



Musical Instruments in Ancient Mesopotamia (MIAM) A Semantic Media Wiki Database and Lexicon



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Summary: This is a presentation of a research project which aims to collect, classify and interpret musical instruments, their terminology, iconography and contexts, based on texts, images and original finds. The outcome is presented in an online database and lexicon based on Semantic MediaWiki technology.

#database #lexicon #music #open access #Semantic MediaWiki

25 min read

Introduction

Musical instruments are cultural artefacts inextricably linked with the social, historical, religious, and political forces of their eras. They instantiate equal progress in technical and scientific knowledge and developments in trade, commerce, and society. Their production, propagation, and use in private and institutional structures testify to interconnectivity and exchange in a variety of cultural matters (Eichmann et al. 2019; Lawson 2020). All of this makes research into musical instruments a vital component for the study of the multicultural and multi-ethnic background of ancient Mesopotamia (mainly, modern Iraq and eastern Syria) between the late 4th and the late 1st millennia BCE.

The musical instruments of Mesopotamia have been addressed in numerous articles and monographs. Many of these have focused on individual questions, written corpora, artefacts, or epochs with a noticeable concentration on the 3rd and 2nd millennia BCE (e.g. Krispijn 1990; Schauensee 2002; Ziegler 2007; Dumbrill 2007; Mirelman 2014; Shehata 2014; Shehata 2021b; Cheng 2001; Gabbay 2010, 2014a/b; Sánchez Muñoz 2021, 2023). General overviews are provided in the works by Schmidt-Colinet (1981), Rashīd (1984), and Dumbrill (1998, 2005). In recent years, these have become outdated as a result of new finds, publications, and investigations, among these e.g. Ziegler (2007), Orlamünde (2011), Strommenger/Miglus (2010). Additionally, important aspects of Mesopotamia's music cultures have so far been neglected; unsatisfactorily analyzed are, for example, smaller sound tools such as rattles and whistles, which remain unnoticed in important museum collections and are seldom studied (e.g. Pruß 1999). Entries on musical instruments in common dictionaries of Akkadian and Sumerian (name = musical instrument) still only contain broad and unspecific identifications (e.g. ePSD2 ^ηēšdim-nun “lyre?”), inconsistencies, or, given the lack of both philological and musicological investigations, no identification at all (e.g. CAD B 134b; CDA 40a *bašillatu* (*ḥabašillatu*) “a musical instrument”).

The need to create a reference work based on Assyriological and archaeological research standards, considering the variety of philological terms and the details of their probable interpretation while being informed by differentiated modern musicological terminology, appears evident. It further allows to carry forward basic research themes, as there are:

1. The identification of musical instruments through their names and shapes in texts and images and from physical remains,
2. The evaluation of the contexts of musical instruments and the identification of related classifications from an emic perspective,
3. A comprehensive cultural-historical outline highlighting traditions and innovations in Mesopotamia's sound and music cultures.

An important basis for further investigations is the identification of musical instruments, which remains the primary goal of Mesopotamian music research. This provides necessary connecting points for interdisciplinary research questions. Facing this endeavor, a first evaluation of the different limitations in the available evidence strongly suggests that ancient Mesopotamian instrument designations as well as their classification are not only based on organological features or playing techniques as specified by Hornbostel and Sachs (1914), but also on other qualities such as function, status, sound, origin, or use (see e.g. Kartomi 1990; Koch/Kopal 2014; Franklin 2015). Moreover, dealing with challenges of polysemy and ambiguity necessitates systematic documentation and differentiation of contextual information, which needs to be supplemented by musically relevant data such as material and construction, music setting, sound description, ensemble type, function, symbolic value, and players. Finally, musical instruments, their shapes, names, and classifications, are, of course, subject to constant change. An evaluation of their interconnectivity within cultural traditions and changes diachronically throughout all of Mesopotamia's history and synchronically in various regions thus constitutes the third desideratum identified above.

