthes 153). In a literary context, a note functions as a hinge between the source material and the text version (Van Hulle 53). Equivalent to this, the note of a visual artist can fulfil a *double hinge* function: between source (i.e., notes), artistic concept and the manifestation of the concept.

This paper investigates—using methods borrowed from (digital) scholarly editing, musicology and art history—the various definitions of *versions* in different disciplines, as well as to what extent these ideas can be transferred to artists' notes. Based on this examination, the paper addresses both the current possibilities and shortcomings of formal digital representations of versions in artists' notebooks, giving special attention to the similarities and differences in a series of textual and graphical modifications undertaken over periods of time.

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Background to a case study: Harmut Skerbisch and conceptual art

In the 1960s, a new art movement emerged, originating in the United States of America and in Europe. Through this new movement, the concept, idea, and process of art production moved to the foreground, overshadowing the predominant emphasis on the final art product. Coined as *conceptual* in 1961 by the Fluxus artist Henry Flynt, the theoretical foundation for this transnational movement was provided by the artists Sol LeWitt and Joseph Kosuth, with their programmatic texts in the late 1960s. Set against the context of this paper, one statement from LeWitt's paragraphs on conceptual art and the relevance of the idea and the thought process in the development of artworks, seems particularly applicable:

> If the artist carries through his idea and makes it into visible form, then all the steps in the process are of importance. The idea itself, even if not made visual, is as much a work of art as any finished product. All intervening steps—scribbles, sketches, drawings, failed works, models, studies, thoughts, conversations—are of interest. Those that show the thought process of the artist are sometimes more interesting than the final product (LeWitt 82).

Here, drafts, notes and sketches as components of a larger *meta-artwork* were considered equal to the final executed work of art (in those cases where an object orientation, i.e. a precise aim to progress towards a final object, even existed) or *became* the artwork itself. After this point installations, happenings and performative acts were recognized as new forms of artistic expression. The lack of permanent physical manifestations, as well as the temporary and ephemeral character of these kinds of art require their own form of documentation on the history of their origins.

The following considerations on versions in notes, as precursors of artistic concepts and works of art, will be exemplified by the notebooks of the Austrian visual artist Hartmut Skerbisch (1945–2009). Although Skerbisch cannot be clearly assigned to a specific art movement—his work ranges from conceptual art to media art and object art—his 35 notebooks are without any doubt conceptual by nature. Over a period of almost 40 years, the artist used them for the conception and development of his artistic ideas: his experiments of thought, for forming his general understanding of artistic concepts, and the detailed planning of his executed works of art. Depending on his focus and purpose, Skerbisch expressed himself alternating between textual and graphical form (Scholger, "Assoziationsprozessen auf der Spur" 38).

Notes as versions

In the context of this volume's topic, namely *versioning*, but also considering the process of editing in general, the question arises around whether and how it is possible to actually capture the versions of this specific type of artistic creation process.

Which kinds of versions exist in artists' notebooks, i.e. a single witness, and are these—graphical and textual notes—conceptual modifications and alterations comparable to those more prominently examined in textual criticism with multiple textual witnesses (Shillingsburg, *Scholarly Editing*)? What does the successive development of sketches in Skerbisch's notebooks have in common with the genetic criticism of draft manuscripts of literary texts (Grésillon), the writing process in *Werkstattdokumenten* (workshop documents) of musical works (Appel and Veit), and *Fassungen* (versions) in the context of art production (Hartmann)?

First, however, it is important to establish an understanding of a version in the context of artist's notebooks.[1] According to Peter Shillingsburg and Siegfried Scheibe, a version denotes a certain stage in the life cycle of a work at a certain time (Shillingsburg, *Scholarly Editing* 47*;* Scheibe 207). While their definitions mainly refer to (literary) texts, Bodo Plachta explicitly includes works of art in his definition of a version as a completed or unfinished execution of a work of art, which differs from another execution (136). Daniel Ferrer states that genetic *variants* can be treated as interpretations of earlier versions, whereas a *variation* manifests implicit aspects of the original form (Ferrer, "Genetic Criticism" 62).

> Typically, one speaks of *variants*, when there is a choice between elements regarded as equivalent, and of *variation* when the similar but different elements are juxtaposed in space or in time (Ferrer, "Variant and Variation" 35).

In a visually oriented context—in contrast to a textual one—it is difficult to identify where the *original form* is, since that term could be assigned to any record of the initial idea, the first recognizable note or conceptual drawing, or even the first manifestation of an artistic concept.

The paper starts with an examination of notebooks as a unique genre, a meta-artwork, and a medium for capturing fleeting thoughts and maturing ideas, discussing their peculiarities and their value in reconstructing the development of specific artistic ideas over time and drawing on the exemplary corpus. It will then propose two hypotheses regarding the formalisation of the creation process, essentially combining methods from (digital) scholarly editing, musicology, and art history and practice to propose a working definition of versions in the context of Skerbisch's notebooks. Following a discussion on the practices for formalisation of textual notes, the paper will then move towards a thorough examination of how an equally-rich and precise formalisation of graphical notes can reveal the genesis of an artistic expression, and propose a model suitable for that task. In conclusion, the paper will discuss the benefits of applying such a formalisation in the revelation and chronological placement of versions throughout a notebook corpus.

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[1] In her contribution to this volume, Elisa Nury elaborates on the terminological differentiation of *variant* and *version* in textual criticism in great detail.

2 Notebooks, an artist's warehouse of ideas

Artists' notebooks allow a view behind the scenes and are a valuable resource for grasping the story and creation process behind artistic activities. The significance and value of artists' notebooks for the examination of ideas and concepts at a specific time in the life cycle of an artwork will be evaluated through a digital scholarly edition (Scholger, *Die Notizbücher*) of the notebooks of Skerbisch, which the artist kept from the summer of 1968 to March 2008, just one year prior to his death. Around two thirds of the notebooks are textual notes, and one third are sketches and formulas, which mostly refer to Skerbisch's artistic work. Only a few entries throughout the corpus deal with personal issues and because of this were documented—but omitted—in the digital representation of the edition, to respect the personal rights of the author and others involved.

Notebooks provide a very intimate view into the author's studio (Radecke, "Notizbuch-Editionen" 27). They contain immediate, unfiltered, and spontaneous thoughts and inspirations, which are collected in a warehouse of ideas for later use. William Somerset Maugham wrote in his preface to *A Writer's Notebook*: "I meant my notebooks to be a storehouse of materials for future use and nothing else" (xiv). Indeed, the notebooks of Skerbisch (figure 1 shows some representative sample pages) seem to be one large collection which, when considered as a unit, provide a macro-perspective on the basic concepts and associative processes of the artist. Because of this, they can be regarded as a meta-artwork accompanying his artistic work. The fragmentary, unstructured and non-sequential textual and graphical notes were not intended for the public.

The texts switch between unrestrained, spontaneous notes on the one hand, and structured, sophisticated records on the other. Some of the entries are accurately dated, while others can only be placed by referencing them to individual works of art or events. Skerbisch cared little for punctuation and orthography, often merely listing seemingly unrelated catchwords.

Besides text, the notebooks contain graphical components such as sketches, constructional drawings and diagrams, which in this context carry at least the same level of complexity and significance as the text itself. Graphics are used to explain complex facts, such as the detailed construction of installations and objects' details from different viewpoints, which could only be captured through their visual components and which cannot be expressed by text. The converse also applies, since not every situation can be represented in images. In other cases, a combination of both text and graphics is needed. In this case, these are inseparable and comparable in terms of expressiveness.

