

# Graph-Based Paths through a Narrative Corpus of Images: A Digital Edition of Giovanni Domenico Tiepolo's *Divertimento per li ragazzi* Based on the CIDOC CRM

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## Abstract

In the following paper, we discuss a digital edition of Giovanni Domenico Tiepolo's *Divertimento per li ragazzi* (c. 1797–1804) currently being prepared at the University of Stuttgart. The *Divertimento* is a series of pen and ink wash drawings that can be understood as a narrative sequence, since the images center around the life story of Pulcinella, a character that first gained notoriety through the *Commedia dell'arte* and the puppet theater. However, a number of repetitions and contradictions make it impossible to arrange all of the drawings that make up the *Divertimento* into a coherent, chronological narrative. A multitude of corresponding motifs establish internal relations between the drawings as well as external links to other works of art and cultural practices, thereby complicating matters even further. We argue that the *Divertimento*'s open structure can best be represented in a digital edition based on a graph data model which follows the event-based structure



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of the CIDOC Conceptual Reference Model (CIDOC CRM). After presenting the principles of our data model, we will outline the possibilities for a visualization of this model in a web-based front end.

## 1 Introduction

As many recent projects have shown, graph data models are becoming more and more ubiquitous in the digital humanities. Graphs have come to play a major role in the modeling of predominantly non-textual data, both in the domain of cultural heritage and knowledge representation. Here, the CIDOC CRM ontology (Le Boeuf et al., 2009) provides a solid and widely discussed meta-model that can be applied to a wide variety of different objects and serves as a standard that is – at least to an extent – able to establish interoperability between data models from diverse domains. Graphs have also gained more and more attention in the field of text representation, which lies at the core of digital editions. The notion of text as a graph (Haentjens Dekker and Birnbaum, 2017; Andrews and Macé, 2013; Efer, 2016; Kuczera, 2016) offers an alternative to the hitherto widely used XML formats and their well-known drawbacks: following the principles of the Ordered Hierarchy of Content Objects model (OHCO) (DeRose et al., 1990; Renear et al., 1996), XML forces texts into a hierarchical framework that is not particularly apt to represent multiple overlapping layers of text structures and their annotations (Schmidt, 2010).

In this paper, we wish to introduce a project that lies at the intersection of these two fields of application – a digital edition of Giovanni Domenico Tiepolo’s *Divertimento per li ragazzi* that is being prepared at the University of Stuttgart in a joint collaboration between the Department of Digital Humanities at the Institute of Literary Studies and the Institute of Art History. Since Tiepolo’s series of drawings is, to an extent, structured like a narrative (and can consequently be understood as a text in the wider sense of the term), we draw on the example of digital editions in the field of digital literary studies, but at the same time use data models from the cultural heritage domain.

In the following section, we will provide a brief introduction to the *Divertimento* by discussing some of its specific characteristics and the context in which it was created. Section 3 explores the requirements that result from this background for an appropriate display of the artifact. In section 4 we discuss the principles of our data model, while section 5 presents ideas for the visualization of the series in a web-based front end. Section 6 summarizes

our results in a conclusion.

## 2 *Divertimento per li ragazzi*

The series *Divertimento per li ragazzi* was created by the Venetian artist Giovanni Domenico Tiepolo during the final years of his life, between 1797 and 1804. It consists of 104 drawings, each of which feature Pulcinella, a popular character from the *Commedia dell'arte* and the puppet theater. Tiepolo drew on a wide range of sources, including his own works as well as those of other artists, particularly his father Giambattista – one of the most famous Italian painters of the eighteenth century. After the drawings appeared in public in the year 1920, they were sold separately and are now spread across numerous collections, which renders the task of bringing together all of the drawings in one place virtually impossible.

