Data Management Plan for 'Between Reality and Fantasy: Imagining Dinosaurs in Belgian science and culture from 1854 to 1914' (FWO-project 11B2625N)

Tine De Keyser

This data management plan was made as the initial DMP for my research (April 2025), conducted at the Universities of Leuven and Antwerp, and funded by FWO.

1. General Project Information	
Name Grant Holder & ORCID	Tine De Keyser (0009-0006-3412-1363)
Contributor name(s) (+ ORCID) & roles	Tom Verschaffel: supervisor (0000-0001-6973-9952) Kurt Vanhoutte: co-supervisor (0000-0003-2599-6863)
Project number & title	3H240587 (Between Reality and Fantasy: Imagining Dinosaurs in Belgian science and culture from 1854 to 1914)
Funder(s) GrantID	11B2625N
Affiliation(s)	☐ KU Leuven ☐ Universiteit Antwerpen ☐ Universiteit Gent ☐ Universiteit Hasselt ☐ Vrije Universiteit Brussel ☐ Other: ROR identifier KU Leuven: 05f950310

Please provide a short project description	In the second half of the nineteenth century, dinosaurs were increasingly discovered, both scientifically and culturally. In 1878, 25 complete dinosaur skeletons were found in Belgium. This was of great international importance, but also impacted the perception of dinosaurs in Belgium itself. In a country with little history in paleontological expertise, it came down to bringing in and appropriating knowledge, know-how and images. This project therefore researches visual and textual images of dinosaurs in Belgium in the period 1854-1914 from a transnational perspective. It sheds light on the dynamics at play in showing, consuming and shaping these images, tracing influences throughout cultural circuits, scientific knowledge sharing, and personal networks. In so doing, it will reveal which representations of dinosaurs circulated here, why, and what meaning was bestowed upon them from a Belgian perspective. To this end, this research examines sources from the natural history museum, popular science texts, science performances and fiction stories, supplemented by critical reviews. Textual and visual sources are studied in tandem through discourse analysis and iconological analysis. A network analysis maps how images, meanings and cultural influences could travel through different connections. The dinosaur as a human construct, then, functions as a site through which broader processes of cultural apprehension of scientific content can be studied.

2. Research Data Summary

				ONLY FOR DIGITAL DATA	*ONLY FOR DIGITAL DATA*	*ONLY FOR DIGITAL DATA*	*ONLY FOR PHYSICAL DATA*
Dataset Name	Description	New or Reused	Digital or Physical	Digital Data Type	Digital Data Format	Digital Data Volume (MB, GB, TB)	Physical Volume
		☐ Generate new data ☐ Reuse existing data	☐ Digital ☐ Physical	☐ Audiovisual ☐ Images ☐ Sound ☐ Numerical ☐ Textual ☐ Model ☐ Software ☐ Other:		☐ < 1 GB ☐ < 100 GB ☐ < 1 TB ☐ < 5 TB ☐ > 5 TB ☐ NA	
1. Literature: print books	Literature I will consult during my research.	Collect existing data	Physical	/	/	/	Multiple books and articles (preserved in libraries)
1. Literature: digital/digitized books and articles	Digital copies of literature I will consult during my research.	Collect existing data	Digital	Digital copies of physical pages (or online publications) including textual information and/or images	.pdf or .jpg/.jpeg or online available	< 100 GB	/
1. Literature: bibliographic information	Bibliographic metadata of the literature I will collect during my research.	Generate new data	Digital	Textual data stored in software	Data stored in a Zotero Database; can be exported in various data formats, like BibTex or JSON.	< 100 GB	/