Furthermore, the entries in the notebooks contain innumerable references to other entries within the notebook corpus, to artworks by the artist, to external works from

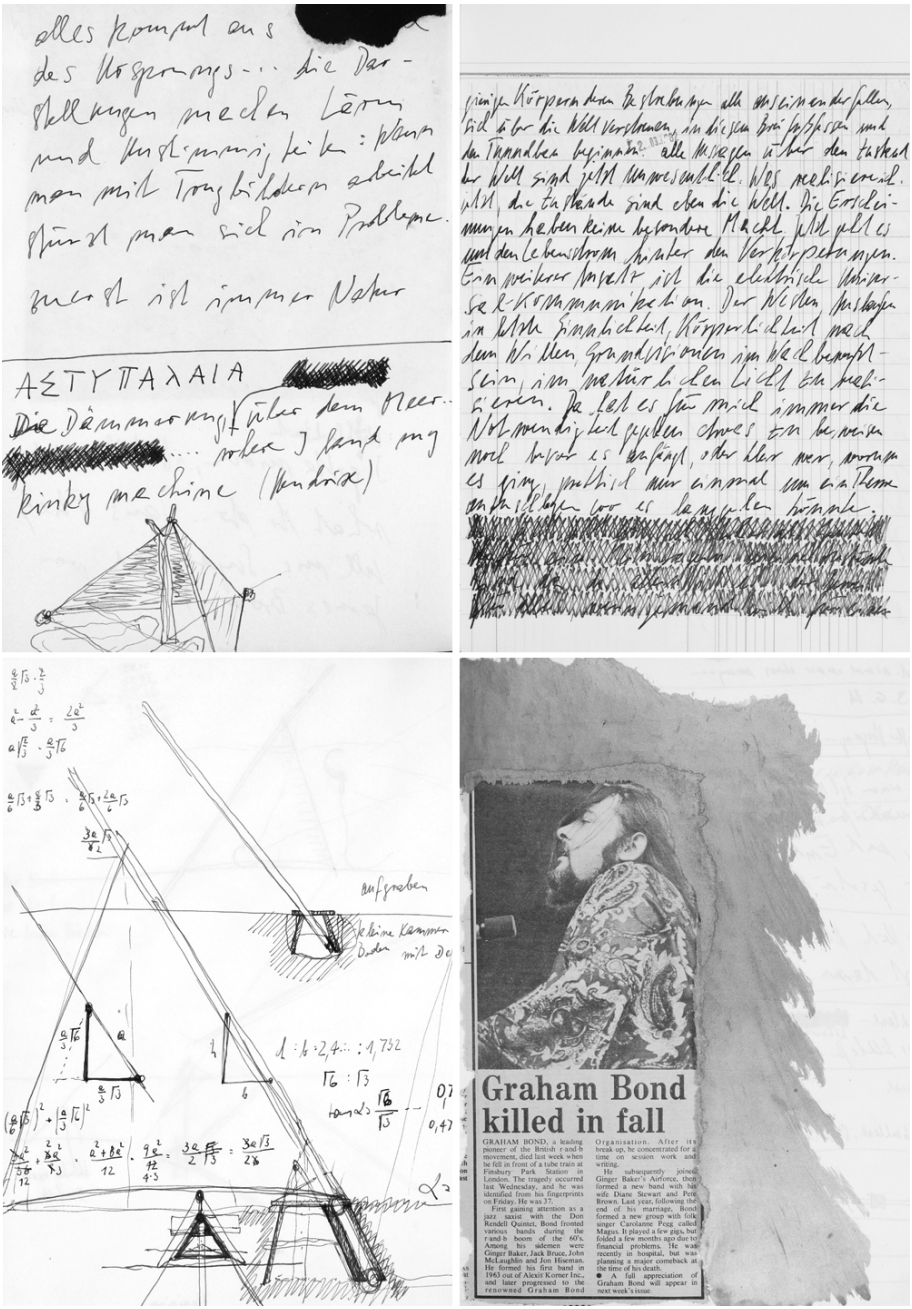

Figure 1: Sample pages from the notebooks.

literature (e.g. James Joyce, Franz Kafka), and to music (e.g. The Rolling Stones, Jimi Hendrix), as illustrated in figure 2. The significance of external influences on Skerbisch's work was mentioned by the artist himself in an interview, when he stated: "I accept the point of view that my work is a commentary" (Fenz 123). The resulting network of references, where entries interconnect through their shared concepts, is particularly appealing to a digital representation, where every single entry can be contextualized within its broader meaning. As will be shown next, the shared ideas and cross references can be understood as a graph, which represents the relationships between objects, their different branches, and (therefore) multiple versions.

3 Tracing the evolution of motifs

The train of thought throughout the notebooks is non-linear and repetitive. The artist engaged with the same topics and ideas several times. To bring these individual traces together and contextualize them against additional material, the genetic and semantically-enriched digital edition of Skerbisch's notebooks focuses on the challenges of tracing how a specific idea evolved and changed over time. The notebooks are his autograph; no additional copies exist and they were primarily used for conceptualizing artistic ideas, which means that the constitution of the text plays a subordinate role to the *unfolding of an artistic idea* (Scholger, "Assoziationsprozessen auf der Spur" 257). Additionally, they ultimately lead to manifestations of these ideas in the form of artworks, performances, and exhibitions, which in Skerbisch's case are not a terminal point, but just one way marker in a bigger conceptual process. As shown in figure 2, this results in a network of direct and indirect relationships between:

a) individual notebook entries consisting of text and graphics;
b) notes and work manifestations;
c) notes and external references to literature, music, persons, and art; and
d) notes and generic intellectual concepts which the artist reflects on.

To handle this aspect adequately in a digital scholarly edition, a semantic layer is needed in addition to the digital representation of the notebooks' contents: drawing on a transcription of the notebooks using the standard of the Text Encoding Initiative (TEI), concepts such as persons, books, or music records are described using the Resource Description Framework (RDF) and linked to established authority files, in turn allowing them to be queried with the graph-based query language, SPARQL.

Figure 3 shows an example of different versions and development stages of the same motif, showing distinct views, projections, proportions and details. Faced with such diversity, it is important to filter out the *essence* of a concept and to determine

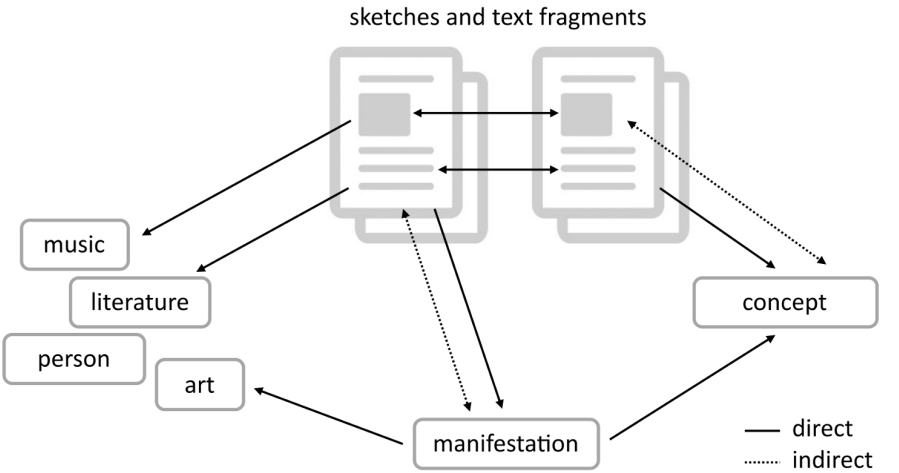

Figure 2: Conceptual model of the artistic circle between idea and manifestation.

what remains *constant*: an approach that applies to different manifestations of both a textual and graphical nature. It should be stressed that this development is not necessarily sequential, but an iterative process.