Since all of the drawings depict Pulcinella (or to be more precise: almost always several Pulcinelli) in a similar fashion, albeit at different stages in his life (e.g. as a child, as a young man, and before his death), the series at first glance appears to be a kind of biographical portrait. However, due to repetitions of very similar events, not to mention some contradictory images, it is impossible to arrange all of the drawings into a single, coherent narrative (Vetrocq, 1979, pp. 19-20): for example, Pulcinella is executed in two different ways in two of the drawings, whereas another image shows him being pardoned for his crimes. Moreover, the fact that most of the drawings show several Pulcinelli in a single image forces the viewer to decide which one is the actual protagonist of the scene. Thus, in contradistinction to a 'regular' narrative series, there is no clear order of the pictures and no 'correct' or intentional course of the narrative. Instead, the series opens up a broad range of stories that can be reconstructed and arranged by the viewer (Gealt, 1986, pp. 19-20) (Gottdang, 2015, pp. 81-86), who thereby assumes the role of narrator and turns into an active participant in the playful retelling of Pulcinella's life, as befits the character's theatrical origin in the *Commedia dell'arte* (Tumanov, 2019).

However, the possibility of arranging the material in different ways does not mean that certain rules cannot or should not be applied while 'reading' the *Divertimento*. On the contrary, finding a way through the plethora of possibilities requires the application of specific perspectives that are conducive to arranging the material in a manageable and meaningful manner. From a point of view that emphasizes the narrative logic of the series, not all of the possible arrangements appear to be equally plausible: biographical readings, for example, would suggest that drawings showing Pulcinella as a child should precede images portraying him as an adult, or those addressing

his death.

Besides this chronological or syntagmatic order, Pulcinella's life story is also supplemented by a paradigmatic dimension that is established by the repetition of specific motifs. For example, several drawings contain a pot of gnocchi that is traditionally strongly associated with the Pulcinella character. The repetition of this motif establishes relations between individual drawings that complement or even undermine the syntagmatic structure of the biographic narrative.

Finally, these internal paradigmatic relations are supplemented by external links to other works of art, motifs, or practices. To give but one example, the scene that depicts the shooting of Pulcinella clearly refers to one of the plates of the *Grandes Misères de la guerre* by Jacques Callot. Contextualizations like these not only show which artists Tiepolo himself was influenced by, but also shed new light on the meaning of the drawings. This holds true on a more abstract level as well, as the richness of the *Divertimento*'s interrelationships makes it highly likely that the series was designed with the intention of playing with various types of allusions, recurring motifs, and their continuous modification. Tiepolo's drawings thus recall practices known from the *Commedia dell'arte*, which is based on fixed character types whose dramatic repertoires can nonetheless be recombined to generate nearly limitless variations of their stereotypical roles.

### 3 A Digital Edition of the *Divertimento*

As previous research has shown, this richness of possible relations is hard to grasp via conventional means. In the printed catalogue of the *Divertimento* published by Adelheid Gealt (1986), which still forms the basis of scholarly engagement with the series, the drawings are presented in a page-by-page sequence, and although Gealt (1986, pp. 16-17) hints at the open structure of the series, this arrangement suggests a specific, predetermined sequence of images. Ultimately, this static structure is the result of the specific medium involved: printed books favor sequential and closed arrangements, since they are often intended to be read in a linear order and are subject to limitations in terms of their page count.

More recent endeavors, especially in the field of textual scholarship, have shown that the limitations of print media can be overcome with the help of digital editions that are able to present material in a more dynamic way: due to the (potentially) infinite space of the digital medium, a digital edition enables the juxtaposition of multiple perspectives on a given text. And because electronic texts are versatile as opposed to permanently fixed, these different perspectives can be linked, dynamically arranged, and contextualized in po-

tentially infinite ways (Pierazzo, 2016; Sahle, 2013).

A similar media shift would make it possible to present the *Divertimento* in a manner that takes full account of the series' open structure and its embeddedness in a rich network of relationships. We therefore propose applying methods that were originally developed with the purpose of textual representation in the field of digital editions in mind to Tiepolo's series of drawings.

In our edition of the *Divertimento*, we seek to lay the groundwork for the study of the multitude of perspectives that arise from the network of paradigmatic and syntagmatic relations that can be found in the series. To this end, we have identified four key requirements for a digital edition of the series:

- The goal of the edition should not be to reconstruct a single linear sequence, but rather to identify and highlight possible links which are suggested by the series itself, while enabling the viewer to find diverse ways through the narrative space of the *Divertimento*.
- To achieve this goal, a data model is needed that provides a logical narrative framework without determining a fixed sequence.
- The data model has to take into account syntagmatic as well as paradigmatic relations.
- It should be capable of incorporating internal as well as external references that reach out into the Semantic Web.