MIAM: Team and Setting

The project titled Musical Instruments in Ancient Mesopotamia—in short, MIAM—started in April 2024 as a four-year project and is funded by the *Deutsche Forschungsgesellschaft* (DFG). The project is hosted at the University of Würzburg in close collaboration between the department of [Ancient Near Eastern Studies](#) and the [Centre for Philology and Digitality “Kallimachos”](#) (in short ZPD). As a central academic institution, bridging the gap between the Humanities and Computer Sciences, the ZPD was founded in 2023 with the aim to provide the best possible support for developing digital topics in humanities research.

MIAM’s core team consists of an archaeologist (Benedetta Bellucci), a philologist (Dahlia Shehata, PI), and a part-time IT-specialist (Tomash Shtohryn), as well as student helpers (Konstanze Hofbauer and Bilind Shushe). The project further counts on several associated researchers in Würzburg as well as international; among them Christian Reul who supervises the digital background at the ZPD, the musicologists Oliver Wiener (Würzburg) and Salah ed-Din Maraqa (Freiburg), as well as representatives of the main discipline of Ancient Near Eastern Studies, Uri Gabbay (Jerusalem), Sam Mirelman (London), and Ricardo Eichman (Berlin). Equally included as research advisors due to their specialized practical knowledge are instruments builders and practical musicians, e.g. Ralf Gehler (Schwerin) at the *Zentrum für Traditionelle Musik*, specialized in recreating ancient musical instruments.

Research Objectives

As given in its full title, *Musical Instruments in Ancient Mesopotamian Records: Terminology, Iconography, and Context*, the project’s main focus are musical instruments, their shapes, types, organology, names and terminology as well as their cultural and historical setting. Given the above sketched desiderata in the study of

ancient Mesopotamia's music cultures, MIAM's main goal is to unlock previously unanswered questions based on the following investigative concerns:

1. How far are we able to correlate and identify musical instruments from their given names, their depiction, and as original sound tools (i.e. musical instruments and other sound-producing artefacts)?
2. What kind of typologies and classification systems may be developed and identified for Mesopotamia's musical instruments, both from emic and etic perspectives?
3. What is the geographical distribution and are the historical developments of individual as well as groups of musical instruments?

In view of the generally limited evidence for musical instruments in Mesopotamia, the only possible basis for addressing the presented research questionnaire is the creation of a collection of primary sources that is as comprehensive as possible, and on which the contextual and historical evaluation can take place. The project's objectives are three-stepped and take their start from compilation work:

1. **Compilation:** Creating a comprehensive collection of records on musical instruments in texts, images and sound tools
2. **Analysis and evaluation:** Interpreting and correlating archaeological and philological data with regard to terminology, iconography, and context
3. **Presentation:** Feeding the results from steps (1) and (2) into an online open-access digital database and lexicon

