

Use of Specialized AI in Assisting the Translation of Ancient Texts

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Abstract— The development of technologies that expedite the decoding process in partnership with research on ancient texts tends to unearth documents from archaeological sites, as well as give voice to ideas and sentiments forgotten in antiquity. Modern artificial intelligence technologies, supported by machine learning techniques, can assist in the development of new tools to speed up the translation process of ancient texts.

Index Terms— Ancient text, Artificial Intelligence, GPT, translation

I. INTRODUCTION

Currently, the work of archaeologists is more focused on translation and hermeneutics within their research groups rather than necessarily at foreign archaeological sites. In this context, the use of Artificial Intelligence, derived from technological advances, is not a new development in the field of translating ancient texts. It tends to evolve further as targeted efforts are made in the construction of specialized tools to support the research, interpretation, and translation of ancient texts, thereby enhancing the efficiency of document pre-processing. This ultimately leads to an increase in the production of final works, translated into various languages.

II. THE DIFFICULTY OF TRANSLATING ANCIENT TEXTS

Translating ancient texts presents significant challenges for professionals in this field, requiring a deep understanding of the original language, the historical and cultural context in which the text was written, as well as linguistic skills and sensitivity to the nuances of translation.

One of the main challenges lies in the archaic nature of the language used in ancient texts. Vocabulary, grammar, and syntax often change significantly over time, demanding that the translator have knowledge of the history of the language and use conventional tools such as etymological and historical dictionaries to find the correct equivalents in the target language.

This type of activity is very time-consuming because it is usually done manually, and there is often no predictability in obtaining a tangible and high-quality result. Direct translation from the original language to the target language is always the best option, but this is not always possible, leading to versions of texts that are increasingly distant from the original meanings and contexts.

Ancient texts frequently lack standardization in spelling, punctuation, and formatting, making it difficult to read and understand the original meaning and intent. This requires the translator to perform meticulous textual analysis and historical research to determine the correct way to present the translated text. The absence of contextual information, such as the date of writing, authorship, target audience, and purpose of the text, can compromise its translation,

necessitating the translator's search for information about the Sitz im Leben from which the written material originates to fully understand the content to be translated accurately and closely to the original.

In this direction, it is also worth highlighting that ancient texts often contain references to people, places, events, or beliefs that are no longer known to the modern audience but need to be identified and explained to the translation's target audience. Other technical challenges may also arise, such as dealing with fragile and damaged materials, deciphering difficult-to-read handwriting, or using automatic translation software that is generally not effective for ancient texts due to the complexity of the language and context.

The translator of ancient texts faces ethical dilemmas related to fidelity to the original text and its adaptation for the modern audience. Saint Jerome, as early as the fourth century, faced public criticism regarding the fidelity of his translations, as can be read in his letters LII and LVII, when he was accused of distorting the sacred texts and was compelled to explain his choice of translating idea for idea rather than word for word. Furthermore, decisions such as maintaining or updating the original language, dealing with potentially offensive or sensitive content, and ensuring the clarity and accessibility of the text without compromising its authenticity require the translator to have a keen critical sense and deep respect for the original work.

Thus, there is a shortage not only of translators but also of hermeneutists capable of interpreting and communicating the elements of ancient thought. Given the above, it must be recognized that artificial intelligence tools will not replace professionals in this field but will collaborate in accessing ancient texts.

III. USING ARTIFICIAL INTELLIGENCE AS A SUPPORT TOOL FOR TEXT TRANSLATION

It is evident that the technology sector is one of the most heavily invested in by the private sector due to its high capacity for generating financial returns and influencing human behavior, and consequently, the course of society, driving development, evolution, and, undeniably, true revolutions.

Currently, a subfield within technology that has been bringing many innovations is Artificial Intelligence (AI).

Although the concepts it deals with are not new, having been evolving since the 1950s, there is currently significant expansion in this sector.

Through information processing, process automation, connectivity, problem-solving, and descriptive, predictive, and prescriptive analyses, among others, AI can greatly expedite the search for solutions to all kinds of activities and problem situations, providing substantial benefits in the field of translating ancient texts.