## 4 Data Model

### 4.1 Advantages of Graph Data Models and the CIDOC CRM

Given the *Divertimento*'s open structure and the fundamentally non-textual nature of its material, we decided not to use an XML structure for our underlying data model as is common in text editions, especially in the form outlined by the guidelines of the TEI.<sup>1</sup> Rather, we opted for a graph data model, since it is particularly well suited for representing not only syntagmatic, but also paradigmatic relations, as well as possible external links without establishing a fixed hierarchy or prescribing ways how these relations should be ordered.

Figure 1 illustrates the advantages of such a model for our purposes: print editions foster the approach that can be seen on the left, where one page after the other is accessed in a linear sequence. As shown on the right, digital models, and especially graph models, not only make it possible to follow different paths through the narrative (e.g. from p2 to p3 or p4), but also to envis-

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<sup>1</sup><https://tei-c.org/>

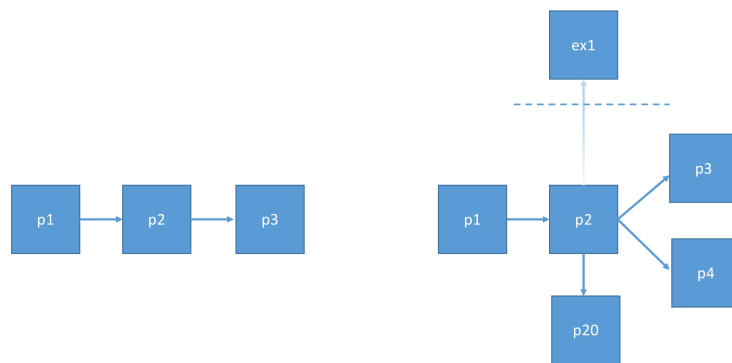


Figure 1: Characteristics of print and digital editions (p = page, ex = external link)

age paradigmatic relations that result from the repetition of motifs: either between the drawings in the series (e.g. between p2 and p20), or between the series and external works of art or cultural practices (e.g. between p2 and ex1).

Given that digital representations show the most potential when they are interoperable and can be connected to other digital sources, and that they are much more sustainable if they are built on the basis of a non-proprietary format, we decided to use the CIDOC Conceptual Reference Model (Le Boeuf et al., 2009) as the underlying standard for our specific model. The CIDOC CRM originally stems from the field of cultural heritage, but is becoming more and more widely used as a top-level ontology in the digital humanities in general (Eide and Ore, 2018).

Apart from the benefits of standardization, what makes the CIDOC CRM so suitable to the requirements of our project is its event-based structure and its connectivity to Linked Open Data (LOD). Besides physical objects, temporal entities are crucial basic units in the CRM. This allows for the connection of cultural artefacts to events that are related to these artefacts, and in turn to persons or any other entities that are connected to these events. Thus, the CRM makes it possible not only to describe objects, but also to connect them to a wide variety of entities of all kinds, including non-material occurrences and the actors that are involved in them. In this way, the CRM can be used to establish a web of knowledge representation that takes into account highly diverse sources.

## 4.2 Chronological Backbone

Our basic principle for modeling the *Divertimento* is to adopt the event-based structure of the CRM by using the events that are a part of Pulcinella's 'virtual' life story as a starting point instead of objects like the individual drawings. More specifically, we establish a node for the whole life story and subsume it to the CIDOC CRM E4\_Period class.<sup>2</sup> Individual sections of this life story, such as Pulcinella's birth, his childhood, his adolescence, etc. are classified as E5\_Events. These sections are in turn segmented in instances of the E7\_Activity class for further specification. For example, the section 'Geburt und Kindheit Pulcinellas und Familienszenen' (Pulcinella's birth, childhood, and domestic life') consists of E7\_Activities like 'Geburt Pulcinellas' (Pulcinella's birth), 'Pulcinella als Säugling' (Pulcinella as an infant), 'Kindheitsszenen' (childhood scenes), and so on.