One striking example for the development of the same motif on the same conceptual level is the intensive work on archaic life processes, making use of various tent and box constructions, in reference to the studies of the architect Predrag Ristić who was interested in the mesolithic settlement culture of Lepenski Vir in Serbia, where the entire civilisation was built around a triangular shape. In his first exhibition at the *poolerie* in 1975, Skerbisch presented two video documentations of his performative acts around the theme of humans and their environment, which prominently displayed the construction of a tent in the first video and a wooden box, the *Kasten*, in the second. A year later, in 1976, he combined the tent and the box in a single work of art, the installation *Erde (Our cubehouse still rocks).* The connection between these two works can only be determined by their shared concepts, which are evident through the entries in the notebooks connected to the individual works, such as environment, human, land seizure, city foundation and settlement.

Another example where the success of the art installation is inextricably linked to its context is the installation *Zepter und gleißender Stein*, a one-hour exhibition at the Neue Galerie in Graz on December 9, 1977. Here, Skerbisch deconstructed

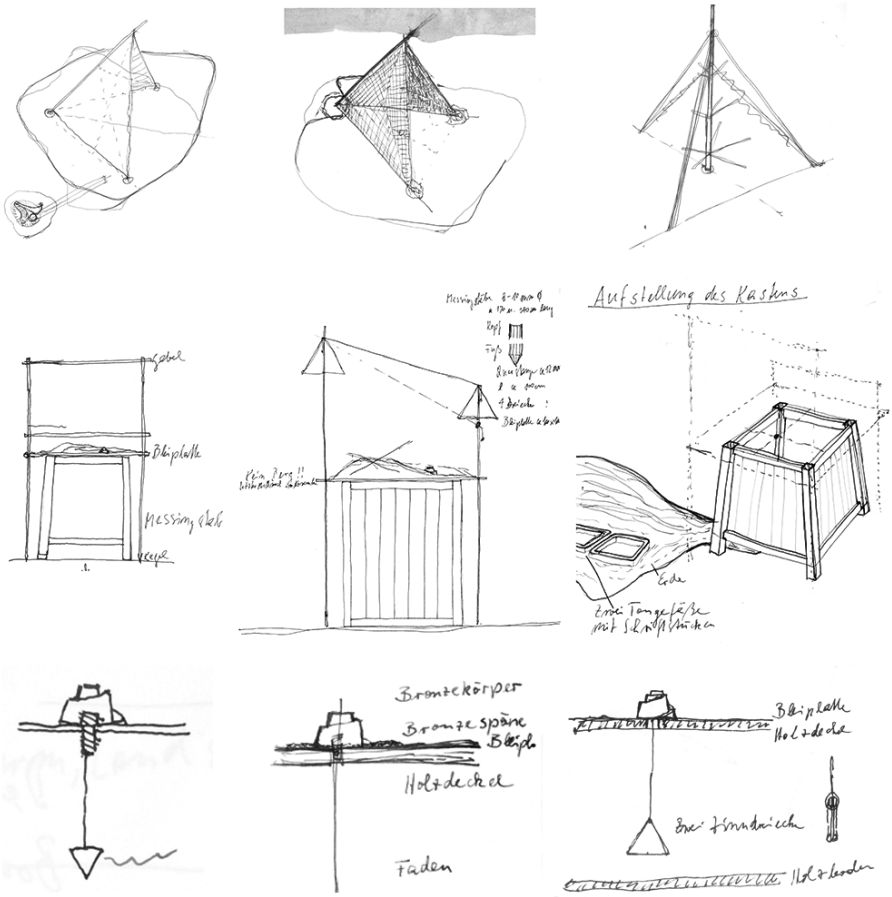

Figure 3: Development stages of the sketches of a tent and a box.

the medium of television and showed its materiality by guiding the visitor through "the interior of the TV system" (Holler-Schuster 160). The visitor was confronted with a wall of 12 television sets displaying a reddish tone, and a camera tube that was presented on red velvet, much like a precious jewel. The work thematized the illusory reality that is fed to the consumer on television by allowing the viewer to walk through the interior of the deconstructed television screen: after exactly one hour, the lights of the installation went out and the exhibition was over. All that remains of this artwork is the written documentation in the notebooks, interview, and photographs taken by both the artist and the exhibition's visitors, which were only published in catalogues, if at all.[2]

A reconstruction of this one-hour installation formed part of the retrospective exhibition of Skerbisch's media works at the Kunsthaus Graz in 2015. Although it gave a rough impression of the situation in 1977, it was decontextualised due to the changed display surroundings—with the installation situated in a large room together with other works of the artist—and the longer duration of the exhibition of more than two months. Neither the spatial experience of a visitor being guided through a TV system, nor the mystification about the abundance of materiality—keeping in mind that in 1977, it was quite extraordinary to have so many screens available for one particular installation—could be recreated. The conceptual considerations of this artwork are reflected in several notebook entries from which two central statements should be highlighted. The first refers to the spectator as an essential *component* of the artwork, Skerbisch states: "diese [sic] Arbeit ist erst fertig, wenn Sie von Besuchern betreten wird" (this work is not finished until it is entered by visitors) (Scholger, *Die Notizbücher*, Notebook 8, 5v). The second statement describes television as the medium that dominates the world: "Das Zepter, durch das die Welt als Erscheinung über allen waltet" (The sceptre through which the world as a phenomenon rules over all) (Scholger, *Die Notizbücher* Notebook 7, 16r). Both of these statements could not be satisfactorily met in the retrospective exhibition from 2015.

These examples demonstrate how the documentation of the artistic processes of conceptualisation, modification and realisation in the notebooks provides invaluable and sometimes even irreplaceable evidence for posterity. A new version of artworks in general, and performative works in particular, is not only dependent on individual components, but also on the original context with regards to time and space, since the experience of the visitors in the original context is hard—if not impossible—to recreate.

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[2] A similar problem is addressed by Christian Thomas in this volume when he refers to the reconstruction of Humboldt's Kosmos-Lectures, based on reports and written notes from the audience.

4 Methodical approaches to revealing versions

The following sections will investigate editorial methods and artistic genres, which are taken from different disciplines: from (digital) scholarly editing, musicology, and art history. They form the basis for a series of reflections on recording interventions within the texts and the graphics. This should serve to clarify the terminology of version, variant, and variation used in this paper and help to define the research area, without claiming completeness. In order to approach suitable editorial methods, two hypotheses are formulated and will be explored in the following sections: the necessity to consider approaches from both traditional and digital scholarly editing for the identification of versions, and the suitability of artistic practices and methods to define their properties.

Hypothesis 1: The application of terminology from (digital) scholarly editing is necessary for the identification of versions in a notebook.

This section will focus on two text-critical perspectives: a) the *copy-text* theory, mainly concerned with early modern print materials, and b) *genetic criticism*, focusing on (contemporary) draft manuscripts, discussing the benefits of these models for analysing Skerbisch's notebooks.