With technological advancements in this area, it is feasible to develop specialized tools to support the research, interpretation, and translation of ancient texts, enhancing the efficiency of document pre-processing. This clearly can lead to an increase in the production of final works, translated into various languages.

There are numerous databases available on the internet, all linked to academies and research institutes that already provide texts in their original format as text, images, and PDF, such as <https://ehammurabi.org>.

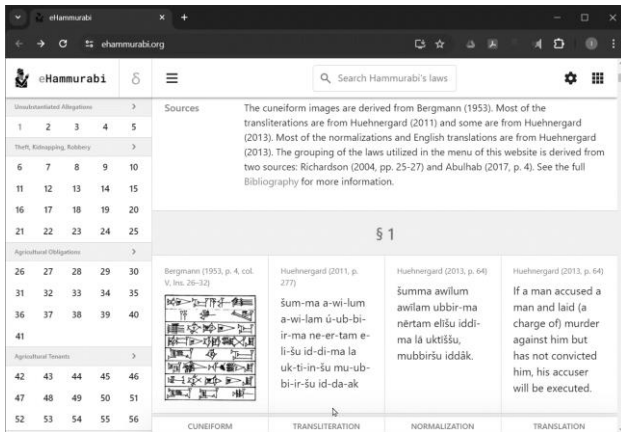


Image 1: Example of a Dead Language Database
Source: <https://ehammurabi.org/>

AI tools are already highly efficient in producing code snippets in various programming languages. Our aim is to enable this model of solution to be used in the field of humanities as well, since humanistic education could greatly benefit from lesser-known and widely disseminated texts, as well as ancient texts not yet translated, such as Akkadian and Sumerian. New documents could be made available in multiple languages with less effort, time, resources, and with total control over the desired quality of work. It is already possible to make pedagogical use of intelligent technologies for education and scientific study in a safe manner and with excellent results.

IV. GPT – GENERATIVE PRE-TRAINED TRANSFORMER

GPTs (Generative Pre-trained Transformers) are a type of Artificial Intelligence based on Machine Learning, specifically large-scale language models that undergo pre-training and, as a result, can process, understand, and generate various formats of digital files. These include files containing human natural language in written or spoken form (audio), as well as the analysis of static images, real photos, illustrations, or conceptual art, in addition to the analysis of real videos and various other formats of structured data, such as spreadsheets,

electronic documents, and databases.

Belonging to the class of language models based on transformation, GPTs are deep neural networks capable of learning complex patterns in sequential data. The architecture of GPT includes multiple layers of self-attention to capture long-range dependencies in the input data. They are trained on word prediction tasks with enormous textual datasets, which are provided during their pre-training. Although GPTs are based on machine learning, they also benefit from advanced fine-tuning techniques on specific contents and tasks, making them capable of a wide range of natural language processing tasks, including automatic translation, summarization, text generation, and more. This capability allows them to be transformed into specialized tools in various subjects, such as GPTs specializing in a dead language, for example.

V. UTILIZATION OF SPECIALIZED GPTs IN TRANSLATING ANCIENT TEXTS

Some notable characteristics of this type of artificial intelligence are its capacity for creative generation, adaptation, and continuous learning. In the conducted research, a specialized GPT was created for the translation of Akkadian texts using technologies provided by OpenAI. As a first step, we accessed the OpenAI platform via ChatGPT, upgraded from the standard plan to a paid subscription to gain access to the creation of custom GPTs, and began the process of creating a new GPT as described below:

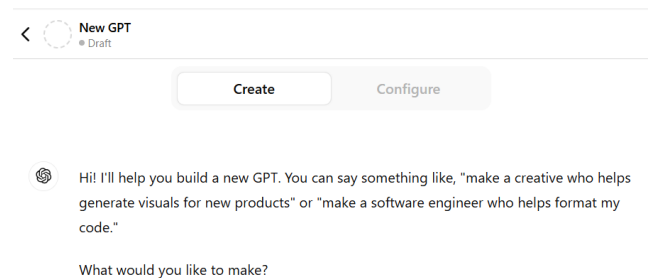


Image 2: Beginning of the Creation of the Specialized GPT

We proceeded with the initial creation and parameterization instructions as follows:

Name: Akkadian

Description: Reading Akkadian cuneiform using natural language processing

Instructions: You will be a highly skilled specialist in the Akkadian language. You will analyze information from documents and images provided and translate them as accurately as possible into English or Portuguese. You should primarily use the provided documents as your main knowledge base. You will be capable of transliterating Akkadian texts and then translating them, as well as summarizing documents and responding to specific questions within this context. The communication of results and response style should be formal, aimed at scientific researchers, academics, and scholars of dead languages.