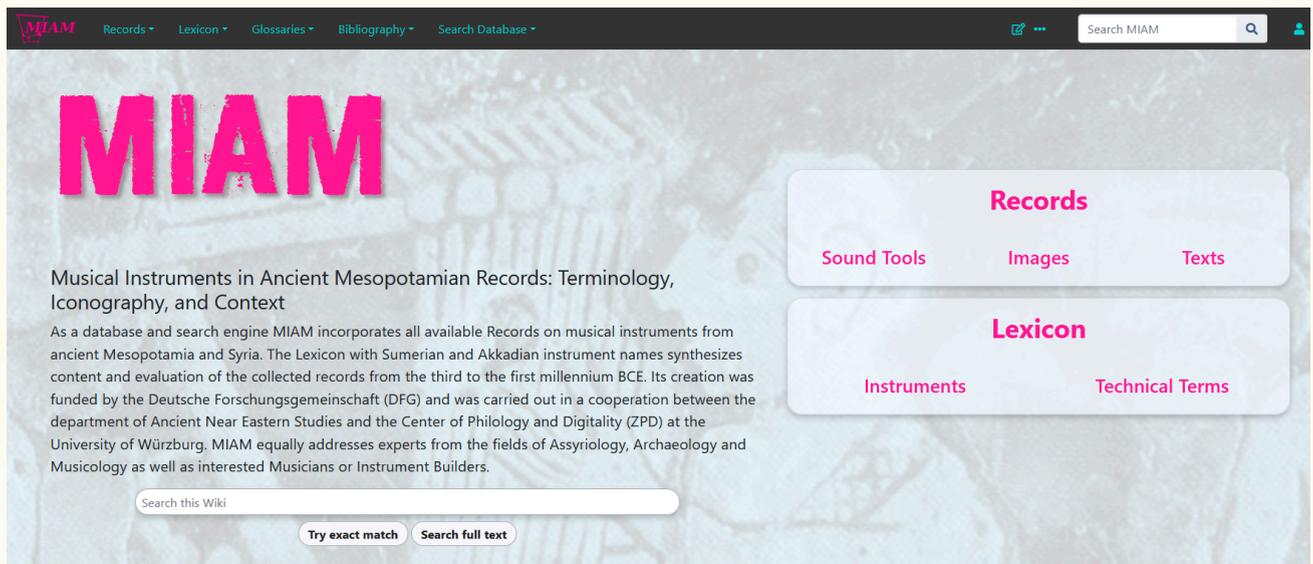


Figure 1: Start page of MIAM created based on MediaWiki and Semantic MediaWiki-frameworks.

The project's primary objective is to provide a comprehensive collection of records with any sort of reference to musical instruments. Most importantly, there is no restriction to the record's type: MIAM collects information on musical instruments detected in cuneiform manuscripts (texts), from iconography (images), and as original finds of sound tools.

As to the texts and their content, references to musical instruments are detectable in all text genres. In contrast to *Lexical Lists*, which provide a differentiated terminology yet not fully deciphered and understood, Akkadian or Sumerian *narratives* may contain extended descriptions of music performances with information on the instruments' handling, their players, or the sounds produced. The largest group of texts are everyday texts, which include letters, legal documents and administrative texts of all kinds. Their information content ranges from details about materials, the people responsible for and players of musical instruments, to religious significance and playing occasions, for example when offerings or certain cult festivals are mentioned. Comparably informative are practical texts, a group which in MIAM includes rituals, incantations and liturgical texts.

Depending on the type of the visual medium, images can provide information about the players, the contexts, and, in the case of fine visual works, also about organological features of a musical instrument. Already at this early stage of the project, new as well as previously unknown or unnoticed representations of musical instruments have been discovered, which significantly revise our previous understanding of, for example, gender distribution of the instrumentalists or the construction of single instruments. Equally first-step research into sound tools has revealed that the majority of original instrument finds are clay rattles which are found in all regions of Mesopotamia with an astonishing consistency in shape and type.

The analyses and (re-)evaluations of each single record collected in MIAM will further include new editions and publications of hitherto unknown as well as re-examined material in different PR journals.

Lastly, the results from these examinations and evaluations will feed a database and a lexicon with individual entries to ancient Sumerian and Akkadian lemmas, as well as modern instrument names and related terminology, created and presented as an online and open access Wiki-platform (Figure 1).

Scope and interdisciplinarity

A special and innovative feature of MIAM is its primary thematic focus, which sets it aside from digital and online editing projects aimed at a specific corpus or genre of texts or visual media, such as most recent projects in [ORACC](#), [BDTNS](#), [Archibab](#), or [KIŠIB](#). Since MIAM primarily pursues content-related research objectives, its research material is not limited to a specific type of image or text genre but merges all types of records and, thus, heterogeneous source material. Even if MIAM's limitation is basically cultural, from a musicological point of view, its collection of sources is even more comprehensive than existing digital instrument databases, such as [MIMO](#) or [RIMAnt](#), which are limited to musical instruments, sound artefacts and their remains and thus exclude information from depictions and texts. This topic/content-related

approach of MIAM is key for linking and correlating archaeological and philological data of various types and genres, combining the different contextual information to obtain as comprehensive a picture as possible of the examined material.