The copy-text theory is an Anglo-American approach which primarily identifies and removes errors in later witnesses of a text to come as close to the original intention of the author as possible, to "the most authoritative text" (Greg 19). The selected copy-text does not necessarily have to be the earliest, but rather the most reliable. In his essay *The Rationale of Copy-Text* from 1950, Walter Wilson Greg made a crucial distinction between *substantive readings* and *accidentals* of the text, which later was revisited and further developed by Fredson Bowers and Thomas Tanselle, and is now designated as the Greg-Bowser-Tanselle method.

> But here we need to draw a distinction between the significant, or as I shall call them 'substantive', readings of the text, those namely that affect the author's meaning or the essence of his expression, and others, such in general as spelling, punctuation, word-division, and the like, affecting mainly its formal presentation, which may be regarded as the accidents, or as I shall call them 'accidentals', of the text (Greg 21).

The distinction between substantives and accidentals is not only suitable for examining a text, but also graphics in a notebook. An example of this is given in the first three sketches in figure 3: whereas the shift from a cubic to a conic shape of the box must be considered a substantial function of the construction, which is essential

for the installation, the detailed design of individual slats is of secondary importance. However, while the copy-text theory uses this method to highlight the most authoritative text, the focus in the context of the graphics in the notebooks is on the development of a concept and subsequently on artworks manifested outside the written medium.

Another critical approach for taking into account textual variations is the French *critique génétique*, which puts the process of a text's constitution in focus by looking at notes, draft manuscripts, and revisions. Having evolved in France in the 1970s, this post-structuralist method was however originally primarily concerned with the medium of text in general, in particular the process of developing literary works:

> The whole operation [critique génétique] is best described as "genetic" criticism, for it is concerned with literary genesis (even though the term implies a kind of teleology), the whole process of giving birth to the text when finally the obstetrician takes over from the geneticist, to recall a nice distinction Guy Rosa has a good deal of telling fun with (Bowman 628).

In the 1980s Pierre-Marc de Biasi was elaborating on the transmission of genetic criticism to other objects and media beyond literary manuscripts. In particular, the focus of his research was the application of the method to architecture, performances and sculpture (De Biasi, "Pour une approche génétique"). He claims that "the model for genetic analysis that emerges from the study of modern literary manuscripts can, without any possible doubt, be extended to other fields of creation" (De Biasi, "Horizons" 124).

In the context of Skerbisch's notebooks, the question that arises is around how genetic criticism can be transferred from a textual, literary focus to other artistic expressions, where conceptualization and development (writing and drawing) and presentation (performance, installation, sculpture) are carried out in different media, in contrast to literary texts published in written form, where the conceptual process and the product coincide in one medium. Oral narratives and performances of literary texts are excluded from this examination. Again, in the case of his notebooks, the constitution of the text plays a subordinate role to the unfolding of artistic ideas and general concepts.

One proof of concept for the transferability of genetic criticism from literary text to other sources is *Beethovens Werkstatt* (Cox et al.), a research project focusing on the compositional process in Ludwig van Beethoven's (1770–1827) oeuvre, where the critique génétique is joined with digital editing methods, employing the encoding standard of the Music Encoding Initiative (MEI). In musical compositions, there is a differentiation between *closed variants* and *open variants*. While the former is entirely contextualised with the surrounding text at its beginning and end, the latter is not fully connected. Moreover, in closed variants all parts are fully developed. Variants

which were spontaneously created during the composition process are designated as *adhoc*, whereas the correction at a later point after the composition was completed is known as a *revision* (Appel and Veit).

Hypothesis 2: The manuscript in question was composed by an artist. Therefore, an examination of art practices and methods is useful for a digital representation.

Artists record their ideas in a variety of forms, including brief doodles, sketches, and constructional drawings. These graphical representations shed light on the conceptualisation of an artwork and the process of creation. In art theory, there are related terms to express different steps of preliminary stages of an artwork—*sketch*, *study*, *modello* and *preparatory drawing*—which build the basis of an artwork that is often presented in a different medium. Drawing is a means of recording observations and ideas and is defined by its supporting material, by drawing tools and by the formal language used. Fascinated by the pure expression and spontaneity of sketches, Denis Diderot was the first to attribute them authority as an independent artistic form of expression (qtd. in Barasch 127). In the *Dictionary of Art*, a sketch is defined as "rough, preliminary, version of composition" (Turner 817), which is used equally in visual arts, architecture and music. In contrast to the sketch, a study is devoted to individual problems of representation, such as anatomy, perspective, clothing, or movement. A modello or preparatory drawing on the other hand, is a very mature drawing or a three-dimensional model that forms the preliminary stage before the final execution. Models are equally used in painting, sculpture and architecture in order to create a representation that is as accurate as possible (Turner 212–233; Leymarie et al. 40–41).

In the early 20th century, sketches were largely neglected, since artists broke with artistic traditions and started to work directly on the canvas to mimic a spontaneous and immediate situation. In recent years, sketches returned to the spotlight in different (artistic, scientific, technical, etc.) disciplines (Myssok 78) and are regarded as a valuable resource in various cultural mediation and research endeavours. The British Library preserves notebook sketches from Albrecht Dürer's proportion studies, studies on infections during World War One by the bacteriologist Sir Alexander Fleming, and notes on mechanics and architecture from Leonardo da Vinci's *Codex Arundel* in its permanent exhibition. Friederike Fellner investigates the numerous drawings of Franz Kafka in diaries, letters, or on single sheets of paper as part of his literary process. The Zentrum Paul Klee developed a digital edition of Klee's lecture notes during his time at the Bauhaus in Weimar and Dessau (Eggelhöfer and Keller Tschirren). More examples can be found in the digital scholarly editions of Theodor Fontane's notebooks (Radecke, *Theodor Fontane: Notizbücher*) and Vincent Van Gogh's correspondence (Jansen et al.).

In the art historical context, a *Fassung* (version) means a repetition of the same work of art by the artist himself, which shows some modifications to the initial representation. This is referred to as a second or third version. As long as the idea was personally conceived and executed by the artist, it is an *original*. If the artwork is accurately repeated by the artist's studio without any changes, it is referred to as a workshop *replica* or *reproduction*, whereas a repetition made by other artists is known as a *copy* (Hartmann; Rosen 120–121).

A genre of its own which uses repetition of a motif in different versions as an artistic element is *serial imagery*. Paintings such as Claude Monet's *Water Lilies* or LeWitt's *Cubes* are famous representatives of this art form; however, there are also examples from poetry, such as Gertrude Stein's *Sacred Emily*, which has the famous verse "Rose is a rose is a rose is a rose". Skerbisch also produced such series with his *spheres* and *fractals*, a result of his intensive examination of materiality and geometry in the 2000s. Discussing the method of serial imagery, Katharina Sykora describes the differentiation between *constant* and *variable* elements as crucial. Single objects are not solely connected through their subject, but also through their composition. This terminology strongly resembles the Greg-Bowers-Tanselle method of substantive readings and accidental text. The comparison of various views of the reproduced object allows for an exhaustive interpretation of the artefact. In order to distinguish a *series* from a *variation on a theme*, the latter can be comprehended without the total juxtaposition of its contextualized variations, while the former needs the context of its predecessors and successors (Sykora 6).

Sketches, in their various states of expression, are a valuable resource, appealing through their spontaneous execution and proximity to the original idea, and are increasingly being considered in digital editions. Due to the authoritative nature of Skerbisch's notebooks, we are dealing with originals. The distinction between constant and variable in serial imagery is well suited to investigate Skerbisch's notes with regards to defining the essence of individual versions.