In order to convey the narrative logic that requires sections like Pulcinella's childhood to chronologically precede sections like that of his adolescence, we establish P120\_occurs\_before-relations between the respective E5\_Event nodes. The P120 property is particularly suitable for our purposes, since it does not make any assumptions about the time span that lies between two events, but expresses a temporal sequence only. A special case in this respect is the first E5\_Event in our model, which is represented by a single drawing, namely the title page or frontispiece:<sup>3</sup> although the frontispiece clearly serves as an introductory image to the series, it can also be seen as its endpoint, since it features a stone block that could be interpreted as Pulcinella's tomb.<sup>4</sup> This once again demonstrates that the series' narrative is not simply linear – rather, it simultaneously evokes and defies the rules of a sequential reading. As a corollary, we also established a P120\_occurs\_before relation between the final events of Pulcinella's life story – 'Postmortales,' a category containing events that are likely to happen after his death, such as the laying out of his body – and the frontispiece. The narrative thus becomes an endless circle of events which can play out again and again with almost unlimited variations.<sup>5</sup>

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<sup>2</sup>For this particular project, we have chosen to draw on the OWL-based version of the CIDOC, the Erlangen CRM (<http://erlangen-crm.org/>), which we adapted with the help of the ontology editor Protégé (<https://protege.stanford.edu/>). An OWL file of the current version of our model can be found on our Github page: <https://github.com/Gabvie/Divertimento>.

<sup>3</sup>The E5\_Event is named 'Frontispiz' accordingly. One could argue that a frontispiece is not an event. However, the title merely serves as a placeholder for 'events taking place before the story' or 'events that precede the temporal order of the story'

<sup>4</sup>This view is supported by the motif correspondences to other tombstones or stone blocks depicted in other drawings of the series.

<sup>5</sup>This decision leads to difficulties in the visualization of our edition, which will be dis-

Once this chronological backbone is established, we assign the individual drawings to the E5\_Events by using the relation P62\_depicts.

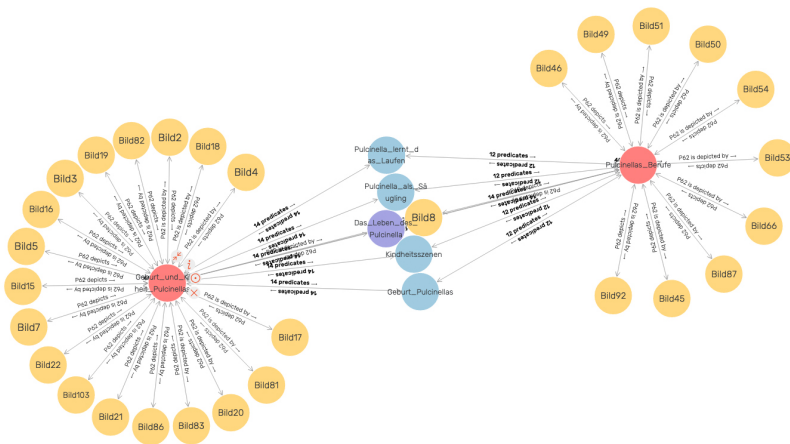


Figure 2: Detail from a network visualization of the data model, centered around two event nodes

An example of this model of the chronological order can be found in Figure 2, visualized with the help of the RDF database GraphDB.<sup>6</sup> Here we see two E5\_Event nodes – ‘Geburt und Kindheit Pulcinellas und Familienszenen’ (‘Pulcinella’s birth, childhood, and domestic life’) and ‘Pulcinellas Berufe’ (‘Pulcinella’s professions’) – and their connections. Each node is colored red. The yellow nodes, meanwhile, represent the individual drawings that are assigned to the E5\_Events with the relation P62\_depicts. As the example of ‘Bild 8’ shows (Image 8, titled ‘Der junge Pulcinella beobachtet Landarbeiter’ – ‘The Young Pulcinella observes the laborers’), drawings can be linked to two events provided that they can reasonably be sorted into both of the respective sections.

