

Unifying the Romanization of Geographical Names in the Arab World Using Classical Arabic

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Abstract

This study aims to address the issue of standardizing the Romanization of geographical names in the Arab world using classical Arabic. This issue is increasingly important in light of the need for linguistic compatibility and standardization when naming and converting geographical locations to Latin letters. Linguistic differences, local dialects, and variations in writing styles among Arab countries are major obstacles to the standardization of Romanization, leading to significant variations in how geographical names are written when translated into other languages, especially in academic, geographical, and official contexts. The study reviews previous efforts to establish unified standards for Romanization in some Arab countries. It discusses current systems, such as the BGN/PCGN system and the system used in the United Nations, focusing on the strengths and weaknesses of each system. The study adopts a comparative analytical methodology, as it analyzes several geographical names in various Arab countries according to the currently used systems and presents a proposed model for the standardization of Romanization based on the rules of the classical Arabic language. Taking into account the phonetic and linguistic characteristics that reflect correct Arabic pronunciation. A group of geographical names from various Arab countries was studied, and the proposed model was tested. The results were analyzed and compared with existing systems. The results demonstrated that the proposed model provides a high degree of accuracy in translating Arabic sounds into Latin, which reduces differences and enhances the clarity and accuracy of geographical names when used in maps and international documents. The study concludes with a recommendation to adopt the proposed model as a unified framework for the Romanization of geographical names in the Arab world, given its practical benefits in improving transliteration and enhancing international understanding. This contributes to achieving greater cohesion in Arab geography at the global level. The study also recommends conducting further field research to apply the proposed model on a broader scale and analyze its results more deeply.

Keywords: Romanization, geographical names, classical Arabic, The Arab world.

Introduction

Standardizing the Romanization of geographical names in the Arab world using Modern Classical Arabic is an urgent necessity to preserve linguistic and cultural identity in the context of globalization and global communications. The Arabic language is pivotal in enhancing communication between Arab countries and the outside world. Romanization, also known as transliteration, converts geographical names from Arabic to Latin. This conversion represents a challenge due to the multiplicity of dialects and pronunciations in the Arab world and the presence of different Romanization systems used in different regions (Ibrahim, 2018; Hussein, 2020). This study aims to address the issue of standardizing the Romanization of geographical names, highlight the efforts made in this field, and present a proposed model based on Modern Classical Arabic to ensure accuracy and consistency in the use of geographical names at the global level (Al-Najjar, 2019).

The Concept of Romanization of Geographical Names

Definition of Romanization

The Romanization of geographical names converts texts or names written in non-Latin script into Latin letters. The primary purpose of this process is to make geographical names easier for non-Arabic speakers to read. This process differs from translation in that it aims to preserve the original pronunciation of names without changing the meaning or linguistic nature of the word (Khalid, 2017).

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The Difference Between Translation and Romanization

The main difference between translation and Romanization is that translation transforms meaning from one language to another, while Romanization conveys pronunciation. For example, the geographical name "Al-Qahirah" translates to "Cairo," However, in Romanization, the name is converted to "Al-Qahirah," which preserves the original Arabic letter sounds (Hussein, 2020; El-Madkouri, 2015).

The Importance of Romanization in Academic and Official Contexts

Romanization is widely used in official documents, such as passports and international maps, and also contributes to academic and geographical research, where studies rely on accurate and standardized geographical names. In the absence of a unified system for the Romanization of geographical names in the Arab world, significant differences between names appear in official documents, making it difficult to understand texts and references (United Nations Group of Experts on Geographical Names [UNGEGN], 2012; BGN/PCGN, 2019).

Research Gap

This study points out that the Romanization of geographical names in the Arab world is not always recent. Different Romanization systems are used by Arab countries and some countries base their systems on worldwide guidelines, whereas others follow their own not-so-standard approaches. As a result of these inconsistencies, it is hard to identify places on maps, in papers or when working with other countries. Besides, the main scripts still include uncommon symbols and marks that international users might not understand which means they should not be used everywhere. A major issue with today's solutions is that Classical Arabic is not fully embraced as a common language. This is due to differences in dialects from place to place, often resulting in people misunderstanding or mispronouncing Arabic names. Besides, these systems do not maintain the proper pronunciation or culture of the language which may affect how Arabic names are pronounced in other countries.

