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BETWEEN PRESERVATION AND REPURPOSING: HOW TO RECONTEXTUALIZE AND REORIENT TWENTY-YEAR-OLD ART-HISTORICAL DATABASES

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ABSTRACT | This article presents a solution for the sustained use of a legacy database by means of data curation based on the example of a research project undertaken by the German Center for Art History Paris (DFK Paris). The wave of digitization of the 1990s and early 2000s gave rise to a large number of databases that are, today, becoming obsolete by lack of technical support. This means that the research data, as a slice of academic history, is in danger of being lost. This article's contribution describes a possible form of recontextualization within a data curation project that takes the example of a database that originated at DFK Paris between 1999 and 2006: the project "Deutsch-französische Kunstvermittlung 1870–1940 und 1945–1960" (Art discourse between France and Germany 1870–1940 and 1945–1960). In three stages, the authors examine the semantic enrichment of the data, the historical context of the project and, employing media-archaeological and other methods, the reconstruction of the original data structure. The data's character as an artifact is taken into consideration throughout, and a restructuring of the data ruled out. The historicity of the database "Deutsch-französische Kunstvermittlung" is also reflected in its new user interface.

KEYWORDS | accessibility, user interface, digital/digitized, art criticism, database

Introduction

Now as before, the ongoing usability of digital databases is closely related to the circumstances under which they were developed and depends on their continued maintenance. As a result of obsolete technologies and a lack of contact with an active community of researchers, the long-term support of these databases that incorporated digital methods during early projects within the field of art history and the humanities are today presented with the major problem of uselessness. A rehabilitation of these legacy databases and their adaptation to current technological standards and concepts of usability, as set out in the FAIR principles (Findability, Accessibility, Interoperability, and Reuse), is essential if completed projects and the databases developed from them are to be preserved as a research resource.¹ However, not only are the technologies, metadata standards, and data formats themselves subject to ongoing transformation, but so are user expectations of data quality, access via graphical user interfaces with fine-

grained filters, and interfaces for machine actionability. Furthermore, legacy databases were once created to answer specific questions and although curiously limited from today's perspective they are regarded as being of historiographical value to the academic discipline of art history.

Legacy databases' entries responded to methodological approaches, theoretical concepts, and the original expectation that the database would be used into the future. With these time-bound expectations, such databases possess an "artifact character," which raises the question: how can we preserve a database's integrity as a digital object, along with its object biography, while, at the same time, adapting and making its contents available to an art history that employs digital technology in a more elaborate way?

With this question in mind, this contribution will describe the repurposing of three interrelated databases compiled for the research project "Deutsch-Französische Kunstvermittlung 1870–1940 und 1945–1960" (DFKV), which focused on art

discourse between Germany and France from 1870 to 1960.² Created between 1999 and 2006 at the German Center for Art History Paris (DFK Paris) and the Freie Universität Berlin (FU Berlin), these databases were made available in 2004 on the website of DFK Paris as an early online art history resource. With a total of 6,800 entries, the databases provide a selective and annotated bibliography of art-critical contributions within the two-way relationship between Germany and France. Here, 8,000 individuals, consisting mainly of authors, artists, and collectors, in addition to numerous exhibitions, are recorded and presented to researchers.

Since the publication of these findings, many journals from 1870 to 1940/44 that were part of the project have become available in digital format in the Bibliothèque nationale de France (BnF) and the University Library Heidelberg.³ In many cases the granularity of indexing achieved by the DFKV exceeds library cataloging, which gives the databases an enduring value as resources. Furthermore, as early examples of online resources published by a humanities-focused research institute, they bear witness to, and are evidence of, the digital transformation of art history.⁴ However, following the obsolescence of the original resource, these databases were repurposed during an 18-month period that began in 2021. Changes undergone by the databases during the course of technological adaptation were explored for the first time by means of an autopsy of the data and conducting a study of the software used. Reviewing the archives and questioning members of the original project's research teams unlocked the working methods, the original research intentions, and the way in which the databases were actually used as repositories of the knowledge gained from the research.⁵ With the conservation and adaptation, or curation, of the data in mind,⁶ this new project required the implementation of comprehensive measures to improve searchability and open the data to new scenarios of use by means of semantic enrichment, UI/UX design, and the availability for data to be downloaded.

The Database within the Context of the Founding of DFK Paris

The origins of the DFKV research project can be traced back to the founding of DFK Paris. Initially planned as a project in 1997 with the support of Germany's Federal Ministry of Education and Research,⁷ DFK dates back to the late 1990s and is one of Germany's youngest art history institutes abroad. It is astonishing to note—particularly given other art research institutes such as the Kunsthistorisches Institut in Florence and the Bibliotheca Hertziana in Rome, founded respectively in 1897 and 1913—that until the 1990s there were no international art history institutes in Paris.⁸

The founder of DFK Paris, Thomas W. Gaehtgens, saw this gap as an opportunity to bring the German and French research communities closer together.⁹ In line with his vision, Gaehtgens placed the focus on the artistic and art critical exchange between Germany and France. Within this context came the first annual themes and thematically oriented scholarships awarded to scholars to spend twelve months at DFK Paris. The very first theme in 1997/98 was dedicated to art criticism, a topic that had received little attention within the context of art-historical research.¹⁰ As "Kunstkritik in Frankreich 1900–1945" (Art criticism in France 1900–1945) progressed, an idea developed to explore the art-historical dialogue further, which would eventually be launched in 1999 as DFKV. The annual theme for 1999/2000, "Das Bild der deutschen Kunst im Frankreich des 19. Jahrhunderts" (The image of German art in 19th-century France), went hand in hand with the previous year's theme and allowed the scholarship holders to closely collaborate with the project staff.¹¹ At the start, databases were anchored in a lively but also rapidly changing community of scholars: throughout its lifetime, from 1999 to 2006, the DFKV project was supported by third-party funding from various foundations which produced a number of part-projects with different goals.

Gaehtgens and his team had already enshrined the database in their first attempt for funding by the Volkswagen Foundation (VW Foundation).¹² They envisioned the use of a digital database to record and categorize the art criticism texts, drawn mainly from French and German art journals, including this passage from the project proposal:

Thus in an initial stage a thematically based database is to be developed for the capturing of the source material. This will provide the research personnel with a foundation for ensuing publications and conferences, and also serve as a permanently expandable basis for a research unit focusing on German-French art criticism of the 19th and 20th centuries for the benefit of future projects and individual researchers, including those based in other countries.¹³

Providing further information on plans to set up a research unit on art criticism between Germany and France, DFK's proposal highlights how the database was to serve as a central research tool.¹⁴ In an interview for this article in 2022, Gaehtgens highlighted how the research project's use of a database was a novelty in the late 1990s, and especially in the field of art history. The use of a 'digital' tool seems to have been a unique selling point for the project. On the one hand it legitimized its financing, while on the other it was an additional publicity factor. This was significant in helping the newly founded research institute that had not yet established a long-term perspective, to become recognized and, through its employment of new methods, create a niche for itself within the French research landscape. In their attempt to secure a second round of funding, the DFK's application was