Returning to Ferrer's differentiation between variant and variation, we can discern that Skerbisch's notebooks contain *substantive variants* (content-related versions of equivalent elements) and *marginal variants* (minor corrections, that do not alter the content). Therefore, we can speak of *variations*, when the connection between earlier and later versions consists of shared concepts, rather than specific elements of the texts and graphics in question.

5 Identifying versions in notebooks

The previous sections have discussed different theoretical and methodological approaches, dealing mainly with the process of a work coming into being, rather than

the final product. This section will now ask whether (and where) versions can be found in the notebooks. Where is the version in an autograph which has never been copied or published? It is obviously different to the understanding of version discussed in the context of textual criticism of medieval documents, where the text is created from several text witnesses and cleaned up by emendation. Within the Skerbisch corpus, at least two major categories of versions can be distinguished: 1) versions within the notes themselves and 2) versions in relation to the manifested works of art. Furthermore, there are two sub-categories of versions within the notebooks: a) the versions of text and b) the versions of graphics.

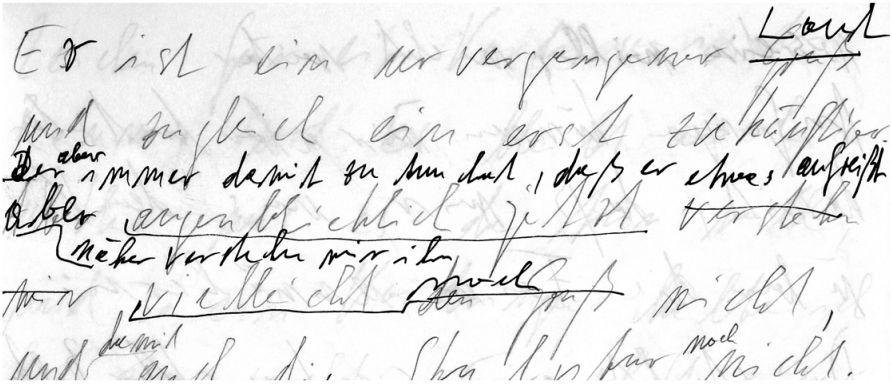
Versions of text

The first type of text version concerns the development of the text on a single document and is created by textual interventions such as additions, deletions, substitutions, transpositions, and alternative readings. Taking the interventions into account, the variant readings reveal different states of text at a specific point in time (Pierazzo 169). For the digital representation of these phenomena, the Text Encoding Initiative (TEI) offers a number of elements and attributes, documented in chapter 11 of the TEI Guidelines (TEI Consortium, "11 Representation of Primary Sources"), which consider the physical document, the encoding of textual interventions and the documentation of the writing process (Burnard et al.).

The notebook entries contain a number of text corrections, some of which are limited to orthographic features, and thus not pertinent to the current discussion. The recording of these interventions becomes much more exciting in those cases in which changes in content take place. Figure 4 shows the facsimile detail alongside the transcription of the initial text state (Level 0) with three revision levels (Levels 1–3), which were identified by the change of meaning, writing instrument, and colour. It documents part of the meticulous planning process for an opening speech at an exhibition.

The second type of text version prominently evident in the notebooks does not take place within a specific text passage on the document, but rather through the mechanism of repetition of particular words, phrases, and sentences throughout the corpus.

Skerbisch used this mechanism to strengthen and sharpen his mind by committing the same or slightly different phrase to paper. It is characteristic that in most instances the artist did not work on the document by setting textual interventions within the text itself, but repeated the phrase without marking the status of the previous mention in any form. An example of this process is the phrase "sie hat angefangen …", which is written 20 times. Three examples from the manuscripts are shown in figure 5, containing a version using abbreviations, a shortened version, and an extended version.



E~~s~~r ist ein urvergangener ~~Gruß~~ Laut
und zugleich ein erst zukünftiger. Level 0
~~d~~Der aber immer damit zu tun hat, daß er etwas aufreißt *Level 1*
~~Aber~~aber näher verstehen wir ihn augenblicklich jetzt ~~verstehen~~ ~~wir~~ vielleicht ~~den Gruß~~ noch nicht, *Level 2*
und damit auch die Skulptur noch nicht. *Level 3*

Figure 4: Conception of an exhibition opening speech in 1992, Notebook 19, 8r (at the top); merging of the four levels of the text (at the bottom).

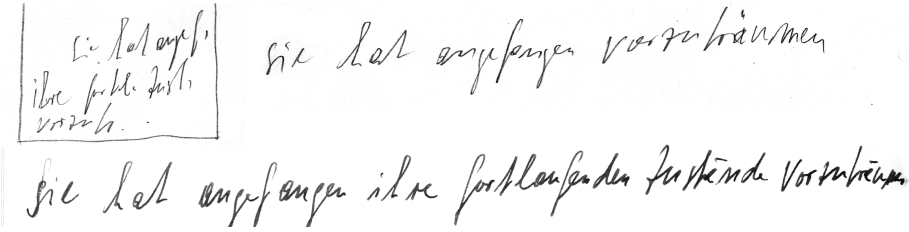


Figure 5: Repetition of the phrase “sie hat angefangen …”.

The first occurrence of the phrase is "sie hat angefangen ihre fortlaufenden Zustände vorzuträumen" (she has started dreaming up her ongoing conditions) (Scholger, *Die Notizbücher* Notebook 8, 11r).

Figure 6 shows a collation of all instances of the phrase. For this purpose, the collation tool CollateX (The Interedition Development Group) has been used for comparing, collating and investigating different versions of the text. Looking at all versions, changes concerning the upper and lower-case writing, the use of punctuation marks, and the completeness of the phrase can be determined. The most noticeable modification relates to the word *Zustände* (conditions), providing three alternative variants: *Ereignisse* (events), *Entfaltung* (development), and *Vorgänge* (processes). The last occurrence of the phrase even formulates a question.

This repetitive approach can be read and interpreted in two ways: a) the latter replaces the previous mention, or b) they are alternatives, equal in their meaning and usage. Tellingly, a clear decision for a final version is not identifiable within the notebook entries by any means, it can, however be found in an external source, an exhibition catalogue from 1978 as a subtitle for a video installation: "sie hat angefangen, ihre fortlaufenden Zustände vorzuträumen" (Künstlerhaus Wien 2).

Both types of textual versions show substantive and marginal variants, building a number of individual versions in time and space. While the substitution from *Gruß* to *Laut* in the first example and the choice between *Zustände*, *Ereignisse*, *Entfaltung*, and *Vorgänge* in the second example must be considered substantive variants, the changes in punctuation and capitalisation can be regarded as marginal variants.

Versioning graphics

Besides text versions, the numerous versions of graphics must be considered. The vast majority of the graphical components in Skerbisch's notebooks are sketches. These have to be examined on two levels: a) their *formal design* and b) their *conceptual meaning*. As far as the former is concerned, alternative versions can be identified on a formal level through the alternation between geometric forms and viewpoints, as well as the positioning of certain elements. The situation becomes more complicated when considering conceptual meaning: Can we still speak of versions when the degree of alteration moves away from the formal level towards a conceptual level? When can we speak of versions of a unique artwork and when of a variation on a theme or even a separate work of art?