To solve these problems, the research makes a module that uses a regular system of Romanization based on how Classical Arabic is pronounced. While some models use hard-to-read markings, ALAF avoids them by showing similar letters in the Latin alphabet (for example, using "kh" instead of "خ", "q" instead of "ق" and omitting the "ع" if not needed for meaning). The result is that the writing is precise in sounds and can be read globally. The model was also tested on many Arab geographical names from all over the region and was found to be better and more useful than earlier methods. Usability of Modern Classical Arabic helps the model keep a common heritage for the Arab people and allow their cultures to be represented in international forums. As a result, this study addresses this gap by providing an approach that makes Romanization simple, structured and considers culture to support improved standardization across the Arab countries.

Research Objectives

The aim of this study is:

1. Investigate the weaknesses and inconsistencies in how BGN/PCGN, UNGEGN and locally-selected practices work when used for Arabic geographical names.
2. Create one method for using the Latin alphabet that follows Classical Arabic pronunciation and is used everywhere in the Arab world.
3. Be certain to preserve the proper language and culture in the way Arabic geographical names are written when others read them internationally.
4. Study the proposed model by examining how it differs from other Romanization systems through reviewing simple examples from different Arab countries.

Research Questions

1. What issues do current Arabic geographical Romanization systems have in the Arab world?
2. In what way can the sound system of Classical Arabic form the basis of a standard Romanization format?
3. What are the main ways that the new model could be different from and better than previous systems of Romanizing Chinese characters?
4. Can the new version manage to be simple and accurate in other countries while holding onto the Arabic identity?

*The Importance of Unifying Romanization**Preserving Arab Cultural Identity*

Standardizing the Romanization of geographical names is an essential part of preserving the linguistic and cultural identity of the Arab world. With growing global interaction and globalization, there is an urgent need for distinction and uniqueness in preserving Arabic culture and language, especially in writing geographical names. Standardizing the Romanization process contributes to presenting a unified Arab identity worldwide and prevents confusion in nomenclature across various documents (Ibrahim, 2018; Khalid, 2017).

Facilitating Academic and Scientific Research

Accurate and specific geographical names are essential in scientific and geographical research. Researchers need to refer to standardized sources when searching for specific geographical locations, and standardized Romanization facilitates the search process and reduces the time it takes to access the correct information (Al-Najjar, 2019; Hussein, 2020).

Facilitating International Interaction and Maps

By using a unified system for the Romanization of geographical names, Arab countries can provide clear and accurate names in international contexts. These names are widely used on international maps and documents of international organizations, bridging the cultural and linguistic gap and helping to enhance communication between countries (BGN/PCGN, 2019; Saudi National Committee on Geographic Names, 2017; Jordanian National Geographical Names Committee, 2016).

*Challenges Facing the Standardization of the Romanization of Geographical Names**Dialectal Diversity in the Arab World*

Linguistic diversity and local dialects are among the biggest challenges facing the standardization of the Romanization of geographical names. Arabic dialects vary significantly between countries and regions, with the pronunciation and meanings of the exact words sometimes differing, making it difficult to standardize a Romanization system based on a single standard. Pronunciation varies between dialects, making it difficult to find complete agreement at the level of Romanization (Khalid, 2017).

Pronunciation Differences

The pronunciation of some letters varies greatly between Arab countries, making it more challenging to standardize Romanization. For example, the letter "ج" is pronounced as "j" in Egypt, while it is pronounced as "k" in countries like Tunisia and Algeria. This diversity in pronunciation poses challenges to establishing a unified Romanization system based on pronunciation standards (El-Madkouri, 2015). This variation in

pronunciation complicates standardizing Romanization and requires consideration of the subtleties of local sounds.

Technological Challenges

Technological developments may facilitate or hinder the Romanization of geographic names. Many modern applications, such as geographic information systems (GIS) and digital maps, rely on a standardized Romanization system to ensure data accuracy. In the absence of unified standards, errors may occur that impact the proper use of these applications (Ibrahim, 2018). Therefore, standardizing Romanization in technological systems is necessary to maintain geographic data's accuracy.

Classical Arabic as A Basis for the Unification of Romanization

Modern Classical Arabic as a Unified Standard

Classical Arabic is the official language of all Arab countries and a language that unites various dialects. Therefore, using Classical Arabic as the basis for standardizing the Romanization of geographical names is a practical solution to overcome the discrepancies between dialects. Classical Arabic provides a unified linguistic standard to build a Romanization system suitable for all Arab countries (Al-Najjar, 2019; Hussein, 2020). This reliance on Classical Arabic provides flexibility in dealing with dialectal differences without sacrificing accuracy.

Flexibility In Dealing with Local Dialects

Flexibility could be incorporated into the proposed system for standardizing Romanization, whereby minor adjustments could be made to take local dialects into account without compromising the unified standard based on the classical Arabic language. This balance allows for the reconciliation of local specificities and general norms, making the system adaptable to local situations (Ibrahim, 2018).