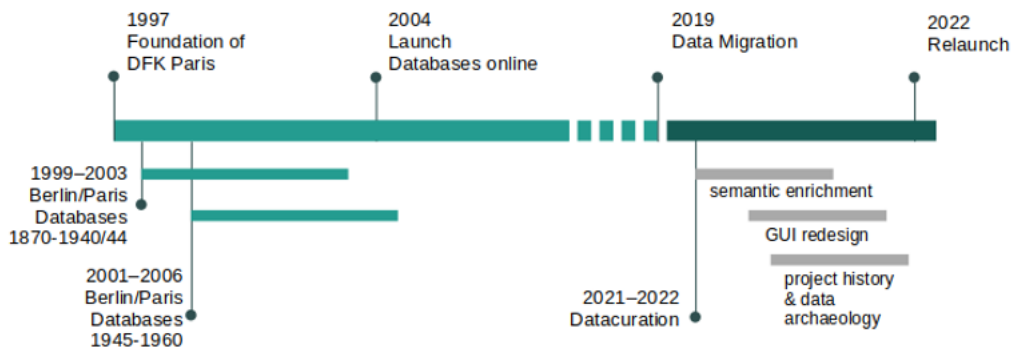


Figure 1. Project Timeline displaying the outline of the DFKV and the data curation project (author A. Klammt)

successful as the VW Foundation guaranteed the work of a bilateral research team with staff at the DFK in Paris and at the FU Berlin for two and a half years.¹⁵ During the funding period, the researchers unlocked art criticism generated within the German and French context through their investigation of a selected canon of art journals in libraries.¹⁶

Restrictive conditions of use and access made the researchers' work complicated, particularly in the libraries in Paris. For example, as photocopying was often not permitted, the researchers faced the challenge of either paraphrasing text or copying relevant passages. The interviews with the former project personnel have provided no precise information about whether they were able to take their laptops with them into the libraries or if they made notes by hand and then entered these into the database's input screens on a computer in the DFK premises. Sources from the DFK archive show that, at least for some researchers, the latter was a common practice. As the number of licenses for the database was limited, it was not possible to enter data simultaneously from different workstations, but each team initially had only one available workplace. In addition to their work on the project, the members of the DFK in Paris were involved in moving the institute to the premises at the Place des Victoires in 1999. At least the German team members quite often had to live in Paris in uncertain situations with short-term contracts and scholarships. The different working conditions at the institutes in Berlin and Paris were reflected in the scope and quality of the data and led to an imbalance in the data entered in each country.¹⁷

As the aforementioned project proposal makes clear, the research database was intended to be a key component of the project. Rather than simply serving the project personnel as a resource for their publications, it was to become a tool for the research community at large.

The computer-aided database that will be installed on the premises of the German Center for Art History in Paris is to be made available to the wider academic community—albeit as work in progress—from as early as summer 2000.¹⁸

It is not clear whether the intention was to make the database available online during the summer of 2000 or whether its contents were to be consulted on the DFK premises, although the 2001 concluding report explicitly stated that publication of the project's data on the internet was planned to be released in 2002. It was for this reason that the researchers had decided against a provisional publication in CD-ROM form.¹⁹ The realization of the publication online would, however, take longer. Follow-up funding was provided by the Getty Grant Program and the Fritz Thyssen Foundation.²⁰ The first allowed the project to continue, from 2001 to 2003, under the new title "Mediations/Mediationen: Franco-German Artistic Exchange and Reception, 1871–1940" and to bring the publications to a conclusion and publish the database online.

While the publications produced by this research presented compilations of case studies that focused on certain art critics, the role of specific journals or events and art-historical periods, there was no overarching synthesis based on quantitative observations or a profound theoretical and methodological resume of the work. A slightly different viewpoint took the extension of the research period into the post-war years, up to 1960, under the title "Französische Kunst im Nachkriegsdeutschland – Deutsche Moderne in Frankreich nach 1945" (French art in postwar Germany: modern German art in France after 1945). Financed between 2001 and 2006 by the Thyssen Foundation, the principal contributor Martin Schieder became intellectually involved in the research as the project was part of his professional qualification and led him to publish a monograph based on the research. During these

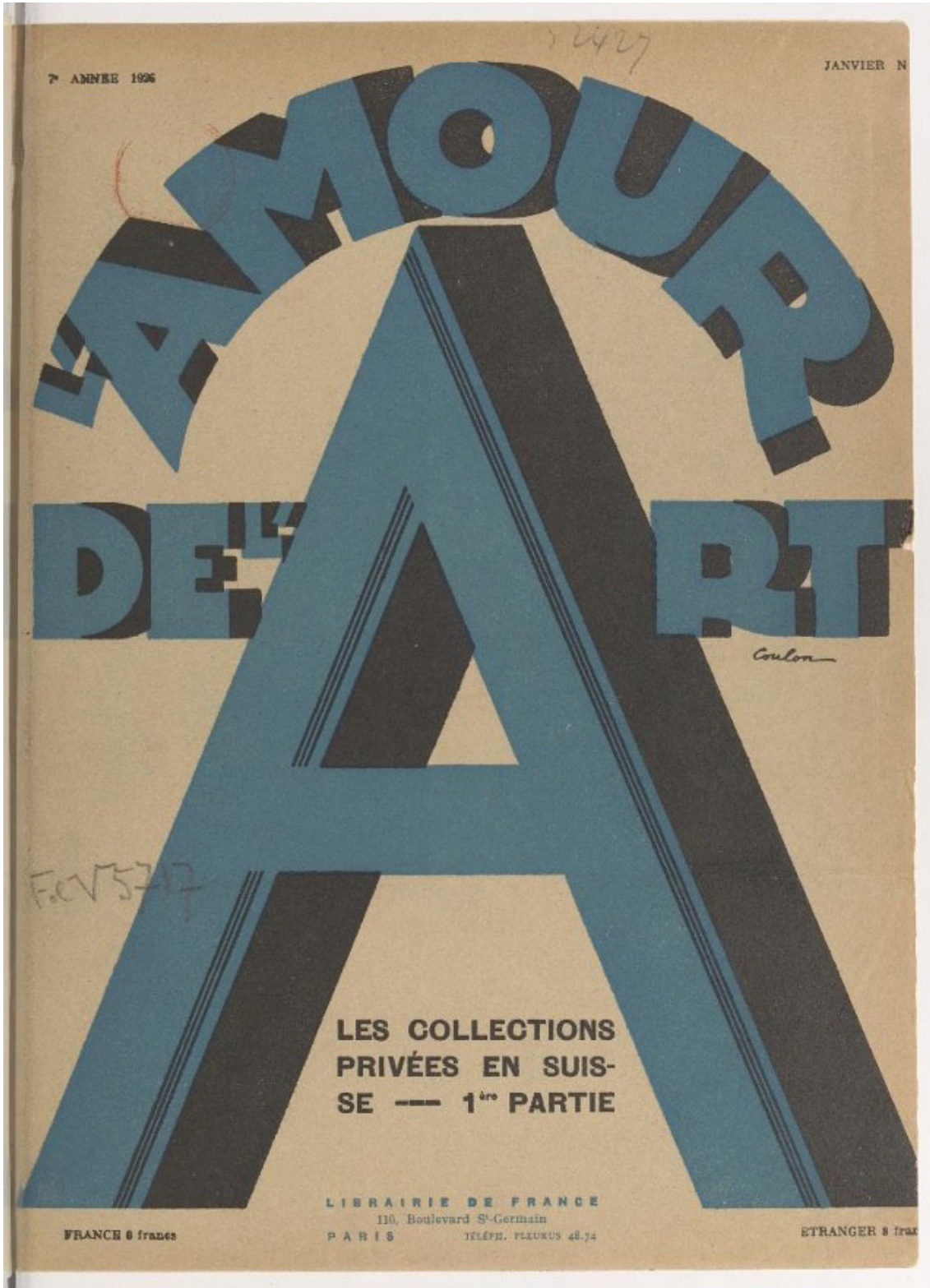


Figure 2. Cover of the journal *L'Amour de l'Art* (1926), BnF, <https://gallica.bnf.fr/ark:/12148/bpt6k4226258k/f11.item> [Source gallica.bnf.fr / BnF].