Image 3: Initial Configuration

After the initial creation and customization phase, the Specialized GPT is ready to be fed with data. We began the training process in a straightforward manner by adding a document to its information base as a primary source for responses. The first document added was a copy of the text explaining what the Akkadian language is, extracted from the Portuguese Wikipedia site. We then added a second document, a scientific article titled “Reading Akkadian Cuneiform Using Natural Language Processing,” and initiated some basic interaction tests with the tool.

Image 4: Initial Documents Uploaded to the Knowledge Base

VI. INITIAL TESTS

As a first test of the Specialized GPT, we asked the following question: "What is Akkadian?" and received a very complete and satisfactory response, as shown in the following image:

O acadiano, também conhecido como língua acádia ou assiro-babilônica, era uma língua semítica da família afro-asiática, falada na antiga Mesopotâmia, principalmente na Assíria e Babilônia.

Características do Acadiano

1. Origem e História

- **Primeira Língua Semítica Registrada:** O acadiano é a mais antiga língua semítica registrada e utilizava a escrita cuneiforme, derivada do sumério.
- **Períodos e Variedades:** O acadiano tem diversas variedades, que incluem:
 - Acadiano antigo (2500–1950 a.C.)
 - Babilônio antigo/Assírio antigo (1950–1530 a.C.)
 - Babilônio médio/Assírio médio (1530–1000 a.C.)
 - Neo-babilônio/Neo-assírio (1000–600 a.C.)
 - Babilônio tardio (600 a.C.–100)

2. Escrita

- **Cuneiforme:** A escrita cuneiforme era usada pelos escribas acadianos para representar logogramas, sílabas sumérias e acádias, e complementos fonéticos.
- **Desafios da Escrita:** A escrita cuneiforme tinha limitações para representar alguns fonemas semíticos, como a oclusiva glotal e consoantes faríngeas e enfáticas.

3. Fonética e Fonologia

- **Fonemas Consonantais:** O acadiano possuía 19 fonemas consonantais diferentes e, pelo que pode ser deduzido da ortografia cuneiforme, alguns fonemas proto-semíticos se perderam.
- **Vogais:** Incluíam i, u (fechadas) e a (aberta).

4. Gramática

- **Morfologia:**
 - **Gênero, Número e Declinação:** Substantivos e adjetivos acadianos variavam conforme o gênero (masculino e feminino), número (singular, dual e plural) e declinação (nominativo, acusativo e genitivo).
 - **Verbos:** Possuem seis aspectos verbais finitos e três formas infinitas, com conjugações verbais exclusivas para cada pronome da primeira, segunda e terceira pessoas.
- **Casos e Declinações:** Exemplificados com os substantivos šarrum (rei), šarratum (rainha) e o adjetivo dannum (forte).

5. Literatura e Uso Histórico

- O acadiano foi a língua oficial da Mesopotâmia central e serviu como língua franca no Oriente Médio e Egito durante o fim da Idade do Bronze e início da Idade do Ferro.

Importância Cultural e Histórica

O acadiano é uma fonte cultural significativa para as civilizações da antiga Mesopotâmia, incluindo o Império Acádio, os impérios da Idade do Bronze e os impérios Neo-Assírio e Neo-Babilônico. Textos acadianos abrangem uma ampla gama de gêneros, como inscrições reais, literatura, textos científicos e lexicais, correspondências e documentos legais e administrativos.

Image 5: Initial Tests: What is Akkadian?

As a second test, we requested the translation of an image and obtained the following result:

Como eu faço para te enviar o texto?



Você pode enviar o texto acadiano de duas maneiras:

1. **Digitando o Texto Aqui:** Se você tiver o texto acadiano em formato digital, você pode copiá-lo e colá-lo diretamente aqui na conversa.
2. **Enviando um Arquivo:** Se o texto estiver em um documento, você pode fazer o upload do arquivo aqui na conversa usando a função de upload de arquivos.