The two E5\_Event nodes are connected by various relations (amongst them P120\_occurs\_before) and through E7\_Activity nodes (colored light blue), such as ‘Pulcinella lernt das Laufen’ (‘Pulcinella learns to walk’), which further subdivide the events. Both E5\_Event nodes are also connected to the overall E4\_Period node, ‘Das Leben des Pulcinella’ (‘Pulcinella’s life story’), colored purple.

Within an event group, the individual images remain freely sortable without further chronological arrangement, or can be brought into a more

cussed in Section 5.

<sup>6</sup><http://graphdb.ontotext.com/>



closely specified chronology by linking E7\_Activities. In this way, it becomes possible to model not only very basic temporal divisions, but also specific chronological sequences, so that variable courses of action can be taken without the limitations of a rigid linear arrangement.

### 4.3 Motif Correspondences

In order to link corresponding motifs, we first establish a node for each motif that we consider to be relevant. This is a hermeneutical task, since it is clearly impracticable (if not impossible) to identify and list all the motifs that are to be found in a given image, and to do so in a non-interpretative fashion.<sup>7</sup> Thus, the number of motifs that can be established as nodes is in principle completely open, and is not ultimately determined by the publication of our edition.<sup>8</sup>

Once the motifs are identified, they are assigned to sub-classes of the CRM class E77\_Persistent\_Item, which encompasses actors and things. Here, too, the link between motifs and images is established via the P62\_depicts relation.

In an effort to open up our data model to external links, we also assign identifiers to each motif that are commonly used in authority files such as the Iconclass taxonomy.<sup>9</sup> Iconclass provides a standard hierarchy for motifs and enables the connection to Linked Open Data (Kailus, 2017; Kailus and Stein, 2018). Whereas some of the motifs we identified are easily assignable to the respective Iconclass identifier (e.g. ‘dog’ is connected to the URI <http://iconclass.org/34B11>, ‘ladder’ to <http://iconclass.org/41A343>), more specific motifs like the aforementioned pot of gnocchi can, of course, only be referenced at a more general level. Here again, it becomes evident that the question which motifs should be linked remains a hermeneutical one. Obviously, it does not make sense to reflect on relationships between the *Divertimento* and all artefacts that feature the same motifs, but the use of authority files makes it possible to exploit digital repositories as pools of connections that could potentially be relevant from an art historical point of view. The meaningfulness of the link must then be assessed by a human researcher.

Thus, as is the case with the syntagmatic relations, the paradigmatic net of allusions only becomes navigable if the wealth of possible relations that

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<sup>7</sup>At the very least, the granularity of such an inventory will always be an issue given that motifs can themselves be part of motifs.

<sup>8</sup>This is in keeping with another distinct characteristic of digital editions: by the logic of their medium, they are always incomplete. At least in theory, it is also easier to expand digital editions after their publication. For an outlook of possible interactive components for our edition, see also Section 5.

<sup>9</sup><http://www.iconclass.org/>.

the *Divertimento* offers is restricted by sorting the material according to the specific perspectives of researchers with expert knowledge of the field, who are capable of identifying meaningful references. Therefore, we established nodes in our data model that represent external works of art which we regard as relevant references, the aforementioned *Grandes Misères de la guerre* by Jacques Callot being a case in point. Furthermore, we also created nodes for specific cultural practices (e.g. the Veronese carnival tradition) that can be linked to the motifs, a level of detail which obviously goes far beyond the scope of the Iconclass system.<sup>10</sup>

Of course, this ‘hard-coding’ of possible relationships can only be done to a certain extent and conflicts with the idea of a dynamic exploitation of knowledge resources that is a cornerstone of the Semantic Web. What becomes obvious here is how the potential openness of the digital medium intensifies a dilemma that accompanies all editorial work: while editions may be intended as ‘pure’ presentations of source material, it is ultimately impossible to produce them in a non-interpretative way. Using their expertise and knowledge of the material, editors will arrange the sources in a meaningful way and add explanatory context as they see fit. But in doing so, they will inevitably restrict the ways in which a source can be understood and promote a perspective on the material that corresponds to their own. Digital editions greatly facilitate the juxtaposition of divergent views on the sources, and they also open up space for enhanced contextualization. However, as can be seen in the case of the *Divertimento*, it may be sensible to restrict this space when the connectivity of the contexts thins out too much.