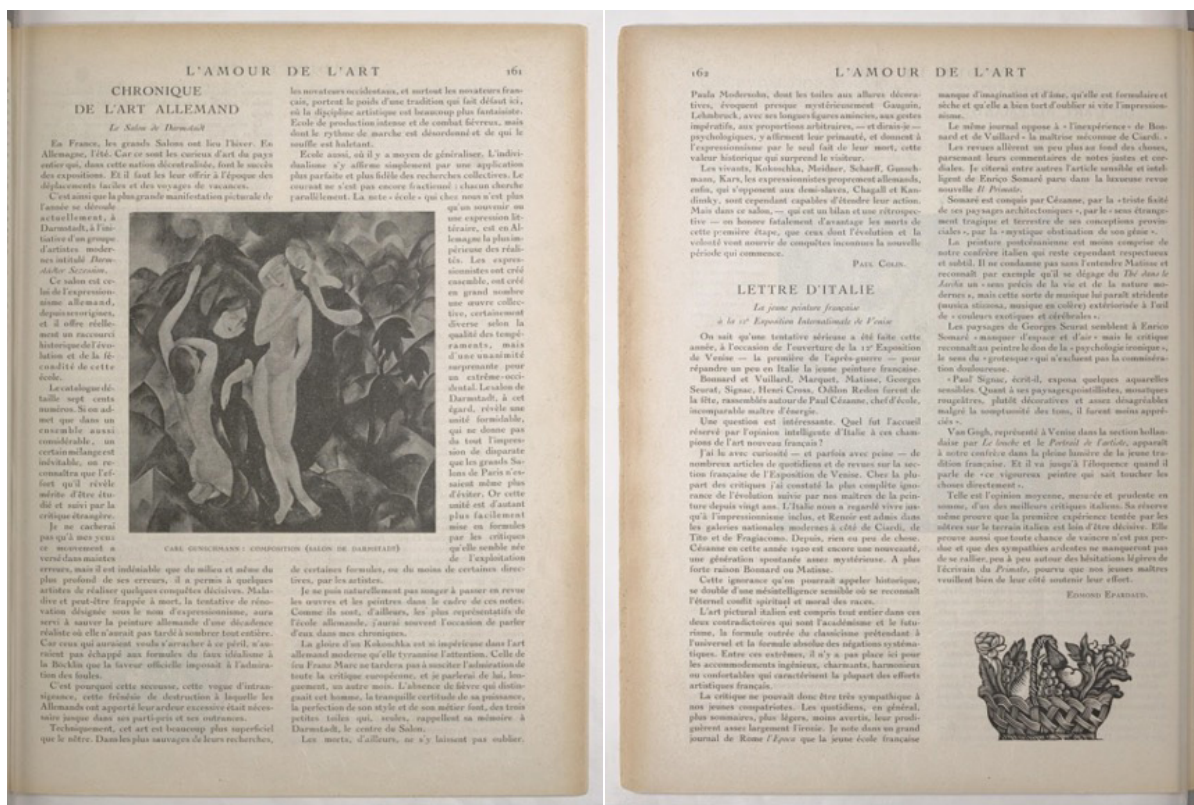


Figure 3. Exhibition review “Le Salon de Darmstadt” by Paul Colin in *Amour de l’Art*, 05.1920, BnF, <https://gallica.bnf.fr/ark:/12148/bpt6k4226017z>, p. 183-184 [Source gallica.bnf.fr / BnF].

part projects, which ran simultaneously, several changes were made to the databases that had been compiled in Paris and Berlin in the years until 2001 as well as some additions undertaken from the extension of the research’s scope to the year 1960. Owing to the various funding phases and the bilateral research team that was divided between Berlin and Paris, a group of three-part databases now exists. However, as a result of multiple data migrations, those databases were no longer openly visible for external researchers.

Traces of the Project Context in the Scope, Structure, and Quality of the Data

Although the reconstruction of the former project-based context of the databases opened them up, many traits remained idiosyncratic. A media-archaeological investigation of the archives, various security copies of the databases, and the software documentation, in conjunction with a comparison of other contemporary, database projects, enable the idiosyncrasies to be read as relics of their genesis in relation to their former technological environment.²¹

In particular, the multiple listings of persons and the heterogeneity of the keywords are a result of the software used and data capture practices employed, as well as a product of subsequent migrations.

This investigation spans another timeline, starting with a first phase from 1999 to 2004, there LIDOS (versions 4 and 5) was used for the data capture. By this time, LIDOS had already established itself in Germany as a system for the creation of annotated bibliographies in the humanities and social sciences.²² The decision to apply this proprietary software from the company Land Software Entwicklung was taken after researching the young researchers’ personal networks.²³ The software’s strength included that the implementation of hierarchical thesauri were structured by thematic facets and combined searches could be conducted using Boolean operators, wildcards, and full text searches based on up to 200 freely structurable text fields.²⁴

The specially adapted configuration of the DFK Paris databases allowed for nineteen data entry fields.²⁵ Those for the input of personal names—from “Author[s],” “Named Persons,” “Editor[s],” to “Translator”—were, in each of the databases, populated from a common browse list that was expanded by the project personnel on an ongoing basis. The

ID	Entry	Database
9230	Frédéric II de Prusse	1945–1960, Paris
9411	Frédéric le Grand	
6435	Friedrich II	1870–1940, Paris
5533	Friedrich II von Preußen	
4557	Friedrich II. von Preußen	
2019	Friedrich der Große	1870–1940/44, Berlin
1257	Friedrich II.	

Figure 4. Personal name records with additions, in different styles and with unrecognized pseudonyms (author A. Klammt).

persons were captured by surname and forename in a single field for each individual. A problem of retrieval soon arose as a consequence of additional identity details being entered after the forenames, in particular author pseudonyms and abbreviations. As a result, certain individuals were entered more than once, in some cases intentionally but by mistake in others (Fig. 4). It was not possible to mark the semantic relation between these entries. A further problem, with an exclusive relation to content, was a result of the different ways in which the input was handled of persons forming the subject of a text, for example, about a contemporary artist in relation to Albrecht Dürer or someone who was simply cited by the author in order to denote a particular style, like “in the manner of Dürer”.²⁶

In contrast to people, keywords were held in a field that was populated by selecting terms from a separately managed and protected thesaurus. More than ten keywords were sometimes assigned to an entry, but, in rare cases, more than twenty were provided. Each research team deployed a separate thesaurus with the intention of uniformly organizing all three — at least on the level of the thematic facets — to allow for the subsequent merging of the part-databases, and enable a comprehensive search. In May 2003, however, an interim review conclusively ascertained that they were incompatible.²⁷ Although the 1870–1940/44 Berlin and 1945–1960 Paris databases were similar overall, different thematic facets had been used for each database. The facets of the 1870–1940 Paris database were more heavily summarized, and their sequencing expressed a grading of content from objective fact (“Geographie”, geography) to subjective attribution (“Bewertungen”, judgment).²⁸ It has to be taken into account that the different funding periods of the projects made simultaneous work practically impossible. Furthermore, as the team members had to pursue their professional careers, they were concerned about completing their own publications during the project’s periods of work.²⁹