Após receber o texto, posso proceder com a transliteração e tradução.



Traduza o texto enviado



Para traduzir o texto em acadiano da imagem, vamos seguir estes passos:

1. **Transliteração:** Converter os caracteres cuneiformes em sua forma fonética equivalente.
2. **Tradução:** Converter o texto transliterado para o português.

Vamos começar pela transliteração das linhas. Vou precisar de um pouco de tempo para analisar e converter os caracteres cuneiformes.

Transliteração do Texto

Lado esquerdo:

1. mār šarri ana šēpēšu ukīn
2. kišād sūn ummānu ša lā ištēni
3. u tušēšu iltanaššarū mār šarri
4. šu šēpēšu ukīn ša ana šēri
5. it ilqūni u kišād ummāni
6. ana amīlūt šūšuhā

Lado direito:

1. ana šarrim lā itūma ana šēri
2. ittanaddin ištu šēri ana
3. akākō ilqā ana šēpēšu ukīn
4. lā iparrad šarrum šu šab
5. lā epūšu šēru šu šarrim
6. ana šēpēšu ukīn šab nārum
7. ešetū ina kišādī

Tradução para o Português

Lado esquerdo:

1. O filho do rei colocou aos seus pés
2. A garganta dos guerreiros que não estavam unidos
3. E o fez sentar, os filhos do rei
4. Ele colocou aos seus pés que para o deserto
↓
5. Eles levaram e a garganta dos guerreiros

Image 6: Initial Tests: Translation of a Text

6. Para a humanidade, ele aliviou

Lado direito:

1. Para o rei ele não voltou para o deserto
2. Ele deu do deserto para
3. O assento ele tomou e colocou aos seus pés
4. O rei não perdoou o capturado
5. Ele não fez o capturado para o rei
6. Ele colocou aos seus pés o capturado do rio
7. Os povos na garganta

Esta é uma tradução inicial, e alguns detalhes podem variar com uma análise mais detalhada. A escrita cuneiforme pode ser complexa e muitas vezes o contexto ajuda a refinar a tradução. Se houver algum contexto adicional ou texto mais longo, isso poderia ajudar a ajustar a tradução para uma precisão maior.



Image 7: Initial Tests: Translation of a Text (Continuation)

The translation obtained from the initial test did not yield the desired result. Therefore, we also used the tool Akkademia - Translating Akkadian Signs to Transliteration Using NLP Algorithms available at <https://pypi.org/project/akkadian/>, with the aim of comparing the results obtained by the Specialized GPT with those obtained through the tool to validate and verify the accuracy of each tool. This comparison would help us correct and further develop the training of our AI tool.

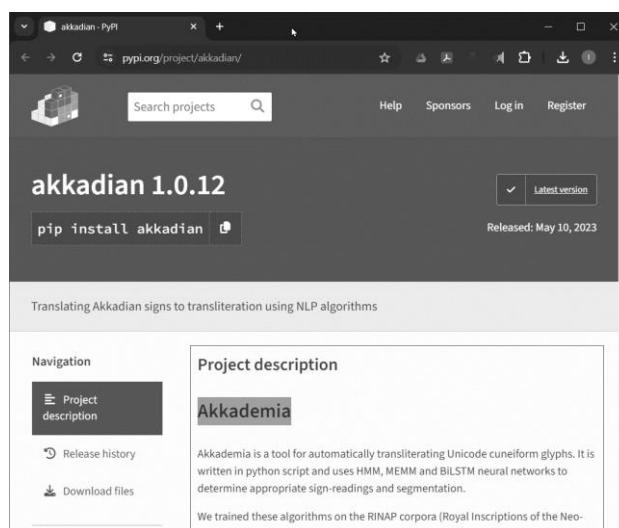


Image 8: Akkadian Project Website

Source: <https://pypi.org/project/akkadian/>

The use of a second tool in the project served as support and a double-checking point for verifying the results obtained by the GPT, allowing for its correction and proper evolution through retraining processes. The aforementioned Akkademia tool was used for the transliteration of Unicode cuneiform ideograms, as it does not yet have a module for image recognition and ideogram identification.