Drawing on a similar principle, variant and variation are used to distinguish between two different stages of graphics. These are designated as versions if they cover the same topic and are visually perceived as the same motif with substantive and marginal variants. By contrast, a variation covers the same artistic concept, but varies notably in appearance, i.e. the variables overweigh the constants. The connection is

W1		sie	hat	angefangen		ihre	fortlaufenden	Zustände	vorzuträumen	
W2		sie	hat	angefangen						
W3		sie	hat	angefangen	,	ihre	fortlaufenden	Zustände	vorzuträumen	.
W4		sie	hat	angefangen		ihre		Zustände	vorzuträumen	
W5		sie	hat	angefangen		ihre	fortlaufenden	Zustände	vorzuträumen	
W6		sie	hat	angefangen					vorzuträumen	
W7		sie	hat	angefangen				Ereignisse	vorzuträumen	
W8		sie	hat	angefangen				Ereignisse	vorzuträumen	
W9		sie	hat	angefangen		ihre		Entfaltung	vorzuträumen	
W10		sie	hat	angefangen		ihre		Vorgänge	vorzuträumen	
W11		sie	hat	angefangen		ihre	fortlaufenden	Zustände	vorzuträumen	
W12	..	sie	hat	angefangen		ihre	fortlaufenden	Zustände	vorzuträumen	
W13		sie	hat	angefangen		ihre	fortlaufenden	Zustände	vorzuträumen	
W14		Sie	hat	angefangen						
W15		sie	hat	angefangen		ihre	fortlaufenden	Zustände	vorzuträumen	
W16		sie	hat	angefangen	,	ihre	fortlaufenden	Zustände	vorzuträumen	
W17		sie	hat	angefangen					vorzuträumen	
W18		sie	hat	angefangen					vorzuträumen	
W19		sie	hat	angefangen					vorzuträumen	
W20	hat	sie		angefangen					vorzuträumen	

Figure 6: Collation of a phrase repeated 20 times.

not primarily recognisable through the visual appearance any more, but requires a more intensive examination of the artist's entire oeuvre. This applies where an artist experiments with the same object-matter repeatedly, showing the development of an artistic style.

When encoding the text entries, the use of TEI was the evident solution from the outset, since it covers the most common cases for the encoding of primary sources. For the encoding of the graphics, there is a dedicated module of the TEI Guidelines (TEI Consortium, "14 Tables, Formulæ, Graphics and Notated Music") which seems sufficient to begin with. The `<figure>` element is recommended to signal the existence of a graphic in any form: this can be an illustration, a sketch, a photograph, or any other pictorial representation. The `<figure>` element can nest one or more `<graphic>` elements, which refer to the location of the digital image in its `@url` attribute. An additional `<figDesc>` element allows for describing the actual graphic in prose and the `<head>` element can encode a figure caption, if present (TEI Consortium, "14.4 Specific Elements for Graphic Images"). When it comes to text as part of the graphic—let us assume the three box constructions from figure 3—either the structural elements `<p>` for paragraphs, `<ab>` for arbitrary text blocks, or `<label>` for designators, can be used; however, they are not sufficient to convey the full meaning of the content (TEI Consortium, "The element `<p>`"; "The element `<ab>`"; "The element `<label>`").

```
<figure>
  <graphic url="box–01.jpg" />
  <figDesc>Konstruktion eines Holzkastens</figDesc>
  <label>Gabel</label>
  <label>Bleiplatte</label>
  <label>Messingstab</label>
  <label>Kegel</label>
</figure>
```

When focusing on the physical disposition of graphics and their details, the TEI `<sourceDoc>` structure is suitable, as it allows the definition of surfaces `<surface>`, zones `<zone>`, and lines `<line>` with exact coordinates for locating every single graphical component and every single part of text (TEI Consortium, "11.1 Digital Facsimiles").

```
<sourceDoc>
  <surface>
    <zone ulx="288" uly="136" lrx="1500" lry="892">
      <graphic url="box–01.jpg" />
      <zone ulx="932" uly="181" lrx="1086" lry="264">Gabel</zone>
      <zone ulx="946" uly="256" lrx="1138" lry="322">Bleiplatte</zone>
      <zone ulx="940" uly="320" lrx="1156" lry="380">Messingstab</zone>
      <zone ulx="939" uly="380" lrx="1204" lry="438">Kegel</zone>
    </zone>
  </surface>
</sourceDoc>
```

The TEI enables recording the existence of sketches, formulas and other graphical components to be recorded on a text structural `<text>` and topographical level

`<sourceDoc>`. However, it is lacking when it comes to a detailed formal and content-related description of graphics, the formalisation of complex interactions of text and graphics with entities inside and outside the notebooks, and the recording of alterations within a graphic.

Formal representation of graphics[3]

Graphical elements like sketches are means of artistic expression. Such drawings often convey a message impossible to transmit through text alone: in this case, the graphic becomes the primary carrier. For a comprehensive description of graphical representations, a three-part model is proposed which considers the various (1) graphical components, (2) the textual functions and (3) the interpretations provided by the editor. The first two levels, describing the graphical components and the textual functions—essentially constituting the material record of the source material—are descriptive. The third, interpretational layer functions as an extended commentary contextualising the textual and graphical entries with notebook-internal and -external material related to them.

The proposed model (see figure 7) describes the graphical components of a pictorial representation in the first layer. It declares:

a) the *type* of the graphic representation (e.g. sketch, constructional drawing, doodle),
b) the *projection* (e.g. front view, plan view),
c) the *status* of execution (e.g. total view, detail view),
d) the material of the *information carrier* (e.g. paper, newspaper, photograph),
e) the *drawing instrument* (e.g. pencil, ink pen),
f) *date* or *time span* (to facilitate a chronological order for further investigation on the genesis of the work), and
g) primary graphical *shapes* and *figures* (e.g. triangle, square, cube, tetrahedron).

The second layer records the textual functions, i.e. any explanatory text added to the graphic by the artist. This category includes:

a) *caption*,
b) *description* related to the whole graphic or parts of it, and
c) *label* which designates a specific component of the graphic, sometimes made explicit through a connecting line or clarified through its distinct positioning.

Besides that, the textual content can be of a specific type (e.g. providing information on the *material* or *measurement* proposed in the physical manifestation).

---

[3] Elements of this section overlap with a more detailed technical presentation of the subject forthcoming in the *Journal of the Text Encoding Initiative*, including descriptions of specific elements and the graphic thesaurus developed in the course of the project (Scholger, "Taking Note").

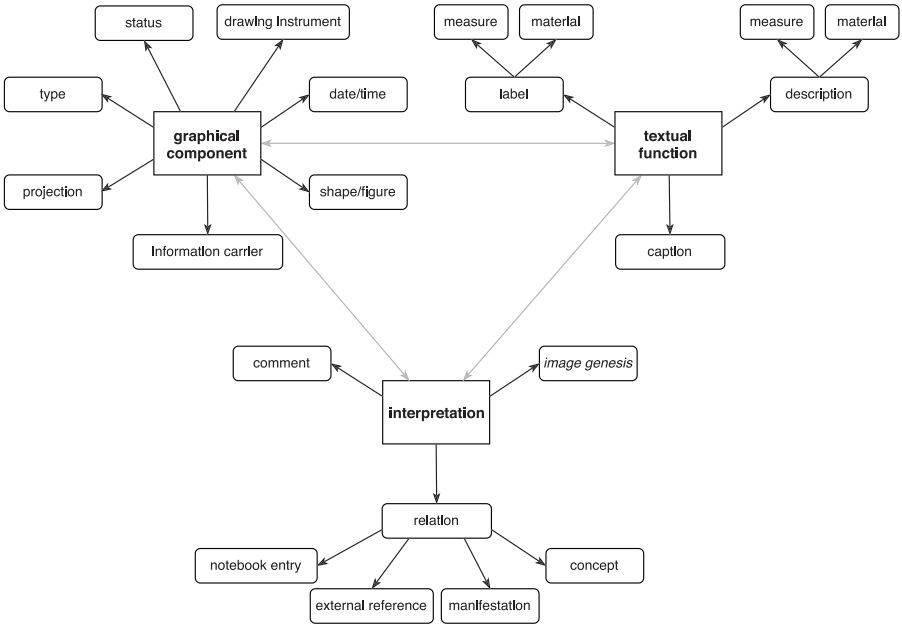


Figure 7: Model for a formal representation of graphics.