From January 2003, following the switch to LIDOS version 5, the interfaces of the databases overseen by Berlin (1870–1940/44 Berlin and 1945–1960 Paris) and Paris (1870–1940 Paris) became configured in different ways. This would have a significant impact on the later migration. When entering keywords into the databases directed by the researchers in Berlin, the thematic facets did not need to be deliberately input because the thesaurus’s hierarchical tree was automatically created when individual keywords were added. In the database under the Parisian lead, by contrast, the indexing process saved each keyword for an entry with the corresponding facet. This difference was not fully taken into account during later migration of the data. In 2003, the work on the data benefited from the coinciding incorporation of the software component FAUST iServer that enabled working on LIDOS using the intranet and internet, albeit not yet publicly via a browser. Furthermore, several LIDOS databases could be administered together.³⁰ The transition within the projects was beset by time-consuming technical problems,³¹ and this may have pushed the decision to no longer use the software but to migrate the data in late autumn, 2004. Following the deployment of an SQL database (ProWeb) specially developed for DFK Paris, all three databases became openly accessible, and embedded in the institution’s website.³² Via a uniform input screen, users could gather data from DFK’s various digital projects and filter them by date, person (in various roles, for example author, named individual, translator), and keyword. The data from all the projects were structured in the backend based on a single system and held in joint spreadsheets where links were generated following relations, subtables, and primary and foreign keys. To do this, the data had to be migrated and restructured. There were no resources available, however, for any concomitant adapting and merging of the data content. Due to a lack of export functionality, the migration of the data from LIDOS entailed a significant amount of work that was undertaken by external developers.³³ While the researchers and project leaders were

Database 1870–1940/44, Berlin, as of 2002	Database 1945–1960, Paris, as of 2004	Database 1870–1940, Paris, as of 2004
Wertungen, Einschätzungen, Stereotypen	Wertungen, Einschätzungen, Stereotypen	Geographie
Kunstbetrieb	Kunstbeziehungen / Kunstbetrieb	Historischer Kontext
Künstlergruppen /Stile / Epochen	Epochen / Stile / Künstlergruppen	Kunstgeschichte
Gattungen / Bildgegenstände / Künstlerische Techniken	Gattungen / Bildgegenstände / Künstlerische Techniken	Bewertungen
Ausstellungen	Ausstellungen	
Institutionen	Institutionen	
Zeitschriften / Zeitungen		
	Geschichte /Kultur / Philosophie / Soziologie	
Topographie	Topographie	

Figure 5. Thematic facets of the thesauri of the three databases, in each case based on the 2002 and 2004 versions conserved at DFK Paris (author A. Klammt).

	Database 1870–1940, Paris		Database 1870–1940/44, Berlin		Database 1945–1960, Paris	
Number of terms	661		720		1211	
Number of keyworded records	1467	84%	3463	83%	797	98%
Total number of keywords used	14125		10521		7830	
Average number of keywords per keyworded record	9.6		3.0		9.8	

Figure 6. Number and percentage of entries being keyworded as well as the keyword count per database and the ratio of keywords to data entry (author A. Klammt).

now no longer involved in the implementation process, these developers carried out all further changes to the structure, functions, and interface in ProWeb in liaison with the newly established IT manager at DFK Paris.

As indicated, the hierarchical structure of the thesauri was not adopted during the transfer process. Instead, all the terms and facets were placed on a single level. As a result, linking the terms with their thematic facets was only retained in the case of the database 1870–1940 Paris as they had previously been entered as term pairs. At 9.6, the average number of keywords per entry was thus correspondingly higher for the Paris database than for its Berlin counterpart (fig. 6). The significance of the thematic facets to the grouping of content is reflected in an analysis of the ten most frequently used keywords for each database,

whereby generalizing thematic facets in the one database contrast with specific keywords in the other two. Today the keywords are described as themes and are no longer used as filters.

The DFK Paris was obliged to carry out another migration: with the imminent discontinuation of ProWeb in 2019, the databases, which had not been integrated into the DFK Paris websites since 2016, were in danger of being lost. They were, therefore, semi-automatically migrated, with scripts, to an SQLite database from where the data, with extensive adoption of the abstract German structural descriptors (Objekt, Attribut, Kategorie, Kind etc.) were transferred from ProWeb to a MySQL database.³⁴ The rescue operation did not, however, adopt information regarding the time of capture and processing of the records and the individual responsible.³⁵

Database 1870–1940 Paris		Database 1870–1940/44 Berlin		Database 1945–1960 Paris	
Count	Keyword	Count	Keyword	Count	Keyword
1132	Kunstgeschichte	263	Impressionismus	479	Malerei
595	Geographie	187	Kunsthandel: Auktion	174	Formalistische Wertung
538	Topographie	173	Skulptur / Plastik / Bildhauerkunst	164	Kunsthistorische Wertungen
526	Künstlerische Techniken	167	Kunstgewerbe / Dekorative Kunst	145	Skulptur / Plastik / Bildhauerkunst
525	Herkunftsländer der Künstler	166	Deutschland: Franzö- sische Kunst in deutschen Galerien	138	Abstraktion nach 1945
498	Herkunftsland : Deutschland	161	Deutschland: Franzö- sische Kunst auf deutschen Ausstel- lungen	116	Surrealismus
453	Ausstellungen	152	Kubismus	114	Expressionismus
438	Bewertungen Einschätzungen der Kritik	151	Frankreich: Frz. Kunst in französischen Galerien/Ausstel- lungen	104	Abstraktion
419	Ästhetische, moralische, technische Bewertungen	140	Gegenwartskunst in Frankreich	101	Abstraktion vor 1945
410	Malerei	133	Neunzehntes Jahrhundert, Kunst in Frankreich	98	Der Erstellungsprozess

Figure 7. List of the ten most frequently used keywords for each database [author A. Klammt].

The Challenges of Repurposing: Between New Standards and Data Integrity

In the previous sections of this article, specific qualities and potential of the data, along with the circumstances of its collection during the initial research project, were touched upon. Some records contain detailed textual paraphrases, analyses, and interpretations that emphasize individual contributions to the research subject and undertake an evaluative assessment that has led to knowledge founded on the review of an enormous number of sources. As it was the original task of the repurposing project to make this knowledge accessible again, familiarity with the aspects of the database, as set out above, that related to institutional and scientific history, beg the question of how the data could be given a new use while preserving its integrity as documentation.

The general challenges presented by the repurposing of data are described by computer scientist Philip Woodall within the context of corporate data analytics: whereas the

initial gathering of information measures quality against a specific use to adapt data accordingly, repurposing considers multiple usage requirements.³⁶ As a consequence of the data collection phases of the DFKV project being governed by specific transnational questions that resulted in the extraction of individual, representative, divergent, or highly specific part-aspects from the periodicals, terms and quotations were gathered in fragments which meant that selected information in the original databases only benefited users with a similar research interest. This problem is counteracted on several levels by the new aims presented by repurposing: firstly, by making the data more user-friendly, then, secondly, by allowing the information to be considered from the perspective of scientific history, and, finally, by making the data more widely usable and more compatible with digital analytical methods. To this end, a new user interface was developed and an enrichment of the data was undertaken to open up additional content and make the database more transparent.