2. Sources: books and booklets	Book(let)s published in 1854-1914 that serve as sources in my research.	Collect existing data	Physical	/	/	/	Multiple book(let)s (preserved in libraries)
2. Sources: ephemera (print)	Ephemera produced in 1854-1914 that serve as sources in my research.	Collect existing data	Physical	/	/	/	Multiple ephemera (preserved in libraries)
2. Sources: periodicals	Periodicals published in 1854-1914 that serve as sources in my research.	Collect existing data	Physical	/	/	/	Multiple periodicals (preserved in libraries)
2. Sources: letters	Letters written/sent in 1854-1914 that serve as sources in my research.	Collect existing data	Physical	/	/	/	Multiple letters (preserved in libraries)
2. Sources: illustrations in books, booklets, on ephemera, in periodicals	Illustrations produced in 1854-1914 that serve as sources in my research.	Collect existing data	Physical	/	/	/	Multiple illustrations (part of boo(let)s, periodicals, ephemera, lantern plates)
2. Sources: magic lantern plates	Magic lantern slides produced/shown in 1854-1914 that serve as sources in my research.	Collect existing data	Physical	/	/	/	Multiple magic lantern plates (preserved in heritage institutions)
2. Sources: digitized books and booklets	Digitized book(let)s published in 1854-1914 that serve as	Collect existing data	Digital	Digital copies of physical book(let)s, including textual	.pdf or online available	< 100 GB	/

	sources in my research.			information and/or images			
2. Sources: digitized ephemera	Digitized ephemera produced in 1854-1914 that serve as sources in my research.	Collect existing data	Digital	Digital copies of physical ephemera, including textual information and/or images	.pdf, .jpg or online available	< 100 GB	/
2. Sources: digitized periodicals	Digitized periodicals published in 1854-1914 that serve as sources in my research.	Collect existing data	Digital	Digital copies of physical periodicals, including textual information and/or images	.pdf, .jpg or online available	< 100 GB	/
2. Sources: digitized magic lantern plates	Digitized magic lantern slides produced/shown in 1854-1914 that serve as sources in my research.	Collect existing data	Digital	Images	.jpg, .tiff or other Image-formats, depending on the owning institution	< 100 GB	/
2. Sources: photographs of physical sources	Photographs made of sources preserved in heritage institutions.	Generate new data	Digital	Images (mostly of textual data)	.jpg	< 100 GB	/
2. Sources: bibliographic information	Bibliographic metadata of the sources I will consult during my research.	Generate new data	Digital	Textual data stored in software	Data stored in a Zotero Database and a Tropy Database; can be exported in various data	< 100 GB	/

					formats, like BibTex or JSON.		
3. Notes: annotations about literature	Notes, about what I read in literature, I will take during my research.	Generate new data	Physical & digital	Textual	.md	< 1 GB	Multiple paper notebooks
3. Notes: notes about sources	Notes, about what I encounter in the sources, I will take during my research.	Generate new data	Physical & digital	Textual	.md	< 1 GB	Multiple paper notebooks
3. Notes: notes about historical figures featuring my sources	Notes about historical actors in my research I will take during my research.	Generate new data	Physical & digital	Textual	.md	< 1 GB	About one paper notebook
3. Notes: research notes (thoughts and ideas)	General notes I will take during my research.	Generate new data	Physical & digital	Textual	.md	< 1 GB	Multiple paper notebooks
4. Relational database: structured data on people and sources	A structured dataset gathering information on relevant historical actors, linked to the representations of dinosaurs/saurians circulating in Belgium (1854-1914).	Generate new data	Digital	Textual and chronological (numeric) information stored in software	Data stored in a Nodegoat Database; can be exported as .csv	Stored on the online Nodegoat-server. < 100 GB	/

GUIDANCE: *The data description forms the basis of your entire DMP, so make sure it is detailed and complete. It includes digital and physical data and encompasses the whole spectrum ranging from raw data to processed and analysed data including analysis scripts and code. Physical data are all materials that need proper management because they are valuable, difficult to replace and/or ethical issues are associated. Materials that are not considered data in an RDM context include your own manuscripts, theses and presentations; documentation is an integral part of your datasets and should described under documentation/metadata.* *RDM Guidance on data*	
If you reuse existing data, please specify the source, preferably by using a persistent identifier (e.g. DOI, Handle, URL etc.) per dataset or data type.	NA
Are there any ethical issues concerning the creation and/or use of the data (e.g. experiments on humans or animals, dual use)? If so, refer to specific datasets or data types when appropriate and provide the relevant ethical approval number.	☐ Yes, human subject data; provide SMEC or EC approval number: ☐ Yes, animal data; provide ECD reference number: ☐ Yes, dual use; provide approval number: ☒ No Additional information:
Will you process personal data[1]? If so, please refer to specific datasets or data types when appropriate and provide the KU Leuven or UZ Leuven privacy register number (G or S number).	☐ Yes (provide PRET G-number or EC S-number below) ☒ No Additional information:
Does your work have potential for commercial valorization (e.g. tech transfer, for example spin-offs, commercial exploitation, …)? If so, please comment per dataset or data type where appropriate.	☐ Yes ☒ No If yes, please comment:

[1] See Glossary Flemish Standard Data Management Plan

Do existing 3rd party agreements restrict exploitation or dissemination of the data you (re)use (e.g. Material/Data transfer agreements, research collaboration agreements)? If so, please explain to what data they relate and what restrictions are in place.	☐ Yes ☒ No If yes, please explain:
Are there any other legal issues, such as intellectual property rights and ownership, to be managed related to the data you (re)use? If so, please explain to what data they relate and which restrictions will be asserted.	☐ Yes ☒ No If yes, please explain:

3. Documentation and Metadata

Clearly describe what approach will be followed to capture the accompanying information necessary to keep **data understandable and usable**, for yourself and others, now and in the future (e.g. in terms of documentation levels and types required, procedures used, Electronic Lab Notebooks, README.txt files, Codebook.tsv etc. where this information is recorded). *RDM guidance on documentation and metadata*.	All documentation needed can be stored in README-files, accompanying the data. These files will contain the following information: For 1. Literature: bibliographic information The metadata-template I used, so the data can be correctly interpreted. Also, some explanation on my own research topic is crucial, because it is the frame in which the relations between all these literature become clear. Additionally, I will clarify I generated these data through Zotero. For 2. Sources: digitized sources The metadata-template I used, so the data can be correctly interpreted. Also, some explanation on my own research topic is crucial, because it is the frame in which the relations between all these sources become clear. Additionally, I will clarify how I generated these data through Tropy and Zotero. Moreover, I will include information on file formats, if I can share digitisations or photographs of sources, and specify the agreements I made with the heritage institution. For 2. Sources: bibliographic information The metadata-template I used, so the data can be correctly interpreted. Also, some explanation on my own research topic is crucial, because it is the frame in which the relations between all these sources become clear. Additionally, I will clarify how I generated these data through Tropy and Zotero. For 3. Notes These notes first and foremost need context information about my research topic, but also about my research questions, since these "drive" the notes; they are the reason I make these notes in my thinking process towards my research goals. Additionally, I will document file formats, the fact that I made them in Obsidian alongside paper notebooks, and give some more explanations on the abbreviations I use (and invented myself). Also, I will document how these notes functioned in the folder structure I use. Metadata on the literature I am actually writing about is also crucial; in doing so I will clarify how I linked these literature items to the notes I made about them, so people can interpret how they are related. A (self-made) thesaurus for the terms I use and what they mean will also be included.

	For **4. Relational database** These data first and foremost need context information about my research topic. In so doing I will also explain why I gathered the data I gathered and why I structured it the way I did. Additionally, information on how I generated these data using Nodegoat is necessary. A (self-made) thesaurus for the terms I use and what they mean will also be included. In order to correctly interpret the historical information, metadata on my sources is relevant, including my notes on the historical figures present in the database.

Will a metadata standard be used to make it easier to **find and reuse the data**? If so, please specify which metadata standard will be used. If not, please specify which metadata will be created to make the data easier to find and reuse. *REPOSITORIES COULD ASK TO DELIVER METADATA IN A CERTAIN FORMAT, WITH SPECIFIED ONTOLOGIES AND VOCABULARIES, I.E. STANDARD LISTS WITH UNIQUE IDENTIFIERS.*	☐ Yes ☒ No If yes, please specify (where appropriate per dataset or data type) which metadata standard will be used: If no, please specify (where appropriate per dataset or data type) which metadata will be created: **Literature** References of literature will be managed in Zotero. This means I use the fields in Zotero to store my metadata according to the formats as used in Zotero. (Use of capital letters in titles will follow the conventions of the language of the title.) **Sources** Metadata on sources will be organized in Tropy and Zotero. - For books and booklets, I will use the same data as in Zotero. I will add a field about digitization and add my own name, indicating that I myself took a photograph to digitize the source. - For archival sources like ephemera I will use the Generic template in Tropy. For announcements of science shows, I will add a field for the location where the show took place. I will add a field about digitization and add my own name, indicating that I myself took a photograph to digitize the source. - For periodicals, I will use the same data as in Zotero. I will add a field about digitization and add my own name, indicating that I myself took a photograph to digitize the source. - For letters I will use the Correspondence template in Tropy. I will add a field about digitization and add my own name, indicating that I myself took a photograph to digitize the source. - Illustrations require the title of the illustration, the artist(s), and the data of the sources they appeared in. I will add a field about digitization and add my own name, indicating that I myself took a photograph to digitize the source. - For magic lantern plates, I will use the Generic template. I will add a field about digitization and add my own name, indicating that I myself took a photograph to digitize the source. - For sources already digitized by the preserving institutions: I will use the same fields as for the sources I digitized myself, but I will here specify the institution that digitized the sources.