The third layer represents the editor's interpretation. It can contain: a) a general *comment*, b) several *relations* to other notebook entries (these can be graphics, but also text); external references to literature, art, music or other preparatory objects (like models or photographs) (*Die Notizbücher* "Register"; "Thesauri"). An implicit part of the third layer is the *image genesis*, which is not explicitly encoded but a result of the annotation process and therefore operative. Versions are generated automatically and can be brought into a sequence to show the development of modifications, comparable to different stages of a text in genetic criticism.

In order to trace the genealogy of the sketches, the interpretational layer needs to record the alterations in comparison to previous entries by pointing to respective locations within the graphics. This is a prerequisite for identifying versions, variants, and variations in the analysis process.

Tables 1–3 show the application of these categories to the sketches of the first two box constructions from figure 3 (middle row). It is easy to spot which graphics can be linked and where changes or alterations occur. Where possible, properties such as shape type, shape and figure, material, notebook entries and external references,

	Graphic 1	**Graphic 2**
Type	Constructional drawing	
Projection	Back view	Side view
Status	Total view	
Information carrier	Paper	
Drawing instrument	Ink pen, black	
Date	1972-11-15	1972-11-29
Shape/figure	Cube	

Table 1: Instances of the graphical components.

manifestations and intellectual concepts are linked to thesauri/controlled vocabularies from existing authority files or the registers of Skerbisch's artworks and artistic concepts compiled in the course of the digital edition. These same tables reveal that many of the instances remain the same across the representations, especially in the formal description of the graphic and the relations to other entities, but some show distinct differences regarding the textual functions, i.e. Skerbisch's instructions for materiality and measurements of the artworks' envisioned realisation.

By comparing the changes against a formalised model, the alteration of key components is evident. To transfer the demonstrated model into digital structures, the existing methods for encoding graphics in TEI are augmented by a semantic web approach. In the notebooks there are *semantics* communicated by the artist via figures and shapes—a circle stands for a stone slab, a tetrahedron for a tent, etc.—which need to be considered in the digital representation.

Descriptive elements from the TEI encoding are formalised by linking them to specific concepts in decicated thesauri describing artworks, concepts, and graphics expressed in RDF/XML, by employing the `@ana` attribute which "indicates one or more elements containing interpretations of the element on which the `@ana` attribute appears" (TEI Consortium, "att.global.analytic"). This enables not only the representation of the TEI-encoded content, but also the filtering of common factual statements. Georg Vogeler describes this approach to critical representation in digital form as a trinity of image, sign and meaning of content (2015). The thesaurus for formalizing

	Graphic 1	**Graphic 2**
Caption	–	–
Description	–	Kein Berg!!
Label	Gabel; Bleiplatte; Messingstab; Kegel	Messingstäbe 8-10mm Ø ca. 170 u. 140 cm lang Kopf Fuß Querstange ca 12mm l ca 100cm 4 Dreicke Bleiplatte 100 x 100
Material	Messing, Blei	Messing, Blei
Measurement	–	8-10mm; ca. 170 und 140 cm lang …

Table 2: Instances of the textual functions.

graphical components is a SKOS representation assembled from entities encoded in the TEI document, incorporating concepts from existing authority files, namely the Art & Architecture Thesaurus, in addition to individually-defined concepts where the authority files are lacking, and can be flexibly expanded at any time when new material is processed. It currently contains seven facets: (a) visual works, (b) materials, (c) drafting, drawing and writing equipment, (d) supporting material, (e) geometric figures, (f) views, and (g) interpretation (Scholger, *Thesaurus for Graphics*). The artwork thesaurus represents information on Skerbisch's artworks, like type (installation, photography), date, status (permanent, temporary), and refers to their locations in the case of art in a public space or exhibition venues. The following code example shows a combination of the methods already available in the TEI standard—the recording of the physical dispositions and the intellectual content, and referencing dedicated concepts through the `@ana` attribute. The prefix *art* refers to the artwork thesaurus and the prefix *gt* to the graphic thesaurus.

	Graphic 1	Graphic 2
Comment	Box construction with a forked bracket for mounting a canopy …	Box construction with …
	Relation	
Notebook entry	#TB09-004 (sketch), #TB09-128 (text), #TB10-12 (text)	
External reference	Exhibition catalogue	
Manifestation	#A10076 (Der Kasten)	
Concept	Space, installation, body, environment	
	Image genesis	
Alteration	–	Changing the suspension for the canopy: triangles instead of forks
Deletion	–	The indicated mountain is crossed out

Table 3: Instances of the interpretational layer.

```
<!— section 1: encoding of the physical dispositions in the facsimile structure
    —>

<facsimile>
  <surface xml:id="fol_19v">
    <zone xml:id="F—27" ulx="288" uly="136" lrx="1500" lry="892">
      <graphic url="box.jpg" />
      <zone xml:id="F—27—01—a" ulx="932" uly="181" lrx="1086" lry="264" />
      <zone xml:id="F—27—01—b" points="604,151 596,520 619,524 631,152" />
      <zone xml:id="F—27—02—a" ulx="946" uly="256" lrx="1138" lry="322" />
      <zone xml:id="F—27—02—b" points="614,187 388,511 692,693 746,353"/>

 <!— more <zone> elements —>

    </zone>
  </surface>
</facsimile>
```

```
<!—— section 2: encoding of the sketch in the intellectual text structure ——>

<figure facs="#F—27" ana="art:A10076 gt:1010200 gt:5020000 gt:6010000">
  <figDesc>Konstruktionszeichnung eines Holzkastens</figDesc>
  <figure facs="#F—27—01">
    <label facs="#F—27—01—a" ana="gt:5060000">Gabel</label>
    <graphic url="#F—27—01—b" />
  </figure>
  <figure facs="#F—27—02">
    <label facs="#F—27—02—a">
                <material ana="gt:2110000">Blei</material>platte
        </label>
    <graphic url="#F—27—02—b" />
  </figure>
  <figure facs="#F—27—03">
    <label facs="#F—27—03—a" ana="gt:2020000">
            <material ana="gt:2120000">Messing</material>stab</label>
    <graphic url="#F—27—03—b" />
  </figure>
  <figure facs="#F—27—04">
    <label facs="#F—27—04—a" ana="gt:5070000">Kegel</label>
    <graphic url="#F—27—04—b" />
  </figure>
  <graphic url="#F—27—a" />
</figure>
```

This strategy in searching for similar concepts assigned to graphics is technically implemented via a triple store by using SPARQL queries. Initially, factual information encoded in the TEI document is extracted with XSLT and converted into XML/RDF triples which are then stored in the graph database *Blazegraph* (Systap).