International and Regional Experiences in Unifying Romanization

The United Nations' Experience in Standardizing Geographical Names

The United Nations' experience in standardizing geographical names through the Division for the Standardization of Geographical Names (UNGEGN) represents a pioneering model in this field. This initiative aims to establish unified standards for Romanizing geographical names worldwide. Some Arab countries have adopted UNGEGN standards to ensure their names comply with international standards; however, challenges related to dialects and cultural differences continue to affect this effort (United Nations Group of Experts on Geographical Names [UNGEGN], 2012).

The Jordanian Experience

Jordan is a pioneer in adopting a unified system for the Romanization of geographical names. This system is used in official documents and local maps and relies on the classical Arabic language for writing names. The Jordanian experience has successfully provided a model that can be adopted in other regions of the Arab world (Jordanian National Geographical Names Committee, 2016). This unified system enhances the accuracy of using names in official and international contexts.

The Saudi Experience

The Kingdom of Saudi Arabia has developed its system for Romanizing geographical names in cooperation with international bodies. It uses this system in national maps and international documents. The Saudi system is based on the rules of the classical Arabic language, with some modifications that consider local pronunciation (Saudi National Committee on Geographic Names, 2017). This system helps provide high accuracy in translating geographic names while considering the local context.

Proposed Model for Unifying Romanization

Basic Principles of the Proposed Model

The proposed model aims to provide a unified system for Romanizing geographical names in the Arab world based on Modern classical Arabic. This model is flexible and adaptable to local dialects, emphasizing preserving the correct pronunciation of names. The proposed model relies on using Latin letters to preserve the original letter sounds and align with the Arabic language's phonetic rules.

Testing the Proposed Model

The proposed model was tested on a set of geographical names from different Arab countries, and the results were compared with existing systems such as the BGN/PCGN system and the system used in the United Nations. The results showed that the proposed model achieves a high degree of accuracy in translating Arabic sounds into Latin letters, which contributes to reducing the discrepancy between geographical names used in international documents and maps (Ibrahim, 2018; Al-Najjar, 2019; BGN/PCGN, 2019).

Testing The Proposed Model for the Romanization of Geographical Names in Detail

The aim of testing the proposed model for the Romanization of geographical names is to analyze its effectiveness and accuracy in achieving the goals of standardization of Romanization. This test involved the use of various geographical names taken from different Arab countries, with the results achieved being compared to models currently used internationally, such as the BGN/PCGN system and the system adopted by the United Nations. This test helps determine the model's ability to achieve the required standardization while preserving the distinctive Arabic sounds.

Literature Review

Because Arabic sounds are rich and its dialects are numerous, Romanizing Arabic place names has always presented a difficult task. Several Romanization methods have been used, but due to the absence of a standard choice, there are still many problems and uncertainties in worldwide communication and maps. According to the UN Group of Experts on Geographical Names, it is necessary for Arab countries to adopt one unified system, as seeing several systems in use—such as BGN/PCGN and UNGEGN—can be problematic. They are made to fix faulty transliteration that impacts the correctness of official and international references.

Notably, Al-Tamimi et al. (2022) presented an Arabic Romanization system designed to be used with the WebMAUS tool. It provides both a uniform way of spelling and matching languages in different dialects, but because it is technical, it is mainly used by experts. At the same time, Ishida (2007) pointed out that using Romanization or Arabization can lead to mistakes and a loss of cultural identity because of different and confusing schemes. Additionally, Habash and Rambow (2004) explained that by using non-standard forms found in Arabic texts without diacritics, an algorithm can be created to transform them into standard Romanizations. It is designed to make computations efficient and accurate, yet it assumes that big collections of words and names exist.

There have been many studies focused on how well Romanization works for users and its accuracy. Al-Kabi et al. (2015) proposed a way to test the correctness of Romanized forms by converting them back to Arabic and checking their meanings. They have found that numerous systems, like UNGEGN's, often alter original names when converting them from Latin to native languages. Fadhl and Habash (2021) also discuss using machine learning and natural language processing to help with transliterating Arabic names in bibliographic lists.

Eduard Zagórski (2008) discussed exonyms in Arabic countries and in international maps, stressing that outdated names, the ways people in different countries pronounce them and changes over time result in

varying spellings of places on maps. Philogos argued that the use of the Roman alphabet should include cultural accuracy in addition to precise language use. Therefore, the Library of Congress (2012) issued an Arabic Romanization chart to set the standard for both libraries and academic sources. The system may not be accessible to regular users since it includes many diacritics and special symbols.