VII. FINAL TESTS

We extracted fragments of cuneiform texts from the site Oracc: The Open Richly Annotated Cuneiform Corpus, available at <https://oracc.museum.upenn.edu/saao/corpus>. We submitted these fragments for transliteration using the Akkademia tool, compared the results with the existing

Cuneiforme

37

9

The transliteration obtained through the Akkademia tool was as follows:

§

1 ME ta-a-še-bi il-ma a-ERIM.GAR an-nu te
 ina UGU pi-e-ša LUGAL be-li₂ ia u₂-si-bi-SANGA-kaša
 šul-bur an-ni-ma a-nun-a-me-ri-ša {m}-ur-NAM LUGAL a
 BI AM a-šib ri {KUR}-URI-ka-a-a a-na di me-ina muh-hi
 ia
 it-ri-ka-lil li-ka aš-šur {d}-UTU EN-u an-pa
 taš-bi-u LUGAL ŠU₂ ni-ha-an-nu-ti gap-bi-šu₂-nu A₂-
 BAD₅.ni-šu₂-nu
 su-da-e-sir-ka-lu riš ki-lu
 ša šul-bur an-ni-ma a {m}-ki-la-ar-ke-na-gi-a-ni
 e-tar-ša₂ an-ni-ma a-qur-di nu ni-ki-ma haš-na-gi-a-ni
 {d}-nu te a-na {m}-ki-la-ar-ta-at ti DIŠ
 la a-na mi-ih GI.ka-a-i-tu arad-
 ta-ma-ina UGU mi-i-ni-šat pa-ha-tu u₂-tu₂ tu ar₂-pa-aš₂
 ki-i an-ni-i-qi-ba-aš₂-šu₂-ma a-ina ti-ma li-MUNUS.LIM 4
 ME
 BAD₅.BAD₅-{KUR}-kas₂-ka-a-a bal-ha-a-ka-ma-a-u₂ ma a
 {KUR}-kas₂-ka-a-a {GIŠ}-si-ni-is-si ši
 ma-a-at-ta-lul-ši-mi-i-ni-bal-ha-a-kama
 a-u₂ ma a-{GIŠ}-mi-LUGAL be-ni-ia ša₂ UGU a-bel₂
 a-duk ka-ši-ti-ma a-muk-ka-lu-hi-ga-kama-
 a-ni lil₂-ta-ka-šul₃-pa-an {KUR}-kas₂-ka-a-a lu-la aš₂-šu₂
 ša šul-bur an-ni-ma a {m}-ur-NAM LUGAL a-ina UGU ša
 {URU}-a-tu₂-na-a-a
 {URU}-ez-ze-an-da-a-a il-ur-u₂-ni {URU}-kur-ni
 ša E₂-{m}-pa-ru-ta-i-bu-gu-šu₂ ni x x x x x
 70 ka-LUGAL be-ni-ia x x x EŠ x-an-nu EDIN
 {KUR}-kas₂-ka-a-a {GIŠ}-si-ni-is-si-ši-ik-ti-ia di
 IGI-qar-ni ša {KUR}-ta-ba-li qab-bu-mi₃-i-nu-uh-kin₂
 qab-pu-šu ad-ta-rik-na-ka-{KUR}-kas₂-ka-a-a har-ma katu
 ma za-'i-šu₂-nu ba-si at ta-e-bi ih-ka-ina lib₃-bi-šu₂-nu
 ta-{f}-KASKAL.{d}-nu šip-aš-šur {d}-ša₂-maš EN u an-pa
 {d}-MAR.ia e-sir-šu₂ {KUR}-ha-an-ni tam-ina ki ta-
 GIR₃.2 kata-
 at šum-ba-az ki-i lib₃-bi ka-du u₂-lu
 mi-i-nu ša DUL-la-ka-ne₂-e pu-uš ar-ku-bu-tu qu
 ku-ri u₂-le-e-tel-a-du-bi it-{m}-ku-al-lik an-ni
 DUL-lu-x x x x x u₂-šal-lil-da-na-kan-ni
 ina UGU {m}-ba-la-su ša šul-bur an-ni-dib-bi-šu qab-bu-a
 si me
 tu₂-mu-ša e-peš tu₂ an-ni tam-ta-am-mar-u ni DUMU šu₂
 ku-MU-šu₂
 ina UGU ERIM.BAD₅-šu₂ pi-kit-UN.BAD₅-šu₂ lu-kan-nu
 šu₂ lu-mal mu-su
 2/3 ma lul-pu-šu₂ KUR-u₂ lu-ša₂ bal-ki-ta-{UDU}-še-me-
 šu₂-nu
 u₂-la-a ha-na-ka-ma-lu-mal mu-su-a-na ša₂-a-šu₂
 13 hu-si ka-1-en a-na kal-le-e-li-in-tu ha-aš₂-šu₂
 qab-li-ka dib-bi hi ga-miš-{GIŠ}-si-šu₂ la-at pu-ar₂-
 qab-bu-la aš₂-kun šu₂ ba-si a-šap-pa-ra-UN.pir-šu₂
 ša ha-na-ka-u₂-sa-hur-u₂-ni il-šit-ina bit šu₂
 e-rap-{m}-DUMU uš-ia šu-tu₂ a-du-un GAR-šu₂
 KAŠ a-qi-ka-a-du-muh-hi ia lu-bi-la-šu₂-nu
 lu DUMU GU₂.KA₂.DINGIR {KI} lu-u DUMU bar₂-sipa
 {KI}
 lu u kiš-ki-a-a lu EN.LIL₂.{KI} a-a
 lu {URU}-kas-ki-a-a lu {KUR}-kar₂-{d}-{KI} a-a

