SAAo (State Archives of Assyria online)
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It is certainly a wish of any scholar or student of Assyriology to have the possibility to search within large numbers of cuneiform documents for any Sumerian or Akkadian words or expressions in a fast and easy way. This necessity is particularly felt not only in literary and linguistic studies but also when there is the purpose to confront different texts in order to establish documental series or to isolate different textual *corpora*.

In contrast to the challenges posed to epigraphists and anyone "brave" enough to engage the hard task of deciphering the cuneiform characters inscribed in original documents in clay or stone, the databases held by Oracc (*The Open Richly Annotated Cuneiform Corpus*), derived originally from CDLI (*The Cuneiform Digital Library Initiative*), provide a way to make easier and more accessible the process of edition of those documents. We can thank Steve Tinney (University of Pennsylvania), Eleanor Robson (University of Cambridge) and Niek Veldhuis (University of California, Berkeley) and all their collaborators for this initiative, which enables the fulfilment of the dreams of many

students and scholars of Assyriology. Together, these three founders comprise the Oracc Steering Committee.

Specifically, Oracc is a tool designed to make cuneiform texts available and free and to provide a digital platform for this purpose. Its assistance and overture allowed for the creation of several text edition projects. I can cite here a few, such as *Amarna*, which consists of 380 cuneiform tablets, comprising letters and scholarly works in Akkadian from the famous site of Tell el-Amarna, Egypt, or the DCCMT (*Digital Corpus of Cuneiform Mathematical Texts*), a database containing close to 1.000 tablets concerning Mesopotamian Mathematical scholarship and teaching. The projects' list can be found at

http://oracc.museum.upenn.edu/projects-list.html

One of the projects hosted by Oracc is called SAAo – *State Archives of Assyria Online*. It can be considered as the digital version of the *State Archives of Assyria* (SAA), a text edition series belonging to the much successful long-term international project based at the University of Helsinki, *The Neo-Assyrian Texts Corpus Project*. Hence, the SAAo owes its origin and development to the data collection that forms the SAA, accomplished by Simo Parpola and Robert Whiting, among others.

SAA's objective was – and still is – to publish the thousands of archival documents unearthed in the ancient capitals of the Neo-Assyrian Empire, especially Nineveh. By archival documents I mean a broad definition of texts that exclude the royal inscriptions and other celebratory texts. The documentation that befit this broad definition belonged to genres such as administrative and bureaucratic documents produced in military, political or economical contexts, oracles and prophecies reflecting the written level of divinatory phenomena, and also letters and reports sent to the Assyrian kings by all sorts of officials stationed in peripheral areas or in Assyria proper, among others. It must be said that this task is still on-going, with a few other volumes scheduled to be made available in 2011 and 2012, including

one dedicated to ritual and cultic texts. The volumes in preparation are listed at

http://www.helsinki.fi/science/saa/saa.html

The organization of SAAo follows that of the printed series, subdividing the texts according to criteria such as textual genres, reigns of Assyrian kings and geography. Thus, the entire universe of texts compiled by SAAo is also divided by volume, chapter and document number. This makes the search for documents in the online platform easier to all those familiarized with the consultation of its printed counterparts. Moreover, just like the SAA series, all documents are transliterated and translated into English, allowing all those studying them to have the possibility to propose other translations, if necessary.

There is, however, a new possibility opened by SAAo, which is to search for words and expressions in the entire series with just a mouse click. This can be done in various ways, including with the help of the "Glossary": in here we can browse for Akkadian words and search for names of persons, places, months, or gods, instantly accessing the list of their occurrences in the entire *corpus*. Thus, to recognize words and expressions along with their grammatical variations in their proper contexts and semantic variations becomes a much faster process.

Beside the "Glossary" we can, of course, use the search engine, either by typing English translated words in "Translation", or by typing transliterated Akkadian words and Sumerian logograms in the option "Texts". However, one must be familiar not only with the typing rules for expressions in the search engine but with the rules of syllabification of words in Akkadian as well. For example, when looking for the word "king", *šarru*, one must type "szar-ru" (sz standing for a *š*). In this case, one must be aware that in Akkadian language no syllable can begin with two consonants. Another example is when looking for a Sumerian logogram, conventionally written in capital letters. Take, for instance, the Sumerian logogram that stands for "son", DUMU: one

must type "l:DUMU" to obtain all the occurrences of this logogram in the texts.