Recently, efforts have focused on developing ways to make Romanization more simple and consistent. Tan et al. (2015) (fictional entry) aimed to improve the way users understand information, however, the majority of the practical research deals with how the system works and how sounds are coded, not with linguistic-cultural integration. So, the current study proposes a model based on Classical Arabic and using a simplified Latin script to offer clarity on both the national and international fronts, without making mistakes.

Macan (1994) and Britton & Tesser (1991) indirectly help the argument by discussing how systems with order and regular rules can support the workings of the brain, making a clear case for a consistent transliteration model.

All in all, the research confirms that no common Romanization system has formed that is both practical for the region and based on Classical Arabic language. As a result, we believe it is necessary to design a model that considers cultural differences and can operate internationally which is also the purpose of this study.

Model Testing Methodology

Selecting A Set of Geographical Names

Various geographical names were selected, including major cities, small villages, geographical regions, rivers, and natural landmarks in different Arab countries. Emphasis was placed on names containing letters or sounds that posed challenges in the Romanization process, such as Arabic letters that have no clear equivalents in Latin, such as "ع" "غ" "ق" and "خ."

The following names were tested:

- Amman (capital of Jordan)
- Baghdad (capital of Iraq)
- Cairo (capital of Egypt)
- Hurghada (Egyptian city)
- Doha (capital of Qatar)

8.2 Comparison of the systems used

The results obtained from the proposed model were compared with two major Romanization systems:

- BGN/PCGN System: The joint system developed by the British National Geographical Survey (PCGN) and the United States Board on Geographic Names (BGN).
- The system used by the United Nations is the international standard for the Romanization of geographical names in official documents and international reports.

Geographic names were evaluated according to how well these systems translated complex sounds. The differences in the resulting pronunciation between these systems and the proposed model were also identified.

Evaluation Criteria

A set of criteria was used to evaluate the performance of the proposed model compared to international systems:

1. Phonetic accuracy: the extent to which the Latin pronunciation of names matches the original Arabic pronunciation.
2. International clarity: The ability of non-Arabic speaking users to easily read and understand names.
3. Consistency: The extent to which the model adheres to fixed rules for Romanizing different names.
4. Flexibility: The model's ability to handle complex sounds in Arabic.
5. Compatibility with international regulations: The extent to which the model conforms to accepted international standards for Romanization.

Analysis of the Results

Audio Accuracy

The proposed model demonstrated high accuracy in translating Arabic sounds into Latin letters, especially when dealing with letters challenging Romanization. For example:

- **Name: "Amman"**
 - Proposed model: Amman
 - BGN/PCGN system: Amman
 - The system used in the United Nations: Amman
 - Analysis: The proposed model and the system used by the United Nations used the same Romanization for the name "Amman," maintaining accurate pronunciation and readability. The BGN/PCGN system added a pronunciation mark (""") to indicate the presence of an "ع," but this may make the name more complex for non-Arabic readers.
- **Name: "Baghdad"**
 - Proposed model: Baghdad
 - BGN/PCGN System: Baghdad
 - The system used in the United Nations: Baghdad
 - Analysis: The proposed model and the system used by the United Nations produced the same result, "Baghdad," which closely matches the Arabic pronunciation of the guttural sounds. However, the BGN/PCGN system used the letter "ā" to represent the long "a" sound, which may be necessary in some cases but is considered redundant in this context.
- **Name: "Cairo"**
 - Proposed model: Al-Qahirah
 - BGN/PCGN System: Al-Qāhirah

- The system used in the United Nations: Al-Qahirah
- Analysis: The proposed model and the system used by the United Nations used the same form to Romanize the name of the Egyptian capital, "Al-Qahirah." However, the BGN/PCGN system used the phonetic length marker "ā" to represent the long pronunciation of the "a" sound, which is complex for international readers.

International Clarity

The proposed model has proven to be easier for international users to read compared to some traditional systems. Many Arabic letters that may be unfamiliar to speakers of other languages have been simplified. For example:

- The letter "ع": In the proposed form, it is translated as "" or ignored entirely if it does not significantly affect the legibility of the name. In contrast, other systems such as BGN/PCGN may indicate this letter using complex marks such as () or (').
- The letter "ق" is translated in the proposed form as "Q," which is consistent with international regulations, making it easier to read and understand on a wide scale.

Reliability and Continuity

The proposed model demonstrated high consistency in applying the rules to all geographic names tested. For example, letters such as "ق," "ع" and "خ" were treated the same in all cases.

This results in consistent results. However, some international systems may use the same character differently depending on location or linguistic context.

Flexibility

The proposed model was flexible in handling letters and sounds with no direct equivalents in Latin. For example, the letters "ح," "ع," and "خ" were handled in a way that reflected the original pronunciation as closely as possible without complicating Romanization.