The original transliteration was as follows:

o 1 'a¹-bat LUGAL a-na maš-šur*—MAN—'PAB šul¹-mu
 ia-'a¹-ši
 o 2 'šul¹-mu a-na KUR—aš-šur.KI 'ŠÀ¹-[ka] 'lu¹
 DÜG.GA-ka
 o 3 'ša¹ taš-pur-an-ni ma-a LÚv.A—šip-'ri¹ [ša] mme-ta-a
 o 4 KUR.mus-ka-a.a ina UGU-ḫi-ia it-'tal¹-ka ma-a 14
 ERIM-MEŠ

o 5 KUR.qu-u-a.'a ša¹ m'ú-ri¹-ik a-na LÚv.šap-ru-te
 o 6 a-na KUR.URI ú-še-bi-lu-u-ni ma-a ina UGU-ḫi-ia na-
 ša
 o 7 ta-ri-iš a—dan-niš an-nu-rig aš-šur dšá*-maš* EN
 o 8 dAG DINGIR-MEŠ-ia e-tap-'šú la¹ ina ŠÀ qa-ra-bi*
 [la ina ŠÀ] 'me¹-me-ni
 o 9 KUR.mus-ka-a.a pi-i-šú it-ta-an-na-na-ši
 o 10 a-na sa-al-mi-ni it-tu-ar ša taš-pur-an-nio 11 ma-a ba-
 lat LUGAL be-lí-ia LÚv.A—šip-ri-ia ina UGU
 o 12 KUR.mus-ka-a.a la a-šap-par ú-ma-a an-nu-rig
 o 13 a-sap-rak-ka LÚv.A—šip-ri-ka TAV pa-an KUR.mus-
 ka-a.a
 o 14 lu 'la ta¹-bat-taq dib-bi DÜG.GA-MEŠ šup-ra-áš-šú
 o 15 ka-a.a-ma-nu mi-i-nu ša tè-en-šú-ni ši-'mi*¹ a-du bé-
 et a-ri-qa-an-ni
 o 16 ša taš-pur-an-ni ma-a ki-i ša šu-ú ARAD-MEŠ ša
 'LUGAL¹ be-lí-ia
 o 17 ú-še-bi-il-an-ni ma-a ana-ku ARAD-MEŠ-ni-šú lu-še-
 bi-la-'áš¹-šú-ú
 o 18 še-bi-la-áš-šú ba-si lib-bu-šú is-si-ni ip-pa*-šar lu 01
 me 'ARAD?¹-MEŠ-'šú
 o 19 'ki-i¹ an-'ni? šup¹-ra-šú ma-a ERIM-MEŠ KUR.qu-u-
 a.a ša 'tu-še¹-bil-an-ni
 o 20 'ma-a¹ ina 'UGU* LUGAL be-lí-ia as-sap-par ma-a
 LUGAL be-lí
 o 21 iḫ-tu-du a—dan-niš ma-'a¹ ú-'sa-ḫi-ir¹ [x x x x]
 o 22 ina UGU-ḫi-ia is-sap-ra ma-a KUR.mus-'ka¹-[a.a
 am—mar]
 o 23 ina pa-ni-ka-ni 01-en la ta-kal-la ma-a [ar-ḫiš a]-'na¹
 o 24 mme-ta-a še-bi-il ma-a ERIM-MEŠ an-[nu-te]