The collection of sources will cover the archaic and early Uruk periods (ca. 3900–3500 BCE) to the Seleucid period (320–63 BCE). In geographical terms, it will be limited to Akkadian and Sumerian sources, mainly from the Sumerian and later Babylonian and Assyrian spheres of influence, which include Mesopotamia and parts of Syria. Within these boundaries, we aim to present all hitherto published textual and iconographic material referencing musical instruments. The detection and edition of new and previously undetected sources is limited to sifting through and researching the collections of a selection of important museums in Europe and the United States.

Recent investigations, among them Gabbay (2014a/b), Mirelman (2014), Shehata (2017, 2021a/b), and Sánchez Muñoz (2021, 2025) have demonstrated that the treatment of questions of terminology, identification, and typology requires an interdisciplinary approach based on a well-founded study of textual as well as archaeological primary sources. MIAM is therefore inevitably interdisciplinary. Not only does it present philological and archaeological research connecting different analyzing methods through digital means, but also the evaluation and interpretation of this specialized area of ancient Near Eastern history further requires the knowledge of music experts from music history, ethnomusicology, or music archaeology. The core team, therefore, constantly exchanges results and questions with external specialists, which leads to the project's widespread networking and perception.

The MIAM online database and lexicon

Semantic Media Wiki

MIAM's electronic and online database and lexicon were created based on *MediaWiki* and *Semantic MediaWiki* (SMW)-frameworks. Since its initial release in 2005, *Semantic*

MediaWiki has been under active development with more than 1600 active Wikis today. It is ideally suited for the implementation of semantic database projects and offers numerous ready-to-use components to be easily adjusted to the special needs of the project.

Advantages	Limitations
<ul style="list-style-type: none"> ➤ Long-term support & maintenance ➤ Quick installation ➤ Easy to use out of the box ➤ Flexible organization of your data 	<ul style="list-style-type: none"> ➤ No solutions for advanced text input and annotation ➤ Insufficient maintenance of the third-party extensions ➤ Little to no scope for high-level front-end solutions

Figure 2: Pros and limitations of SMWs

There are many advantages of *MediaWiki* in bundle with *Semantic MediaWiki*; the foremost is its widespread community connected to long-term support and maintenance. A basic *MediaWiki*-Instance is quickly and easily installed making it usable out of the box. Once the basis is installed, which is equally achieved with ready-to-go forms and page formats, entering data takes its start. Particularly valuable for our project is the high flexibility in organizing different datasets and page hierarchies, which can be changed at any time and thus adapted at regular intervals to the requirements of the constantly growing material and emerging questions.

Every entering field within a set of data may be individually defined and adjusted to the needs of its contents, e.g. whether it is mandatory, needs special characters, free text, or prescribed values such as time periods, collections or provenances. Additional components for enhancing data management, usability and the overall design are dropdowns, uploads of images and other visual data, and tokens. Other features are downloads, either of single pages, files or a specific selection of a record or lexicon article. It is also possible to define the templates that change the overall frontend of respective pages. Accordingly, this allows the previously entered data to be wrapped in numerous design containers, which improve the design and usability of the Wiki. Various ready-to-use extensions may be additionally implemented. Apart from

extensions such as EasyTimeline, that make it easier for non-specialist users to work with the presented data, others may visualize different statistics and developments, such as the temporal distribution of a particular instrument or the spatial distribution of an instrument type using a map, thus providing graphically visible results to research question 3 presented above. The entered data can additionally be linked to existing records in Wikidata, which is particularly useful for individual musical instruments. These, same as all further linking to existing ANE databases and online dictionaries are carried out at a later stage to ensure topicality at the website's launch in 2028 and after verifying the entries' reliability. *Semantic MediaWiki* thus enables data recording and managing, enriched with semantic attributes and categories, and can be imagined as a large network which is visualized and may be explored through special queries.

However, working with the Wiki throughout the project's first year has already revealed problematic issues and limitations. Even though the input of transliterations of cuneiform text with all the necessary specifications, such as line numbering and scores, is perfectly feasible, there are no solutions for implementing annotated text, such as ATF (Annotated Text Format), as is provided, e.g., in [ORACC](#) or [eBL](#). The final presentation of the texts will, therefore, rely on linking and cross-references to the major text editing and dictionary projects ([ePSD2](#); [eSAD](#)) to enable the user single word-based exploration.