Leaving such considerations aside for the moment, Figure 3 shows an example of our modeling of motifs. Again visualized with GraphDB, it features the motif of the gnocchi pot (‘Gnocchi-Topf’) as middle node. The node is connected to all images that contain the motif through the P62\_depicts relation. As can be seen by their numbers, which roughly follow the chronological order, the motif links drawings that are not connected by the syntagmatic relation at all, thereby providing an alternative paradigmatic order. This alternative order is easy to identify with the help of the graph data structure.

The gnocchi pot node is also classified as ‘Alltagsgegenstand’ (‘everyday object’) and connected to the corresponding Iconclass identifier, which serves as a possible link to the resources of the net.

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<sup>10</sup>In cases such as this, possible identifiers could be retrieved with the help of Wikidata (<https://www.wikidata.org>), but it is also possible to reference more specific entities like the mentioned Veronese carnival tradition on an abstract level only.

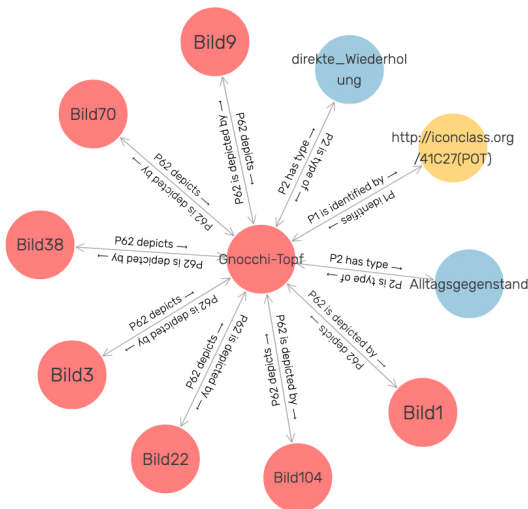


Figure 3: Detail from a network visualization of the data model, centered around the motif of the gnocchi pot

## 5 Front End Visualization

As we have already seen, the graph data model allows for a flexible yet structured arrangement of the material that takes into account the syntagmatic as well as the paradigmatic relations between the drawings. Based on this model, we have also experimented with possible ways to visualize the *Divertimento* in the web front end of our edition. In the following section, we will discuss the potential, the semantics, and the possible limitations of our prototype, which is still a work in progress.

In the implementation of the front end, we employ the ARC2 framework for PHP<sup>11</sup> to retrieve the data from the database with the help of SPARQL queries<sup>12</sup> and to convert the results into HTML. To enhance the visualization of the data, we make use of the HTML Bootstrap framework<sup>13</sup>.

An HTML carousel that successively presents all of the drawings of the series as full-screen images in a slideshow will serve as the entry point to our edition. The carousel simulates the act of flipping through the pages of a printed book and recreates the impression of the drawings being taken out of a folder to be looked at for the first time. The sequence of the carousel follows the canonical order established in Gealt's edition, which emphasizes

<sup>11</sup><https://github.com/semsol/arc2>

<sup>12</sup><https://www.w3.org/TR/rdf-sparql-query/>

<sup>13</sup><https://getbootstrap.com/>

the syntagmatic structure of the series and draws the viewer's attention to the possibility of understanding the individual drawings as parts of a connected narrative. However, already in this introductory display, we will also provide a means to break up the fixed chronological structure and overcome the restrictions of the canonical print edition: by clicking on a button, the user can switch to a randomized version of the carousel, where the sequence of the slideshow is selected by a random number generator. Thus, the semantics of our introductory screen suggest that while there are many potential connections between the individual drawings of the *Divertimento*, these connections do not necessarily produce a linear narrative – rather, there is a multitude of different ways to approach and interpret the series.