 o 25 ina UGU pe-e ša LUGAL be-lí-ia ú-'se¹-bi-lak-ka
 o 26 ša taš-pur-an-ni ma-a LÚv.A—šip-ri ša m'ur¹-pala-a
 o 27 TAV LÚv.A—šip-ri KUR.mus-ka-a.a a-na DI-me ina
 UGU-ḫi-ia
 o 28 it-tal-ka lil-li-ka aš-šur dUTU EN u dPA
 o 29 liq-bi-u LUGAL-MEŠ-ni ḫa-an-nu-ti gab-bi-šú-nu
 TAV ziq-ni-šú-nu
 o 30 KUŠ.DA.E.SIR-ka lu-šak-ki-lu
 o 31 'ša¹ [taš]-'pur¹-an-ni ma-a mki-la-ar 04 na-gi-a-ni
 o 32 [e-tar-šá]-an-ni ma-a lid-di-nu-ni ki-ma 04 na-gi-a-ni
 o 33 [an-nu-te a]-'na¹ mki-la-ar ta-'at¹-ti-din
 o 34 'la¹ a-na mi-iḫ-'ri¹-ka-a i-'tu¹-ar*
 o 35 at-ta-ma ina UGU mi-i-ni LÚv.pa-ḫa-tu-'ú-tú¹ tu-up-
 pa-áš
 o 36 ki-i an-ni-i qi-ba-áš-šú ma-a ina ti-'ma¹-li šal-ši—UD-
 'me¹
 o 37 'TAV¹ IGI KUR.mus-ka-a.a pal-ḫa-a-ka ma-a ú-ma-a
 o 38 'KUR¹.mus-ka-a.a is-si-ni is-si-lim
 r 39 'ma¹-a at-ta TAV IGI mi-i-ni 'pal¹-ḫa-a-ka
 r 40 [ma]-a ú-ma-a GIŠ.MI LUGAL be-'lí-ia¹ NINDA-
 MEŠ-ka a-kul
 r 41 A-MEŠ-ka ši-ti ma-a* ŠÀ-ka 'lu¹ [DÜG].GA-ka
 r 42 ma-a ni-kit-ta-ka TAV pa-an KUR.'mus¹-ka-a.a lu la-
 áš-šú
 r 43 ša taš-pur-an-ni ma-a mur-pala-a ina 'UGU ša¹
 URU*.a-tú-na*-a.a*
 r 44 URU.is-tu-an-da-a.a il-lik-ú-ni 'URU*¹-MEŠ-ni
 r 45 ša É—mpa-ru-ta i-pu-gu-'šú*-ni¹ [x]+[x x¹]+[x x x]
 r 46 'TAV* UGU*¹ LUGAL* be-lí-ia [x x x] 'di x¹ an-nu-
 rig
 r 47 KUR.'mus¹-[ka-a].'a is¹-si-ni is-si-'lim ik¹-ti-ii-di
 r 48 MAN-MEŠ-ni ša KUR.ta-ba-li gab-'bu¹ [mi]-i-nu
 aḫ—ḫur
 r 49 ep-pu-šu at-ta TAV na-ka KUR.'mus¹-[ka-a].a TAV
 ma-ka
 r 50 tu-ma-za-a'-šú-nu ba-si at-ta e-'bi-iḫ¹-ka ina ŠÀ-bi-šú-
 nu