4. Data Storage & Back-up during the Research Project	
Where will the data be stored? *Consult the interactive KU Leuven storage guide to find the most suitable storage solution for your data.*	☐ Shared network drive (J-drive) ☐ Personal network drive (I-drive) ☐ Teams ☐ Sharepoint online ☐ Sharepoint on-premis ☐ Large Volume Storage ☐ ManGO ☐ Digital vault ☒ Other: KU Leuven OneDrive for Business (personal) cloud storage
How will the data be backed up? *WHAT STORAGE AND BACKUP PROCEDURES WILL BE IN PLACE TO PREVENT DATA LOSS?*	☒ Standard back-up provided by KU Leuven ICTS for my storage solution ☐ Personal back-ups I make (specify) ☐ Other (specify)
Is there currently sufficient storage & backup capacity during the project? If yes, specify concisely. If no or insufficient storage or backup capacities are available, then explain how this will be taken care of.	☒ Yes ☐ No The OneDrive from KU Leuven I use is sufficient for storing all my research materials. If no, please specify:

How will you ensure that the data are securely stored and not accessed or modified by unauthorized persons? *CLEARLY DESCRIBE THE MEASURES (IN TERMS OF PHYSICAL SECURITY, NETWORK SECURITY, AND SECURITY OF COMPUTER SYSTEMS AND FILES) THAT WILL BE TAKEN TO ENSURE THAT STORED AND TRANSFERRED DATA ARE SAFE.* *Guidance on security for research data*	I will make use of the Onedrive cloud service provided by the Faculty of Arts at KU Leuven: this storage place is safe and automatically backed up. I will use Bitlocker as an additional safety measure to protect the data. This means only I can access the data.
What are the expected costs for data storage and backup during the research project? How will these costs be covered?	OneDrive is part of the Microsoft 365 Education A3 plan. The cost of the Microsoft 365 Education A3 licenses within the EES agreement is financed centrally for all KU Leuven students and the majority of active KU Leuven staff. Consequently, I won't have to cover this cost myself.

5. Data Preservation after the end of the Research Project	
Which data will be retained for at least five years (or longer, in agreement with other retention policies that are applicable) after the end of the project? In case some data cannot be preserved, clearly state the reasons for this (e.g. legal or contractual restrictions, storage/budget issues, institutional policies...). *Guidance on data preservation*	☒ All data will be preserved for 10 years according to KU Leuven RDM policy ☐ All data will be preserved for 25 years according to CTC recommendations for clinical trials with medicinal products for human use and for clinical experiments on humans ☐ Certain data cannot be kept for 10 years (explain)

Where will these data be archived (stored and curated for the long-term)? *Dedicated data repositories are often the best place to preserve your data. Data not suitable for preservation in a repository can be stored using a KU Leuven storage solution, consult the interactive KU Leuven storage guide.*	☒ KU Leuven RDR ☐ Large Volume Storage (longterm for large volumes) ☐ Shared network drive (J-drive) ☐ Other (specifiy):
What are the expected costs for data preservation during the expected retention period? How will these costs be covered?	I do not expect to exceed 50 GB of storage. Under 50 GB, use of KU Leuven RDR is free.