Within this context, the existence of numerous historic [art] journals as digital open-access resources led the team to consider links that would return the fragments of information—including quotations and paraphrases, for

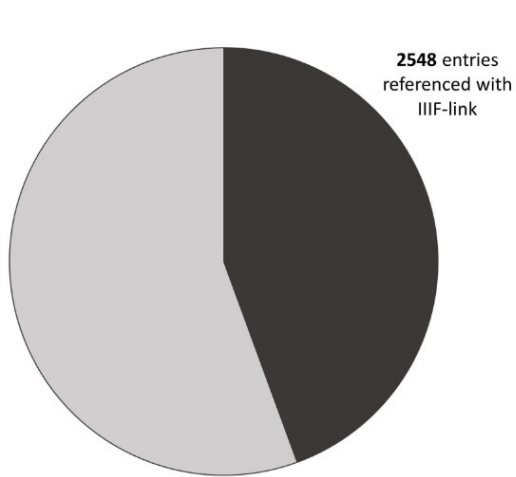


Figure 8. Of 5,735 records in the first two project phases describing a journal article or series of articles, it has been possible to link 2,548 to the precise page of a digital object, whose inclusion is made possible by IIIF Presentation API. For copyright reasons, the third phase, covering the postwar period, does not yet offer any freely available digital versions (author K. Niemann).

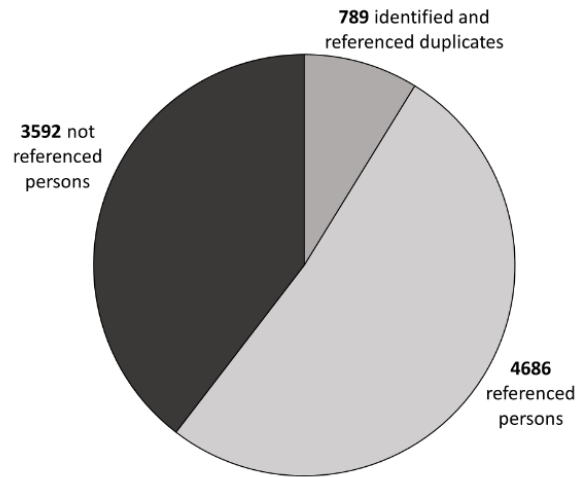


Figure 9. Of 9,076 authors or other named persons (IDs, including simple initials), captured in the database, 5,475 were enriched. As a result of this process, 789 were identified as duplicates and clearly referenced (author K. Niemann).

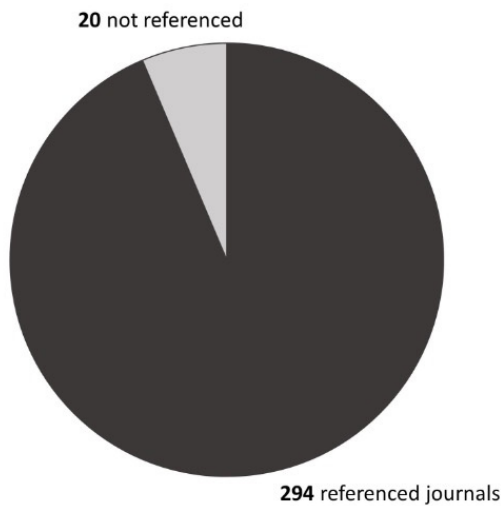


Figure 10. Of the 314 journals reviewed, it was possible to reference 294 using GND and BnF authority files, or a Wikidata element (author K. Niemann).

example—to their original publication context: the journal layout’s overlapping themes. It is here that International Image Interoperability Framework (IIIF) technology lends a way to incorporate high-quality digital documents into a viewer, which was, in this case *Mirador*, that is integrated into the new GUI. The IIIF’s manifests are made available by University Library Heidelberg and Gallica, the database of the BnF. These manifests manually searched for the individual articles and linked them to the corresponding canvasses so that the DFKV records could take users to the precise points of reference (fig. 8).³⁷

Whereas DFKV’s original research question was oriented more toward textual content than publication context, an evaluation of certain records from a wider art-historical perspective became possible. This is because structuring elements of the individual journals as the interplay of text and image on a double page, for instance, contain pre-discursive forms of knowledge that deserve consideration in themselves and are increasingly being investigated as independent objects of research.³⁸ Moreover, in keeping with open science standards and the FAIR principles, the work with IIIF fosters cross-institutional collaboration and access to digital objects with their linked information: in the case of the DFKV, facilitating access to the text’s metadata, made available in library quality by Heidelberg or Paris. Here, digital reproduction is regarded and used not merely as a copy of the original but as a separate medium for further processing.³⁹

If one follows Tom Crane’s visions for the annotation-based IIIF technology, it might be possible. In his example of newspaper articles, for the fragments of information set out in the manifest to be used for all kinds of linking and, in turn, for the area comprising the contribution on the Canvas to be used for the recognition of structures.⁴⁰ Although Crane also draws attention to the limits of, and open problems with, IIIF—embodied, for example, in the question of who monitors the quality of the collected data associated with a digital object if anyone can work on it—existing research data such as that of the DFKV, which could not or cannot be supported on an ongoing basis, is reconnected with current research via a networking with other, “living” databases or digital materials.

A second starting point for an enrichment was the large number of persons and authors in the database. During the original data capture the various collaborators generated, as described, numerous duplicates. In order to rectify this data’s inconsistency in the least invasive way and to be able to provide the end user with additional information, an enrichment was undertaken by means of the OpenRefine⁴¹ reconciliation process using external IDs from the Getty Research Institute’s Union List of Artist Names (ULAN), the Integrated Authority File (GND), and Wikidata elements. This stage, which was implemented, in part, automatically and,

in part, by hand, brought home the wide range of persons included. In addition to the reviewed artists, figures turn up from the worlds of politics and philosophy to include names from different eras, such as Aristotle.

Overall, the process had a highly positive impact on the quality of the collected data (fig. 9). Previously unclear internal connections between individual articles were made apparent, allowing figures most at risk of incorrect or multiple identification to be better represented. This also enabled aliases to be attributed to natural persons. One example is the author’s name Hermann Billung: linking with Wikidata has revealed that this was the pseudonym of female art historian Lina Boelsche (Q95196696). Conversely, it enabled an entry for the artist Elly Krieg, who had previously only figured on the GND, to be created in Wikidata (Q111275976). Although it might appear that the recording process paid more attention to the “big names,” cases like this show that an existing, relatively non-hierarchically compiled, dataset of this kind can contribute—for example from a feminist perspective—to the decanonization of art history. Not least, this approach of referencing to authority files also enabled the journals to be supplemented with additional information (fig. 10).

Decisive for both types of enrichment—the personal data and linking to the corresponding IIIF manifests—is that these additions can be made to the existing data without overwriting or deleting the original identifiers, which would have meant intervening irrevocably in the historical database. Duplicates have only been merged in cases of absolute certainty. The previously described dilemma between data integrity and its adaptation to new standards in order to render it more widely and sustainably usable has thus come down to a compromise in the form of additive modifications. However, this only applies at data level. The question of how to communicate the data composition and the interventions made to it to the user motivated the development of a new front end.

The Demands on a New Graphical User Interface

Just how closely the frontend interrelates with the mechanisms and decisions of the backend cannot be emphasized enough. As Johanna Drucker explains, it is often overlooked that the work process is based on a combination of intellectual work and design decisions that anticipate how the data will be used in the future.⁴² Thus, with regard to the design of the new user interface, the question of how to transparently convey the information was preceded by the question of what users, with what interests, would happen upon the database. On the one hand, DFK Paris projects attract art historians and a general

academic public. In particular, researchers with a research interest in the relationship between Germany and France, and art criticism from the closing years of the nineteenth century to the postwar period are able to find what they are looking for. But users interested in a specific person, auction, or exhibition within this chronological and geographical framework can also strike it lucky. For the sake of this group with a concrete academic question, the corresponding search and information extraction functions need to be in place. Additionally, there will be users who do not have a specific question. This group, presumably not small, needs to be presented with a playful and stimulating browsing experience that not only conveys the research content and presents the sources but also explains something of the work and history of DFK Paris.