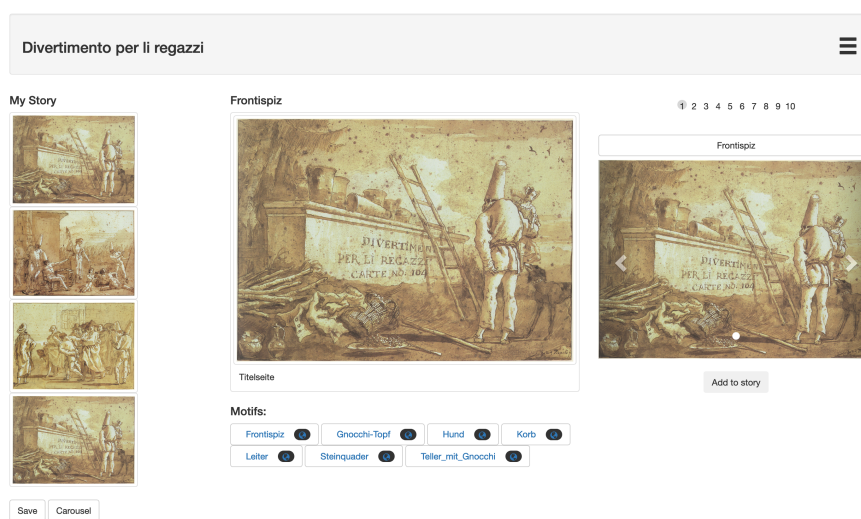


Figure 4: Main view of the prototype front end

Clicking on one of the pictures of the slideshow takes the user to the edition's main working view, which is shown in Figure 4. Here, the screen consists of several sections.

The middle section features the selected image, together with its title and the title of the E5\_Event to which it is assigned (the example seen here shows the title page, which is assigned to the E5\_Event 'Frontispiz'). Below the image, all motifs captured by our data model are listed.<sup>14</sup> As stated above, the list of motifs can never be finished or complete. One way of addressing this fundamental openness would be to include an interactive feature that allows users to add motifs they consider relevant in future versions of our front end.

<sup>14</sup>This would also be a suitable location for additional metadata information in standardized form, which has yet to be implemented.

At its top, the section on the right displays the events that, according to our model, should occur after the event depicted in the selected drawing in the center.<sup>15</sup> However, the example also shows one of the difficulties we encountered: as pointed out in Section 4, the title page of the series could also be understood as its endpoint (or at least one of its endpoints), which is why we established a P120\_occurs\_before relation between the last event of the life story ('Postmortales') and the frontispiece. But because the P120\_occurs\_before relation is transitive according to the logic of the CRM (which, of course, makes sense given our notion of temporal sequences), this means that the frontispiece not only occurs after 'Postmortales,' but also after all other elements that precede 'Postmortales.' The frontispiece thus occurs before itself, creating an endless circle of events in which every event occurs before any other event. While this does not seem totally inappropriate for the *Divertimento* with its tendency towards an endless generation of meaning, it does thwart our efforts to suggest a biographical structure for the 'story' of the series. In response to this challenge, we have given users the choice to select one of the ten events in the working view of our prototype, regardless which drawing from which event they have chosen. Since one of the goals of our edition is to help users find plausible pathways through the narrative, we are currently considering a modification of our data model in this respect.

Once users have selected one of the subsequent events in the top bar of the right section, they can flip through the pictures that are assigned to these events in the thumbnail window below (in our example, the first – and in this case only – drawing from the E5\_Event 'Frontispiz' has been selected). By clicking on the button 'Add to story' below this window, users can select a specific image and add it to their own individual story, which is shown in the left part of the screen in the section titled 'My story' (in our example, four drawings have been selected; the frontispiece occurs twice, once at the beginning, and once at the end). Thus, our edition simultaneously provides suggestions on how a plausible narrative sequence could be assembled, while also giving users the opportunity to find their own way through the the series. The buttons 'save' and 'carousel' allow users to save their story and to watch it in a slideshow.

In addition to these options for arranging the material on the syntagmatic axis, the paradigmatic axis of the motif correspondences can also be explored: by clicking on one of the motifs listed in the lower part of the middle section of our main screen, users can access a view like the one shown in Figure 5.

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<sup>15</sup>The titles can be selected by clicking on one of the numbers from one to ten, which correspond to the total amount of E5\_Event nodes in our model.