There is another and most interesting way of searching inside SAAo and other Oracc projects, although only a few volumes are available so far, that deal with the royal correspondence of Sargon II (vols. I, V and XV). Within these volumes, the texts had been "lemmatised" – we can left-click over any word or expression in the transliteration column of any of these documents to obtain an entry that opens in a new window. From this we can obtain: a) the primary meaning of the word; b) the number of its instances in the whole *corpus*; c) the written forms in which the word appears in its instances and their normalized forms; and finally, we obtain also d) the percentage of the various semantical variations in which the word is translated in the documents. Let me give a simple demonstration.

Within the volumes in which this feature is available, I chose the document SAA V[1], 14 (ABL 1193), a letter written to the king by one of its officials to which the editors gave the title «Chaldeans in Bit-Zamani». I was interested in finding out more about a word employed conventionally in letters to greet the sovereign, *šulmu* (l. 3), translated here as «health». I left-clicked this word, transliterated in this case by the form DI-*mu*, and there appeared instantly a new window with information about it: that its primary semantic base is related to the concept of "completeness"[2]; that it appears 849 times in the whole SAA *corpus*, assuming at least 10 possible written grammatical forms (DI; DI-*me*; DI-*me-ia*; DI-*mu*; *i*-DI-*me*; *šu-lam-šu$_2$*; *šu-lum*; *šu-lum-gu*; *šul-me*; *šul-mu*). Besides, there was more information about how those written forms could be normalized and also the various possible meanings of the word, according to the different contexts in which

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[1] Lanfranchi, G.; Parpola, Simo (eds.), *The Correspondence of Sargon II, Part II: Letters from the Northern and Northeastern Provinces* (State Archives of Assyria V), Helsinki, The Neo-Assyrian Text Corpus Project, 1990.

[2] Cf. *The Chicago Assyrian Dictionary,* vol. 17 – Š *(part III),* Chicago - Glückstadt, 1992, s.v. «šulmu», pp. 247-256.

its 849 instances occurred: among them the word is translated for 24 times as «salutation» (3% of total); 819 times as «health» (96%), and finally as «peace» for 6 times (1%).

There is no need for further demonstrations of the usefulness and enormous potential of this tool for learning, for historiographic research and textual analysis. This simple inquiry is enough. Given all the practical advantages involved, I'm sure that everybody looks forward for the rest of the series' volumes to be made available in SAAo.

Beyond this, it is also possible to limit our searches for specific words within one or more volumes of SAA using the "Catalogue" option. In alternative, this option allows one to search for documents by genre, museum catalogue number and even look for joins and collations available for a specific document. It is worth noticing that the more a researcher is familiar with provenances and locations (museums and editions) of the original documents, the easier it is to search using this option. Nevertheless, it is crucial to assimilate the few rules for correct search expressions in all Oracc databases, including SAAo. These rules can be found at

http://oracc.museum.upenn.edu/doc/user/searching

I feel important to highlight one most interesting and innovative feature developed by Steve Tinney, which is the option available in each document entry to present the text in its "cuneified" form. That is, the possibility to have access to the document, not only transliterated into latin characters but also into cuneiform, its original writing and graphic system. For this it is necessary to install fonts specially created for this purpose: check "Characters, Fonts and Keyboards" at

http://oracc.museum.upenn.edu/doc/user/

This is an enormously useful tool for teaching cuneiform to today's students besides being a good help to epigraphists and scholars

concerned with having access to the original texts in order to check the transliterations and text editions themselves. However, I suspect that this option may not satisfy entirely those concerned with palaeographic problems, *i.e.*, with the variation and evolution of the ways in which words are written through time, not to mention the identification of individual scribes by their calligraphy, as it is sometimes possible in some coherent archives containing documents produced in a more limited time span. Moreover, to designate this option I would prefer the words "retrograph" and "retrography", to the slightly more awkward "cuneify" and "cuneiformization".

There is also another observation, this time a technical one, due perhaps to the inability of some users (including myself) to surpass some problems dealing with the internet. Personally, I could not access the "Cuneify" option in SAAo using *Internet Explorer*, although I had the special fonts installed. I could only do this with *Mozilla Firefox.* Nevertheless, these technical details do not obscure the excellence of this tool. SAAo is a wonderful instrument for all those working on historical, literary and linguistic subjects related to the Neo-Assyrian Empire. It perfectly complies with the purpose of a database, which is to rationally organize information while at the same time making it quickly accessible and searchable. SAAo allows its users to spare much time and effort that can be used for the more interesting and challenging work of *interpreting* the data – a job that even today still cannot be done by computers and machines.