The great benefit from including different extensions for visualization and advanced search are offset by inconsistencies that may appear in their implementation and the data modelling. Gladly, thanks to the great support community it was so far always possible to find alternative solutions out of the many predefined *Semantic MediaWiki* features and extensions. Lastly, due to the ready-to-use characteristics of SMW, special design features cannot be integrated. All this must be taken into consideration when developing a WIKI-project which is optimally adapted to the needs of the question.

Since MIAM's goals are primarily content-related and the focus is on analyzing and interpreting the records, the project's output is not diminished by omitting annotation and lemmatization of images or texts. On the contrary, collaboration with other

projects within the ever-growing digital ANE community allows for solutions to be developed more effectively. Ultimately, collaboration also prevents the loss of time due to repeating work steps that have already been successfully completed by third-party research projects (e.g. [Archibab](#), [BDTNS](#), [eBL](#), [ETCSL](#)). Priority was given to simple programming and design to avoid complications caused by complexity and data volume while at the same time facilitating interactions and links with other digital formats through simplicity.

Setting and entering of metadata

In creating appropriate and necessary data sets we were initially facing the challenge of including an input mask that works for all types of records, be them **texts**, i.e. cuneiform manuscripts of all types and contents; **images**, as there are depictions on various supports; or original musical instruments, the **sound tools**.

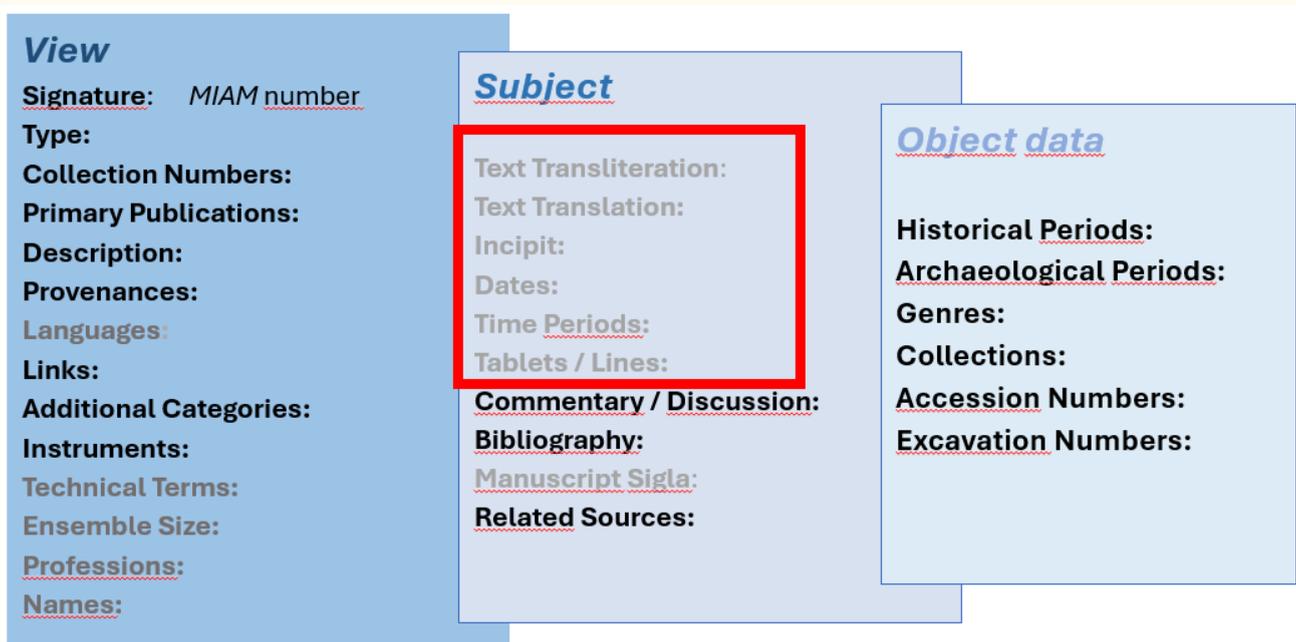


Figure 3: Sketch of meta data sets sorted to three tabs headed “View”, “Subject”, and “Object data”