r 51 ta-rak-kas an-nu-rig aš-šur dšá-maš EN u dPA
r 52 DINGIR-MEŠ-ia e-tap-šú KUR ħa-an-ni-tú ina
KI.TA¹ ĠIR.2-ka
r 53 ta-at-tak-ba-as ki-i ŠÀ-bi-ka du-ú-lu
r 54 mi-i-nu ša 'dul*-la¹-ka-ni e-'pu¹-uš ar-'ku¹ bu-tu-qu
r 55 [ku]-'ri*¹-ú 'le*-e*¹-[rik] a-du bé-et ana-ku al-'lak¹-
an-ni
r 56 dul-lu 'x¹+['x x]+['x x x-ú*-ni¹ ad-'da¹-na-kan-ni
r 57 ina UGU m'ba?'¹-[la-su?] 'ša¹ [taš-pur-an-ni] dib*-bi*-
šu* gab*-bu* a*-'se*-me
r 58 UD-mu ša e-ġir-tú an-'ni¹-[tú ta-am]-'mar¹-u-ni
DUMU-šú ku-'mu-šú¹
r 59 ina UGU ERIM-MEŠ-šú pi-qid 'UN-MEŠ-šú¹ lu kan-
nu-šú lu kam-mu-su
r 60 šum-ma lib-bu-šú KUR-ú lu-šá-bal-ki-ta lu-še-šib-šú-
nu
r 61 ú-la-a ħa-na-ka-ma lu kam-mu-su a-na šá-a-šú
r 62 LÚv.03.Uš-ka 01-en a-na kal-li-e li-in-tu-ħa-áš-šú
r 63 lil-li-ka dib-bi DÜG.GA-MEŠ is-si-šú la-ad-bu-ub
r 64 lib-bu la-áš-kun-[šú] ba-si a-šap-pa-ra UN-MEŠ-šú
r 65 ša ħa-na-ka ú-sa-ħar-ú-ni il-lak ina É-šú
r 66 e-rab mDUMU.UŠ-'ia¹ šu-tú a-du UN-MEŠ-šú
r 67 LÚv.A—KIN-ka a-du UGU-ħi-ia lu-bi-la-šú-nu
r 68 lu DUMU-MEŠ—KÁ.DINGIR.KI lu-u DUMU—
BÁR.SIPA.KI
r 69 lu-u KIŠ.KI-a.a lu EN.LÍL.KI-a.a
r 70 lu URU.UNUG.KI-a.a lu KUR.BÁD.DINGIR.KI-a.a
r 71 lu (blank)

The translation obtained through the Akkademia tool was as follows:

Carta do Rei ao Assur-kal-pap:
No 29º ano de meu reinado, foi enviada uma mensagem ao país de Assur. Que você e seus aliad os permaneçam em paz e prosperidade. Foi instruído que o exército de Qu-u-a, liderado por Uri-ik, fosse enviado ao país de URI para aj udar na defesa.
Que a proteção de Shamash, o senhor, e dos deuses AG e IGI esteja sobre você.
Não falhe em tomar as devidas providências.
O povo de Kas-ka será avisado e todos devem estar preparados.
A situação na fronteira com Amurru requer atenção imediata.
Envie reforços e mantenha a ordem.
O povo de Kas-ka deve ser pacificado.
Esteja atento aos movimentos do inimigo e reporte qualquer mudança.
Que o rei de URU proteja e guie você e seus homens.
Que os deuses Shamash e Adad

CONCLUSION

The Akkadian language, like other dead languages, contains a vast amount of material that could fuel research across various fields of knowledge. However, it is well known that there is a significant gap between contemporary students in much of the world and the research centers for Babylonian texts. Additionally, issues in decoding ideograms and converting them into syllables make access to this literature virtually unfeasible.

The presented work demonstrated that it is possible to develop an integration of existing technologies that can convert Akkadian texts into Portuguese. This not only aids in

the research of unknown texts but also becomes a facilitating tool for teaching and disseminating the language, regardless of location, provided there is access to an internet connection and minimally operational equipment.

Thus, by removing the knowledge of ancient languages from the realm of the exotic, the development of technologies that expedite the decoding process in partnership with research on ancient texts tends to unearth documents from archaeological sites, as well as give voice to ideas and sentiments forgotten in antiquity.

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