Jointly, by an intentionally heterogeneous group consisting of a programmer and DFK Paris staff, and thus on the one hand belonging to the category of future front-end users with art historical interests while on the other hand approaching the issue from the perspective of back-end programming, a prototype of the future interface was created. Afterwards, members of staff no longer connected with the old database conducted click testing with a view to rectifying any problems, such as lack of clarity or implementational issues.

Essentially, the interface design takes its cue from the user screen of the DFK Paris database project “OwnReality,” which offers possible search options and possible content via various filtering suggestions.⁴³ Furthermore, the familiar design should make the database easier to use while also showing that it belongs to the institute.

In addition to the usual full-text search, the filtering options, in keeping with the original categorization, cover the following entities: persons named in the text, authors, journals, and types of text. In each category, the five most frequent hits are displayed. There is also the possibility of displaying all selectable results in a pop-up window to deliberately search through them. Another means of restricting the results is to search using the time bar, which enables users to set the desired chronological window. This offers the clearest demonstration of the dynamism of the search screen, which changes with each selection to display the number, incidence, and distribution of the individual entities. Displaying the number of hits also contributes to this. Taken together, these mechanisms give users an idea of the scope of the database’s entries. A final search tool is the project index, which indicates the database to which the record originally belonged. Corresponding to the original research questions—in German on France 1870–1940, in French on Germany 1870–1940, and both ways in the postwar period—it implicitly locates the results in time and

place. Furthermore, every search inquiry is displayed in the browser address line so that sections of a link—even that of a single record—also display the preceding search inquiry (fig. 11).

The search results are listed in excerpt view. The individual views of the text-related records present varying levels of detail, with different colored fields that indicate the various strata of data. Person data linkage added during the enrichment processes causes pop-ups to open that provide, for example, biographical data imported from external sources and links to that person in other databases (fig. 12). Records linked using IIIF Presentation API are indicated by a book symbol that opens a digital copy of the journal in the Mirador viewer.⁴⁴ Extraction possibilities exist both in the form of a printout of individual records, complete lists of search results, or the user’s personal checklist. JSON format enables, on the one hand, transparency at data level and, on the other, ongoing use of the data in hackathons or feeding into the user’s own projects.

The intention that the users should help themselves to the reoriented data collection takes us back to the opening question: how should the earlier processes of data acquisition and processing be made visible in order to rule out the possibility of users drawing the wrong conclusions?

The problem is that if users are left to collect and transform the data themselves, how can an organisation be sure that they have the expertise to judge whether it has been done correctly and hence does actually meet the fitness for use requirements? Furthermore, in order to reliably use the data, the analysts must have good visibility of the assumptions and key facts of the data collection and prior transformations, otherwise there is a danger that they may be overlooked [...] leading to the drawing of inaccurate conclusions.⁴⁵

Accordingly, the different circumstances and strata of academic-scientific history needed a clear inscription into the data’s display. The integration of details such as the project-specific search function stands within this context. The peculiarities that result from the original tool-like character of the databases have led to the addition of a pop-out legend column to offer explanations about the repurposing, the “historical” databases, the publications that proceed from them, and integrating external sites. These intentions correspond to current research agendas in the digital humanities, which have set themselves the task of making visible interpretative processes, as explained by Drucker:

New, advanced research agendas driven by a desire to expose interpretation rather than display its results may separate the critical from the engineering practice of digital humanities by revealing interpretative practices instead of by producing representations.⁴⁶

Deutsch-Französische Kunstvermittlung 1870-1940 und 1945-1960

Suchkriterien zurücksetzen

Volltextsuche

Suchergebnis: 923

1870-1940, Paris (ca) | 1870-1940/44, Berlin (1922) | 1945-1960, Paris (ca)

sortieren nach: **Autof.** in: Datum

← erste Seite | ← vorherige Seite | 4/93 | nächste Seite → | letzte Seite →

Basler, Adolphe ID 11393
Pariser Ausstellungen
 Der Clocrono
 15.1923.3, S. 147-148
 Datum 1923-02-15

Basler, Adolphe ID 11631
Retrospektive Ausstellungen in Paris
 Kunst und Künstler
 30.1931.1, S. 31-32
 Datum 1931-10-01

Filter

Personen alle anzeigen

+ Manet, Edouard (93)

Figure 11. Search screen of the new DFKV presentation, https://dfk-paris.org/de/page/deutsch-franzoesische-kunstvermittlung-1870_1940-und-1945_1960-datenbank-2391.html.

Camille Pissarro ID 10720

Meier-Graefe, Julius

Kunst und Künstler
 2.1903/04, S. 475-488

“Pissarro hat, ohne es zu wollen, den Aberglauben Schreiber die Symbole, aber selbstverständlich nicht uns in Deutschland für null und nichtig erachtet; erwartete. Und darauf hat man geschwind zu den die Illusion einer erbauilichen Schöpfung zu schen phytologische ansah, forderte richtig. Jetzt best gieb, die starke, notwendige Erfahrungfülle, De

Normdaten zur Person

Meier-Graefe, Julius

Geboren 10.6.1867, Regitz
 Verstorben 5.6.1935, Vevey
 Quelle Wikidata

Normdatenverknüpfung

Getty ULAN
 Wikidata

Weitere in der Datenbank vorkommende Schreibweise und Benennung:

Meier-Graefe [dt : Jacques, G.M.]

um konnte man seine Vielseitigkeit nicht 8 begründen. Meier-Graefe arbeitet die es Vorbild. Pissarro sei ein Techniker Fisch und mechanisch, ganz im

Kommentar

Vier kurzen hat große Retrospektive von Pissarro Werk in vielen Zügen bemerken. Er habe sich gehabt. Das Was Unterschiede zu den anderen Impressionisten heraus. E gewesen, seine Bilder seien Kompendien der Technik. Unterschied zu Signac. Mehr ein Stück Geschichte der Kunst als ein großer Maler sei mit seinem Tod ins Grab gegangen.

Personen

Conze, Jean-Baptiste Camille
 Courbet, Gustave
 Delacroix, Eugène

Figure 12. View of an individual record relating to an article on Camille Pissarro by Julius Meier-Graefe. After clicking on a person, a pop-up appears containing the enriched information, https://dfk-paris.org/de/page/deutsch-franzoesische-kunstvermittlung-1870_1940-und-1945_1960-datenbank-2391.html#/records/10720.

Data Modeling

Prior to enrichment, the data was, for pragmatic reasons, first transferred into two spreadsheets. At the heart of these are the data entries in the spreadsheet DFKV_complet, while the spreadsheets comprising the document DFKV_Master contain the respective attributes. In accordance with thinking on the redesign of the graphical user interface (GUI), the fields were subsequently renamed in order to increase the comprehension of their contents. All the semantic enrichments were then appended as additional fields and the personal names grouped together through the addition of a second key. This means that each of the original name records were retained, while the groupings could easily be expanded, changed, and deleted. For display in the research tool, the spreadsheets were subsequently transferred into a single JSON-format document to be transmitted to an Elasticsearch instance for processing of the search inquiries. These are submitted via an API, and the results displayed in the graphical user interface (GUI). The document can be retrieved in excerpt form via the GUI or else, like the spreadsheets, be downloaded via heiDATA for independent processing by the user.⁴⁷

The Excel spreadsheets and the JSON document are aimed at researchers wishing to process the data within the context of their research and engage with it in terms of content. Moreover, a further modeling of the data, at prototype stage, based on the Linked Art Data Model has given rise to a JSON document that offers Linked Open

Data, oriented toward use by developers.⁴⁸ Here the focus of interest is on the seamless integration of the data in applications where they can be combined in new ways and thus the information stored for a machine to read.