The main category **Record** therefore provides input fields that suit all source types (Figure 3) and is presented under three different *tabs*. The first “View” tab presents

primary information, such as the place of the first publication, but most importantly all data in concern of the project’s main focus, thus detected “instruments”, “technical terms”, “professions” in music or “ensemble size”. The “View” further presents photographs of details and from different perspectives, also in RTI-format, technical designs, and—where deemed necessary—Photogrammetry and 3D-scans of objects examined during several museum visits. Copyright issues are clarified with each museum before publication and launching of the MIAM-website. The second tab, “Subject”, presents the detailed content and discussion of the record, while additional general information is provided under “Object data”.

While some of the entry fields are mandatory for reasons of the database’s hierarchical organization, such as “Signature”, an internal MIAM-numbering, or the “Type” of a record, others disappear when remaining empty (marked grey in Figure 3). This is for example the case for most iconographic records where the field “Text transliteration” is blanked out in the page’s final presentation.

The activated “Visual editor” with a menu offering all kinds of special characters and formatting especially facilitates text input. Even though the corresponding rendering in the “wiki editor” looks complex, it gives access to the HTML coding and allows individual adjustments.

Sound tools (ca. 464)	4 th /3 rd mill. BCE	Late 3 rd mill. BCE	2 nd mill. BCE	1 st mill. BCE
Chordophones	10			
Idiophones	8	30	100	250
Aerophones	4	10	20	30
Membranophones	2			

Images (ca. 332)	4 th /3 rd mill. BCE	Late 3 rd mill. BCE	2 nd mill. BCE	1 st mill. BCE
Seals	20	5	15	10
Figurines and Statues	2	60	70	60
Reliefs	10	25	30	25
Texts (ca. 472)	4 th /3 rd mill. BCE	Late 3 rd mill. BCE	2 nd mill. BCE	1 st mill. BCE
Lists	8		21	19
Literary	4	2	55	24
Administrative	25	45	85	25
Letters			40	15
Liturgy			10	25
Rituals/Incantations	3		5	32
Inscriptions	4	2	13	10
In total	44	49	229	150

*Table 1: Extrapolation of relevant **Records**, different types of sources with references to musical instruments*

Of the approximately 1450 records projected for the 2023 application (Table 1), 615, thus ca. 40%, have now been entered and transferred into **Record** pages in the MIAM online database. One year into the project, slight shifts in the distribution of sources are evident. This is particularly noticeable in the “Sound tools”, especially within the group of idiophones: Clay rattles, which have been widespread throughout the ancient Near East since the Neolithic period, are a veritable mass product. Contrary to previous

estimates, their number already exceeds all other source groups in our project. Similarly, the number of images is increasing due to hitherto unnoticed objects in recent excavation reports and private collections. The number of texts remains stable, so far supplemented only by a few newly discovered manuscripts with textual parallels.

The input mask, adjusted and defined individually for MIAM, can ultimately be seen as a cumulation of general information, such as collected for example by museum websites for all types of archaeological artifacts, but additionally presenting artefact-type-specific data, such as text transliterations or detailed image descriptions, which results into a collection of single full editions including substantive discussions.