6. Data Sharing and Reuse	
Will the data (or part of the data) be made available for reuse after/during the project? Please explain per dataset or data type which data will be made available. *NOTE THAT 'AVAILABLE' DOES NOT NECESSARILY MEAN THAT THE DATA SET BECOMES OPENLY AVAILABLE, CONDITIONS FOR ACCESS AND USE MAY APPLY. AVAILABILITY IN THIS QUESTION THUS ENTAILS BOTH OPEN & RESTRICTED ACCESS. FOR MORE INFORMATION: HTTPS://WIKI.SURFNET.NL/DISPLAY/STANDARDS/INFO-EU-REPO/#INFOEUREPO-ACCESSRIGHTS*	☒ Yes, as open data ☐ Yes, as embargoed data (temporary restriction) ☐ Yes, as restricted data (upon approval, or institutional access only) ☐ No (closed access) ☒ Other, please specify: The availability and accessibility depends on the specific data and whether I generated the data myself, or collected it in heritage institutions. - **Literature**: The bibliographic collection I compose will be made available as open data. - **Sources**: The bibliographic collection (of both physical and digitized sources) I compose will be made available as open data. Normally, there's no copyright on the sources themselves, but I will always have to check with the archives what policy they have. Depending on their policy I can or cannot share my own digitisations as open data. - **Notes**: In my notes, I include quotes from literature or sources, so these should be referenced properly before publishing my notes. The rest of my notes are my own ideas, so strictly speaking, I have the copyright on them, but I will check with the archives in question, just in case. So, if allowed by the heritage institutions, I will share my notes as open data. - **Relational database**: All researched people lived in the 19th century, so I can share personal data on them. Normally copyright should not hinder to share metadata (I created myself) on these people. So, all data will be shared as open data, unless heritage institutions do not allow to publish digitisations of their historic material. However, if that is the case, the metadata I gather *on* these sources can be shared as open data, which still allows other researchers to consult the sources in question.
If access is restricted, please specify who will be able to access the data and under what conditions.	/

Are there any factors that restrict or prevent the sharing of (some of) the data (e.g. as defined in an agreement with a 3rd party, legal restrictions)? Please explain per dataset or data type where appropriate.	☐ Yes, privacy aspects ☐ Yes, intellectual property rights ☐ Yes, ethical aspects ☐ Yes, aspects of dual use ☒ Yes, other ☐ No If yes, please specify: The possibility of sharing (digitisations of) historical source material depends on the policies of the preserving heritage institutions.
Where will the data be made available? If already known, please provide a repository per dataset or data type.	☒ KU Leuven RDR ☐ Other data repository (specify) ☐ Other (specify)
When will the data be made available?	☒ Upon publication of research results ☐ Specific date (specify) ☒ Other (specify) Bibliographic collections can be made available throughout my research and be updated when necessary.

Which data usage licenses are you going to provide? If none, please explain why. *A DATA USAGE LICENSE INDICATES WHETHER THE DATA CAN BE REUSED OR NOT AND UNDER WHAT CONDITIONS. IF NO LICENCE IS GRANTED, THE DATA ARE IN A GREY ZONE AND CANNOT BE LEGALLY REUSED. DO NOTE THAT YOU MAY ONLY RELEASE DATA UNDER A LICENCE CHOSEN BY YOURSELF IF IT DOES NOT ALREADY FALL UNDER ANOTHER LICENCE THAT MIGHT PROHIBIT THAT.* *Check the RDR guidance on licences for data and software sources code or consult the License selector tool to help you choose.*	☒ CC-BY 4.0 (data) ☐ Data Transfer Agreement (restricted data) ☐ MIT licence (code) ☐ GNU GPL-3.0 (code) ☒ Other (specify) If I can, I would share digitized sources in Open Access, but I need to discuss this with the archives in question. If needed, I can publish metadata without the digitisations themselves or alter the license concerning the digitisations.
Do you intend to add a PID/DOI/accession number to your dataset(s)? If already available, please provide it here. *INDICATE WHETHER YOU INTEND TO ADD A PERSISTENT AND UNIQUE IDENTIFIER IN ORDER TO IDENTIFY AND RETRIEVE THE DATA.*	☒ Yes, a PID will be added upon deposit in a data repository ☐ My dataset already has a PID ☐ No
What are the expected costs for data sharing? How will these costs be covered?	I do not expect to exceed 50 GB of data sharing. Under 50 GB, use of KU Leuven RDR is free.

7. Responsibilities	
Who will manage data documentation and metadata during the research project?	I will.
Who will manage data storage and backup during the research project?	I will, together with KU Leuven ICTS services.
Who will manage data preservation and sharing?	I will, together with KU Leuven ICTS services.
Who will update and implement this DMP?	I will, in collaboration with my supervisors.