Conclusion

The experiment with the DFKV databases demonstrates that, firstly, a supplementary linking of virtually forgotten data with ever-growing projects cultivated by a large community, such as Wikidata and IIF, can reconnect such databases with current research, and that the adoption of modern standards and models opens them to future analytical methods, which enables both their continued use and their “recycling”. Secondly, it appears that even highly specific, inconsistent data has the potential to be reused if the circumstances of their origin are made transparent. And should the distinctive quality of older data seem questionable in retrospect, this data nevertheless represents a piece of academic history. In this particular case, the treatment of the history of the databases and their contextualisation within the institutional history of DFK Paris provides an insight into the properties of the data, specifically, for example, their heterogeneity in categories such as “keywords”. Thanks to the reversibility of the additional measures, the databases of the DFKV project have ultimately survived as a historical artifact of art-historical research that both testifies to the institutional history of DFK Paris and showcases it as an intellectual achievement of the young academics.

NOTES

¹ FAIR Guiding Principles for scientific data management and stewardship, accessed June 24, 2022, <https://www.go-fair.org/fair-principles/>.

² A number of book publications were produced as part of the project, including these anthologies of selected, well-annotated sources: Andreas Holleczek and Andrea Meyer, eds., *Französische Kunst – Deutsche Perspektiven 1870–1945* [Berlin: Akademie Verlag, 2004]; Friederike Kitschen and Julia Drost, eds., *Deutsche Kunst – Französische Perspektiven 1870–1945* [Berlin: Akademie Verlag, 2007]; Thomas W. Gaehtgens, Mathilde Arnoux, and Friederike Kitschen, eds., *Perspectives croisées. La critique d'art franco-allemande 1870–1945* [Paris: Éditions de la Maison des sciences de l'homme, 2009]; Conference proceedings: Alexandre Kostka, ed., *Distanz und Aneignung. Kunstbeziehungen zwischen Deutschland und Frankreich 1870–1945/ Relations artistiques entre la France et l'Allemagne 1870–1945* [Berlin: Akademie Verlag, 2004]; Martin Schieder and Isabelle Ewig, eds., *In die Freiheit geworfen. Positionen zur deutsch-französischen Kunstgeschichte nach 1945* [Berlin: Akademie Verlag, 2005];

monograph: Martin Schieder, *Im Blick des Anderen. Die deutsch-französischen Kunstbeziehungen 1945–1959* [Berlin: Akademie Verlag, 2005].

³ Gallica: <https://gallica.bnf.fr>; art journals digitized by University Library Heidelberg: https://digi.ub.uni-heidelberg.de/sammlungen/zeitschriften_zeitungen/kunst/titel.html.

⁴ In their introduction of 1999, Richard and Tiedemann [Birgit Richard and Paul Tiedemann, *Internet für Kunsthistoriker. Eine praxisorientierte Einführung* [Darmstadt: Primus Verlag, 1999]] presented what were as yet a few isolated German art history institutes with a website. Moreover, the section of their book dealing with databases and image archives was a mere four pages long (98–102). Despite what from today's point of view seems a very small number, Kohle [Hubertus Kohle, “Bemerkungen zu einigen kunsthistorisch relevanten Adressen im Internet,” in *Kunstgeschichte digital. Eine Einführung für Praktiker und Studierende*. ed. Hubertus Kohle [Berlin: Reimer, 1997], 167–70), two years previously, observed that a certain breadth and permanence had developed among the available online databases.

5 Here we would like to thank Mathilde Arnoux, Sabine Beneke, Bettina Cenerelli, Markus A. Castor, Julia Drost, Thomas W. Gaehtgens, Friederike Kitschen, and Peter Kropmanns for their support. Some of the above took part in extensive interviews based on key questions that were provided in advance, and to complement the information gained from these interviews, questionnaires were sent out to the others to be completed by email. The questionnaires and summaries of the interviews form part of the project documentation held at DFK Paris and can be viewed upon request.

6 Project: data curation based on the example of the database Deutsch-Französische Kunstvermittlung 1870–1940 und 1945–1960, <https://dfk-paris.org/en/research-project/datenkuration-am-beispiel-der-datenbank-deutsch-franzoesische-kunstvermittlung-1871>.

7 Foreword to the DFK Paris Jahresberichte / Rapports d'activités for 1997/1998–2001/2002, 6.

8 Even the Institut National d'Histoire de l'Art (INHA) in Paris, today one of the largest and most important of Europe's art history institutes, dates back no further than 2001. See "L'Institut national d'histoire de l'art," accessed July 13, 2022, <https://www.inha.fr/fr/l-institut.html>.

9 Thomas W. Gaehtgens, "Berliner Kunst-Diplomat mit Pariser Adresse," interview by Axel Hecht, *ART*, 10/2000, 68–73.

10 DFK Paris Jahresberichte / Rapports d'activités for 1997/1998–2001/2002, 9.

11 DFK Paris Jahresberichte / Rapports d'activités for 1997/1998–2001/2002, 17. This annual theme enabled the development of important theoretical points of reference and included researchers such as Pierre Vaisse (Pierre Vaisse, "Einführung – Einige methodische Betrachtungen," in Friederike Kitschen and Julia Drost, eds., *Deutsche Kunst – Französische Perspektiven 1870–1945* [Berlin: Akademie Verlag, 2007], 1–8), who worked with the scholarship holders.

12 Among other changes, the second proposal narrowed the period under review (the years before 1870 and after 1945 were dropped) and requested greater financial resources. DFK Paris archives: Peter Kropmanns, memo of Paris–Berlin meeting regarding the November 1998 project proposal, 1999.

13 DFK Paris archives: VW Foundation project proposal, 1998, 10.

14 No such research unit on art criticism was ultimately established.

15 It was named "Deutsch-französische Kunstvermittlung zwischen 1871 und 1940. Transfer und Rezeption – Brüche und Kontinuitäten" (Art in exchange between Germany and France from 1871 to 1940. Transfer and reception. Ruptures and continuities).

16 Like the *l'Amour d'art*, *Mercure de France*, and *Gazette des Beaux-Arts* in Paris and *Der Cicerone*, *Das Atelier*, and *Das Kunstblatt* in Berlin.

17 Because DFK, unlike the art history institute at FU Berlin, first had to establish itself and at the time of the project launch had not yet begun collaborating with other institutes or libraries in Paris, the research work was severely impeded.

18 DFK Paris archives: VW Foundation project proposal, 1998, 14.

19 "The database is an ongoing work in progress and is provisionally due to be made available on the internet in spring 2002 to give international researchers access to the sources and data that have been gathered; [...] Thanks to its various

search options (artist and author index, keyword index (approx. 500 entries, chronology), an extremely wide variety of inquiries can be made, and research interests explored using the database. Countless links between individual artists, authors, exhibitions, and specific art historical and historical events are possible." VW Foundation closing report 2001, 6.

20 Funding by the Getty Grant Program: https://www.geschkult.fu-berlin.de/e/khi/forschung/projekte/drittmittelprojekte/projekt_dt_fr_kunstvermittlung/index.html; Funding by the Fritz Thyssen Foundation: https://www.geschkult.fu-berlin.de/e/khi/forschung/projekte/drittmittelprojekte/projekt_franzoeseische_kunst_nach_45/index.html; Fritz Thyssen Stiftung, Fritz Thyssen Stiftung für Wissenschaftsförderung – Jahresbericht 2001/2002, December 2002, 128–30, accessed July 13, 2022, https://www.fritz-thyssen-stiftung.de/cms/wp-content/uploads/2018/01/Jahresbericht-2001_2002.pdf.