Lexicon of Akkadian and Sumerian terms and names

The screenshot shows the MIAM Lexicon entry for 'zami / sammû [za:mi / sammu]'. The entry includes the following information:

- Type:** Ancient name
- Translation:** praise
- General Description:** The zami is frequently attested in entire Babylonia in the second millennium BCE. In the Old Babylonian Leather archive from Isin the instrument is delivered to almost every attested musician house. Sumerian zami is borrowed into Akkadian as *sammû*, which is mentioned several times in first millennium texts. The word's literal meaning "praise", documented in various spellings, most obviously refers to its traditional playing context. Contrary to the rich evidence in administrative texts, the instrument is rarely mentioned in literature. Sumerian zami , with its basic meaning "praise", also indicates a text genre or a closing formula of literary texts and songs, attested from Early Dynastic times onwards (Krebernik and Lisman 2020; Wilcke 1975: 246-247).
- Identification:** lyre (box-lyre); harp
- Geographical Distribution:** A map showing the distribution of the instrument across the Near East, with blue dots indicating locations such as Uruk, Umma, and other sites in Mesopotamia.

Figure 4: Provisional presentation of a *Lexicon* entry in MIAM

The research output achieved from collecting end (re-)editing **Records** as well as the insights gained from their systematic evaluation and interpretation will feed into the compilation of the **Lexicon** of Sumerian and Akkadian **Instruments** names as well as **Technical Terms** related to musical instruments, as there are their parts (e.g. Sumerian

a₂ “arm” for the instrument’s neck), materials (e.g. Sumerian siki “wool”), their handling and sound, and additional accessories (e.g. plectrum). Lexical entries present name variants, spellings and plausible identifications, next to a general description and an outline giving historical developments, playing contexts and uses (Figure 4). This comprehensive presentation is rounded off by a bibliography, a list of attestations and a visualization of their geographical distribution using a map.

Even though many terms are attested in both Sumerian and Akkadian counterparts, still where such equivalents vary and are not recognizable as uniform translations, separate entries are created for each of the Sumerian and Akkadian terms and related through internal links. Also here, changes in the meaning of names and their possible identification are evident, which is why a precise differentiation of each term, also with regard to linguistic evidence and its diversity, may indicate such developments.

Both Record and Lexicon pages have permanent URLs and may be easily cited in their final versions at the launch of the MIAM webpage using the given citation specifications. It is under discussion whether to set up DOI identifiers either for individual lexicon entries or for the whole lexicon.

Navigating tools and Glossaries

MIAM is not only aimed at specialists in ANE studies but is intended to be equally understandable and navigable for non-specialist scientists, as well as non-experts, be they musicians, instrument makers or undergraduates. The SMW-website therefore provides different tools to facilitate search, browsing, and visualization.

Among these tools are different **Glossaries**, presenting proper names, places, and professions, **maps** displaying the distribution of instrument types in images and names in text sources. Different **searching** tools, such as a drop-down menu and single-word-searches enable browsing and searching for individual modern and ancient terms, authors, or abbreviated publications. A comprehensive Bibliography contains all titles

referred to on the site as well as literature relevant for all kinds of Mesopotamian instrument studies.

Records

Subcategories

- Texts
- Images
- Artefacts

0-9 | A B C D E F G H I J K L M N O P Q R S T U V W X Y Z ...

• Harp-ED-01 (Pū-abī's Harp)

Filters Active - 0 Collapse All Show All Clear All

Type Provenance Instruments Hist. Period Arch. Period

Search: Show 20 entries

Type	Genre	Provenance	Instruments	Hist. Period	Arch. Period
ARMT 18 no. 65	Text	Mari (Tall al-Hariri), Syria	balaġ [balaġ] (multiple)	Old Babylonian (ca. 1900-1600 BCE)	Middle Bronze Age II A (2000-1750 BCE)
ARMT 18 no. 70	Text	Mari (Tall al-Hariri), Syria	balaġ [balaġ] (multiple)	Old Babylonian (ca. 1900-1600 BCE)	Middle Bronze Age II A (2000-1750 BCE)
Admin-ED(Girsu)-01	Text		balaġ [balaġ] (multiple), ub / uppu [ub / uppu]	ED IIIb (ca. 2500-2340 BCE)	

Figure 5: Provisional overview page for *Records* in MIAM

Each overview page presents the collection of page entries, be it in **Records** or **Lexicon**, in the form of tables displaying the basic and relevant information of a data and enhancing browsing through an alphabetical list (Figure 5).