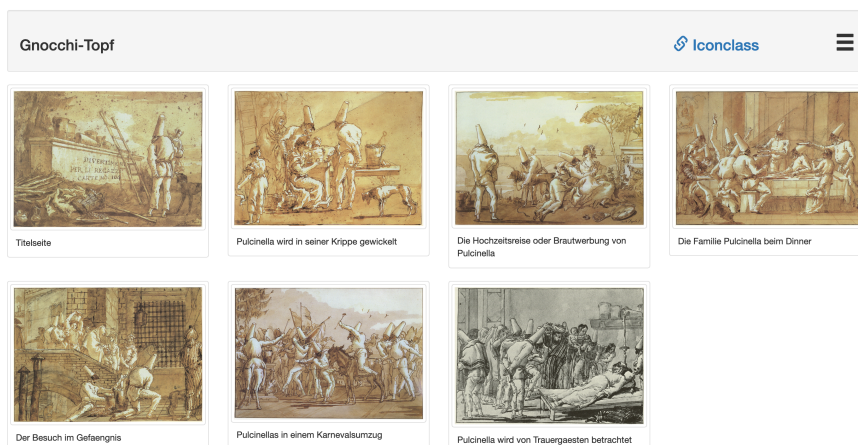


Figure 5: Motif view of the prototype front end

Here, all drawings containing the motif of the gnocchi pot are displayed with the arrangement of the images changing from a single row to a more spacious tableau. It is conceivable that this form of presenting the *Divertimento* corresponds to the perspective of contemporary viewers, who may well have spread out the drawings on a table and arranged them in different ways, discussing the various constellations that emerged in the process.<sup>16</sup>

Links to the corresponding Iconclass identifiers are provided for each motif, which can be used as entry points into other digital resources and the web of Linked Open Data.

## 6 Conclusion

In our paper, we have presented our project of a digital edition of the *Divertimento per li ragazzi*, a series of drawings completed by Giovanni Domenico Tiepolo between 1797 and 1804. To a certain extent, the *Divertimento* can be understood as a narrative series, which, however, at times defies the rules of linearity and allows for a multitude of potentially contradictory readings. As we have shown, the *Divertimento* with its open structure can best be presented by digital means of the kind successfully employed in digital text editions. Furthermore, we have argued that graph data models are especially apt for the task of arranging the material, because they provide a structure that is indispensable to sort the images in a meaningful way, while also being open and flexible enough for free exploration.

<sup>16</sup>For a discussion of contemporaneous practices associated with the collection of prints and drawings, see Smentek (2008), Baker et al. (2003), and Buberl (1993).

To meet conventional standards and thus to ensure the interoperability and the sustainability of our data, we built our model on the basis of the CIDOC CRM, which appears to be especially well suited to our goals, since it is event-based and centers around temporal occurrences rather than objects. In a similar vein, we used a (constructed, hence virtual) life story of Pulcinella as a starting point for our model, as opposed to the individual drawings as objects. Once such an event-based ‘backbone’ is established, all drawings, but also the motifs that establish various types of interconnections, can be arranged around it. We also presented preliminary explorations of how our data model could be visualized in a web front end.

At least for our use case, the CIDOC CRM has proved to be very applicable: all entities and relations that we needed for our model could be assigned to existing CRM classes and almost no customization was needed. Conceptual problems of our model arose more out of the paradoxical characteristics of the *Divertimento* itself (as in the case of the ambiguity of the frontispiece) than out of the use of CRM or graph data.

In the future, we plan to further explore the possibilities of an interactive web presentation that is capable of suggesting possible readings of the *Divertimento*, while simultaneously avoiding the pitfall of limiting alternative interpretations too strictly. A major point that has yet to be addressed is the connection of the series to external sources. Here, we provide anchor points for the Semantic Web and Linked Open Data with the use of authority files like the Iconclass taxonomy. However, even though Iconclass has been available for quite a long time, it remains to be seen whether the taxonomy will be widely accepted and used for the classification of a critical mass of digital sources, so that the full advantage of the linking of data can be realized. As always, meta-models like Iconclass sometimes appear to be too coarse to be useful. This points to the more abstract problem of how to open up possible contexts without creating an information overload – a problem which is very much open for discussion. Again, this is arguably less of a technical problem than a conceptual one that will have to be solved hermeneutically.

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