Through this formalisation process, similar graphics can now be extracted from the entire notebook corpus (figure 8), compared and examined for similarities and differences. The resulting XML tree of this SPARQL query extracts a list of images as well as a synopsis of graphical features. The reference to the position in the notebooks gives the temporal information to create a chronology of changes. Drawing on the encoding of the location of graphical details explained above, single components are highlighted in the user interface, supporting the orientation and interpretation process. The comparative juxtaposition, in connection with the temporal dimension of the course of development, makes it possible to reveal specific stages and degrees of completion. With the help of SPARQL queries, all the sketches showing a box can be extracted. The selection can further be restricted to sketches containing both boxes and tents, and so on.

The overall view of the corpus not only gives a picture of the chronological sequence in which the drawings occurred, but also shows the intensity with which the artist has devoted himself to a specific theme in the conception of his works on a macro-perspective level. Since the notebook entries also refer to artworks and artistic concepts, this method allows corresponding text passages to be searched for, in addition to the graphics. Only through the conflation of textual entries, graphical

Figure 8: Corpus-spanning search for shared concepts.

representations, external links and work manifestations, can a comprehensive analysis of the work creation process become possible.

6 Conclusion

Contemporary art, especially from conceptual artists, is usually not self-explanatory, nor easy to understand. From the 1960s onwards, artists dissociated themselves from the very notion of the artwork and the art market and progressed beyond the boundaries of conventional art production. They started to work in an interdisciplinary fashion and were no longer exclusively rooted in one single medium or genre, instead experimenting with different media such as photography, video, music, audio, language, and fine arts. The artist's actual opus is the concept *behind* a manifestation, a state in an ongoing creative process. The artistic concept becomes a reasonable art form itself, whereas the actual manifestation fades into the background. While little tangible evidence beyond memories from witnesses and documentation in catalogues and books remains of Skerbisch's early media installations, the records in the notebooks give testimony to the artist's intensive engagement with the conceptualisation of these installations and their leading topics.

A closer investigation of textual and graphical versions leads us not only to the core of an artwork, but more significantly to what determines art itself, more specifically:

the idea. Initially described by Platon and conceptually shaped in Antiquity, the questioning of art itself is central to conceptual art (Beyer 189).

Considering methods from other disciplines shows that versions exist in any kind of creative process. It is, however, necessary to differentiate versions, variants, and variations, and to identify the development stages and the different external influences in order to reveal components discarded during the design process, and finally the idea at the core of an artwork.

In the case of an artist, the final version is usually performed in another medium. Accordingly, a genetic approach needs to consider more than text to uncover the unfolding of an idea. As has been shown in this contribution, an extended genetic approach and the application of semantic technologies is needed to identify versions of the same conceptual roots. This facilitates the revealing of a network of initial ideas, temporal manifestations and continuous concepts, to help reconstruct the artist's creation process over time.

Looking at the notebook entries, it becomes obvious that the tent and the box were central shapes in Skerbisch's early media artworks, which were reused, reorganised and reconceptualised by the artist several times. The tent first occurred in the photograph *Patmos* in 1972. The tent and box shapes were then used separately by Skerbisch in his first exhibition at the poolerie in 1975 and subsequently reused and further expanded within the notebooks before he combined them in the installation *Erde (Our cubehouse still rocks)* in 1976. Furthermore, Skerbisch used the box in his first exhibition at the *poolerie* in 1975 and he combined it with the tent in *Erde*.

Coming back to the original differentiation of variant and variation, this means that we have several versions of tent constructions and several versions of box construction showing substantive and accidental changes, whereas the transition from one work of art to another work of art can be considered as a variation of a shared concept. The artworks in figure 9 are related by concept and content, but whereas the overall concept remains clear and consistent, single components vary to a large degree (Scholger, "Tracing the association processes").

Investigating the different versions of graphical representations of artistic ideas in notebooks—and especially the changes and alterations in material, positions, components, and proportions—supports us in solving the bigger puzzle of reconstructing an artist's creation processes. Such investigations should therefore be much more prominent in the genre of digital scholarly editing of artists' sources. To achieve that goal, however, it is paramount and required to comprehend and digitally represent graphics with the same depth and complexity as text.

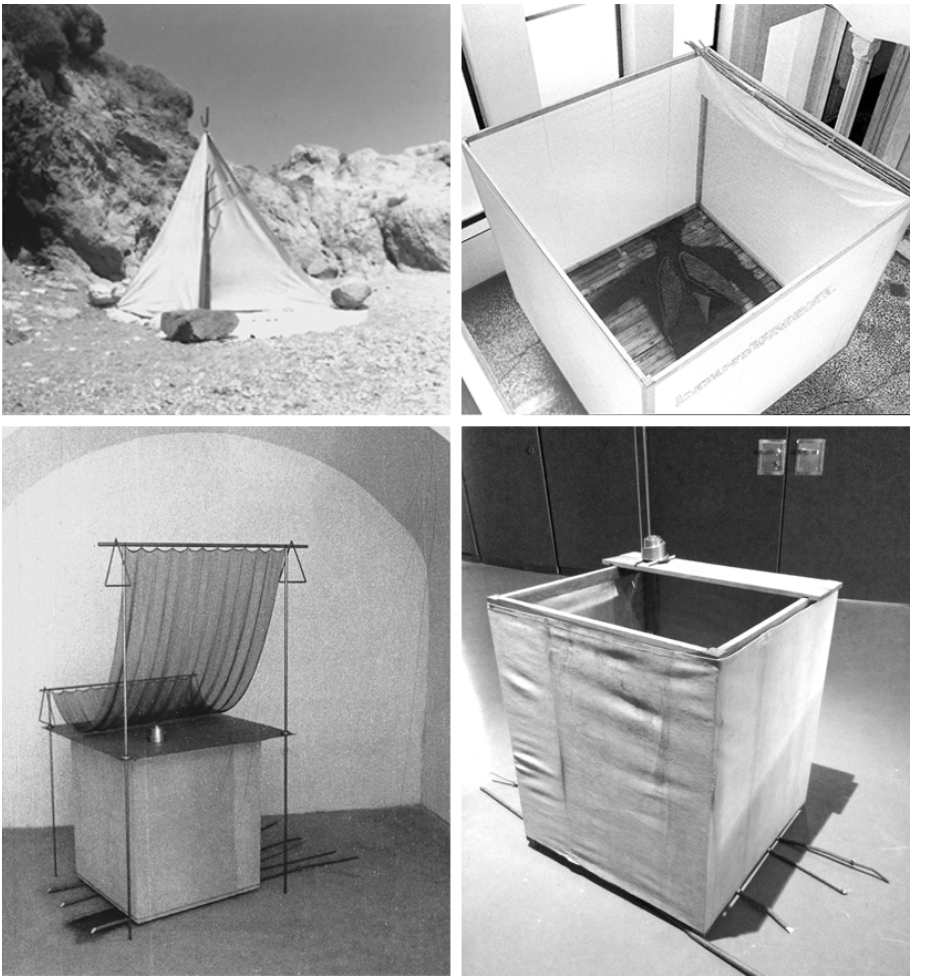


Figure 9: Patmos (1972), Erde. Our cubehouse still rocks (1976), Kasten 1975; photographs by Hartmut Skerbisch. Kasten (reconstruction) 2015.

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