All data, whether entries in the **Lexicon** or text translations and discussions in **Records** are linked internally to Glossaries and the Bibliography, and externally to online Assyriological corpora including [Archibab](#), [BDTNS](#), [CDLI](#), [ETCSL](#), [ORACC](#), [SEAL](#), [eBL](#), [ePSD2](#), [eSAD](#) and CAD for quick access to further information.

Issues of long-term accessibility

Despite the rapid development of digital humanities (DH) applications and online research presentations, ensuring long-term accessibility remains challenging for technological, institutional and financial reasons. Although stable technical solutions and institutional arrangements are available for the long-term storage of 'static data' (images, XML files, etc.), providing continuous access to 'living systems' (databases, websites, etc.) necessitates regular, extensive updating procedures that extend beyond

the project's runtime. These procedures may entail considerable manual effort for testing and problem solving. Currently, the financial maintenance of the staff required for such updating procedures is being negotiated individually at German universities, especially since the largest third-party funding institutions (e.g. the Deutsche Forschungsgemeinschaft (DFG)) still largely refuse to cover these costs. Despite the lack of state-of-the-art solutions that can circumvent these challenges entirely, the University of Würzburg and the Center for Philology and Digitality "Kallimachos" (ZPD) in particular currently guarantee the stability and maintenance of online SMWs for up to seven years. Additionally, constant efforts are being made to establish appropriate structures and financing to ensure maintenance beyond this period.

Conclusion

The Project *Musical Instruments of Ancient Mesopotamia* (MIAM) makes an important contribution to the cultural history of ancient Mesopotamia by unlocking previously unanswered quarrels and questions. It addresses these research gaps by drawing on the widest possible range of source materials. This will be achieved by preparing a comprehensive edition of previously unknown materials in museum collections on the one hand and the merging and evaluation of already known but mostly neglected data on the other. We expect the insights to be gained from the evaluation of these materials to contribute to a better understanding of Mesopotamia's history and cultural development in that they will enhance collaborative research between academics in several associated fields, such as music history, anthropology, and music ethnology, as well as musicians and instrument builders. The results from this research will be presented in an online and open-access digital database created based on *Semantic MediaWiki*-frameworks. This MIAM webpage is designed to equally address ANE scholars as well as non-experts, undergraduate students, lecturers and teachers.

As to the form of the online presentation including general and commonly understandable but also specific knowledge, MIAM could provide a prototype for *topic-related* digital data collecting and managing, including varied source types and

genres, rather than conventional single-source-type related databases and online editions.

The MIAM webpage's launch is scheduled for spring 2028. Maintenance is guaranteed by the *Center for Philology and Digitality "Kallimachos"* (ZPD) in Würzburg with IT support that cares for updates and minor adjustments. In case the project is extended, we aim at including further collections as well as peripheral territories, such as Anatolia and the Levant, at the same time creating a scholarly community that takes care of actuality and updating.

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Archibab = Archives Babylonniennes XXe – XVIIe siècles av. J.-C.
(<http://www.archibab.fr>).

BDTNS = Database of Neo-Sumerian Texts (BDTNS) (<http://bdtms.cesga.es/>).

CAD = A. L. Oppenheim et al., *The Assyrian Dictionary of the Oriental Institute of the University of Chicago*, Glückstadt: J. J. Augustin and Chicago: Oriental Institute, Chicago, 1956–2010.

CDLI = Cuneiform Digital Library Initiative (<https://cdli.mpiwg-berlin.mpg.de/>).

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eBL = electronic Babylonian Literature (<https://www.ebl.lmu.de/>).

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ePSD2 = The Pennsylvania Sumerian Dictionary (<http://oracc.museum.upenn.edu/epsd2/>).

eSAD = Supplement to the Akkadian Dictionaries (<https://www.gkr.uni-leipzig.de/altorientalisches-institut/forschung/supplement-to-the-akkadian-dictionaries>).

ETCSL = The Electronic Text Corpus of Sumerian Literature (<http://etcsl.orinst.ox.ac.uk/>).

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