21 Here we are guided by the expanded definition of the scope of media archaeology recently propounded by Kim and developed by her after Jussi Parikka. Dorothy Kim, "Media Histories, Media Archaeologies, and the Politics and Genealogies of the Digital Humanities. Introduction," in *Alternative Historiographies of the Digital Humanities*, ed. Dorothy Kim and Adeline Koh (Earth, Milky Way: punctum books, 2021), 15–34.

22 Franz-Josef Land, "Computergestützte Literatur- und Dokumentationsarbeit in den Sozialwissenschaften," *Zeitschrift für Soziologie* 16, no. 6 (1987): 469–74; Stefan Gradmann, *Katalogisieren mit dem PC: Microrechnergestützte Datenbanksysteme für die Verarbeitung bibliothekarischer Daten* (Wolfenbüttel: Tandem, 1989); Reinhard Frötschner, *Osteuropa-Jahresbibliographie 1994. Teil 1. Mitteilungen* (Munich: Osteuropa Institut, 1995); Norbert Winnige, "Der 'Preußenserver': Bereitstellung von Informationen über das Internet durch das Forschungsinstitut für die Geschichte Preußens," *Historical Social Research / Historische Sozialforschung* 25, no. 3/4 (93/94) (2000): 206–12; Jürgen Malitz, "ConcEyst, GBD und NBE. Drei Computerprojekte am Eichstätter Lehrstuhl für Alte Geschichte," in *Zwischen Antike und Moderne. Festschrift für Jürgen Malitz zum 65. Geburtstag*, ed. Andreas Hartmann and Gregor Weber (Speyer: Kartoffeldruck-Verl. Brodersen, 2012), 15–36.

23 DFK Paris archives: Especially telling are the minutes of exchange with members of the Paris based group concerning the Bibliography of the History of Art (BHA) database (view <https://primo.getty.edu/primo-explore/search?vid=BHA>). It is worth noting, that none had further knowledge and experience in programming nor in maintaining a digital infrastructure.

24 Gradmann, *Katalogisieren*, 69.

25 On field division, see DFK Paris archives: 12 February, 2002; on the configuration: "Furthermore, it required a considerable investment of time and conceptual thinking as well as careful consideration of the technical (computing and programming) aspects to select and program the LIDOS database in such a way that it could be used with even the current level of efficiency and variety." DFK Paris archives: Gaehtgens, VW Foundation 2001 closing report, 19.

26 This was only recognized later in the project, once the problem had become impossible to correct; DFK Paris archives: *Compte rendu de la présentation du 16 mai 2003* (Paris, May 20, 2003).

27 Ibid.

28 DFK Paris archives: exchange between Olivia Tolède and

Mathilde Arnoux in Paris and Friederike Kitschen, Knut Helms, and Andreas Holleczek in Berlin, May to November 2003.

²⁹ Ibid.

³⁰ Malitz, *ConcEyst, GBD und NBC*, 29–30.

³¹ Information kindly conveyed orally by M. Arnoux, spring 2022.

³² Markus A. Castor, “Informationstechnologien am Deutschen Forum für Kunstgeschichte,” Jahresbericht für die Öffentlichkeit. Jahresbericht / Rapport d’activités 2006–2005 (Paris: DFK Paris, 2006), 67–69. Based on the security copies, the conclusion of the data acquisition in the three projects can be dated respectively to January, May, and October 2004.

³³ Regarding the complex structure of the LIDOS database in the backend, see Gradmann, *Katalogisieren*. In April 2022, Markus Castor (DFK Paris) kindly provided information on the difficult migration of the project databases.

³⁴ These tasks were executed by Thorsten Wübbena (DFK Paris) in conjunction with Moritz Schepp (wendig.io).

³⁵ The site is documented here: “Deutsch-französische Kunstvermittlung 1870–1940 und 1945–1960”, DFK Paris, accessed July 13, 2022, https://web.archive.org/web/20220520091005/https://dfk-paris.org/de/page/deutsch-franzoesische-kunstvermittlung-1870_1940-und-1945_1960-datenbank-2391.html.

³⁶ See Philip Woodall, “The Data Repurposing Challenge: New Pressures from Data Analytics,” *Journal of Data and Information Quality* 8 (March 3, 2017): n.p.

³⁷ For copyright reasons, up to now this has been possible mainly for the first two part-project databases.

³⁸ See Madleen Podewski, “‘Kleine Archive’ in den Digital Humanities – Überlegungen zum Forschungsobjekt ‘Zeitschrift,’” *Zeitschrift für digitale Geisteswissenschaften* (2018): n.p., https://doi.org/10.17175/sb003_010. An example of how the “verbal-visual syntax” of the periodicals press can be analyzed is offered by Andreas Beck, “Driving Wild Cattle in Illustrated Magazines from Britain to France, and from France to Germany: Migrating Illustrations as a Means of National Self-Assurance,” *Periodicon* 1, no. 1 (December 20, 2021): 1–20.

³⁹ “This would mean taking the digital copy seriously as material in its own right. It is not self-contained but can be used for further processing. This attitude, which revolves

around the material, is also implicitly characteristic of the IIF universe, which strives to achieve the best possible means of presentation for every digital copy,” Ina Mertens, “Zwei Seiten einer Medaille – IIF und die Arbeit mit digitalen Bildbeständen,” *Zeitschrift für digitale Geisteswissenschaften* (2021): n.p., https://doi.org/10.17175/2021_002.

⁴⁰ See Tom Crane, “Beyond the Viewer: Fragments and Links in Annotation Space,” *Digirati-Ch* (blog), June 19, 2018, accessed July 7, 2022, <https://medium.com/digirati-ch/beyond-the-viewer-fragments-and-links-in-annotation-space-b3284e25f34>.

⁴¹ We used OpenRefine, v3.4.1, see: <https://github.com/OpenRefine/OpenRefine/releases/tag/3.4.1>.

⁴² Johanna Drucker, “The Back End: Infrastructure Design for Scholarly Research,” *The Journal of Modern Periodical Studies* 8, no. 2 (2017): 121–22, <https://doi.org/10.5325/jmodeperistud.8.2.0119>.

⁴³ OwnReality: To Each His Own Reality, DFK Paris, <https://dfk-paris.org/en/page/ownrealitydatabase-and-research-tool-1353.html>.

⁴⁴ The style of presentation of the digital objects relates to our earlier reflections on the potential of the digital copies of the journals as additional material, for the defined standards have to correspond to the aims of the enrichment in order to achieve the corresponding added value: “Showing only one side of a double-page opening makes it very hard to understand the site specific context of a work, so, here, a basic decision about what constitutes the work itself becomes a crucial factor in how the pages will be able to be read ahead.” Drucker, “Back End,” 125. In keeping with this directive, the viewer displays a double-page view, which recalls an open periodical.

⁴⁵ Woodall, “Data Repurposing Challenge,” n.p.

⁴⁶ Johanna Drucker, “Reading Interface,” *PMLA* 128, no. 1 (2013): 218.

⁴⁷ DFK-Paris, 2022, “Deutsch-Französische Kunstvermittlung 1870–1960 [data and software]”, https://doi.org/10.11588/data/WK9BJG_heiDATA.

⁴⁸ Website Linked Art Data Model: <https://linked.art/loud/>.

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The DFK Paris archives: DFK Paris conserves business records, press cuttings, and project documentation that can be made available for viewing upon request. These documents have not

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yet been systematically ordered. All those referred to above can be unambiguously identified via the details provided in the notes.

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