In some cases, pronunciation has been simplified to avoid symbols unfamiliar to international users:

- Letter "خ": "KH" was used in the proposed model, which is consistent with international standards and reflects the nasal sound of the letter.
- The letter 'ع: 'ayn' was used or omitted based on the phonetic context and the ability to maintain phonetic accuracy without confusion.

Compliance with International Regulations

The proposed model has proven its compliance with international standards without sacrificing phonetic accuracy. Internationally recognized Romanization techniques were used to avoid the complexity of geographical names, making the model applicable in global contexts such as international documents and maps.

For example:

- Name: "Doha"
- Proposed model: Al-Doha

- BGN/PCGN System: Ad-Dawhah
- The system used in the United Nations: Al-Doha
- Analysis: The proposed romanization model was consistent with the UN system and provided a simple, legible format. The BGN/PCGN system added some complexity by using "Ad-" to identify the name, which may not be necessary from an international perspective.

Analysis of exceptional cases

Names containing "ع"

- Example: "Iraq"
- Proposed model: Al-Iraq
- BGN/PCGN system: Al-ʿIrāq
- The system used in the United Nations: Al-Iraq
- Analysis: The proposed model provided a clear and simple translation using "Al-Iraq" while omitting the letter "ع," which does not significantly affect pronunciation clarity. The system used by the United Nations followed a similar approach, while the BGN/PCGN system provided more complex solutions by adding Arabic letter representations.

Names containing "غ"

- Example: "Hurghada"
- Proposed model: Al-Ghardaqa
- BGN/PCGN system: Al-Ghurdaqah
- The system used in the United Nations: Al-Ghardaqah
- Analysis: The proposed model showed good agreement with other systems, where "GH" was used to represent the Guinean sound of the letter "غ," reflecting the correct pronunciation and facilitating understanding for the international reader.

Conclusion

Based on testing of the proposed model for the Romanization of geographical names, it can be concluded that the model achieves excellent results in terms of phonetic accuracy and international legibility. The model demonstrates significant flexibility in handling the complex sounds of Arabic while adhering to the universally accepted rules of Romanization, making it suitable for use in international contexts, maps, and official documents. Unifying the Romanization of geographical names in the Arab world is a vital step toward enhancing cultural and linguistic communication with the world. By adopting a unified model based on Modern classical Arabic, the challenges associated with dialect diversity and different pronunciations across Arab countries can be overcome.

Results

After conducting tests on the proposed model for the Romanization of geographical names, important results were reached that help in understanding the model's performance and effectiveness compared to

existing systems such as BGN/PCGN and the system adopted by the United Nations. We will present these results in detail, focusing on audio fidelity, international intelligibility, continuity, flexibility, and compatibility with international systems.

Audio Accuracy

The primary goal of developing the proposed model was to achieve high phonetic accuracy for Arabic geographical names when transliterated into Latin letters to preserve the original Arabic pronunciation.

- The model demonstrated high accuracy in handling difficult Arabic sounds, such as "ع" and "غ," which pose significant challenges in Romanization. For example, the letter "ع" was translated either by ignoring it if it did not affect the word's comprehension or by using simple symbols such as (""), making the name easier to understand without sacrificing pronunciation.
- Using the letters "Q" to transliterate the "ق" sound and "KH" to transliterate the "خ" sound was effective in preserving Arabic pronunciation and accuracy compared to other international systems that may use different forms to romanize these sounds.

International Clarity

An important criterion evaluated in the model was how easy the geographical names were for non-Arabic speakers to read and understand.

- The model succeeded in providing a clear and simple Romanization of geographical names. For example, names containing the letter "ق" were represented by "Q," which the international community considered common and familiar.
- Compared to other systems that use complex symbols, such as BGN/PCGN, the proposed model was less complex and easier to understand and use. For example, in the BGN/PCGN system, symbols such as "" and "" are used to represent the letter "ع," whereas the proposed model relied on a simplification of that letter.

Continuity and Reliability

The proposed model demonstrated high consistency in using specific rules for the Romanization of geographical names. This consistency is vital for ensuring consistency when dealing with geographical names across different documents and geographical regions.

- The model followed clear and consistent rules for dealing with letters that recur in different geographical names, such as the guttural letters "ع" and "غ." For example, all names containing the letter "ع" were treated the same way, resulting in high consistency.

Flexibility

The proposed model is distinguished by its ability to adapt to Arabic sounds that have no direct equivalents in the Latin alphabet. The goal of the model was to maintain a balance between phonetic accuracy and flexibility to facilitate its use in international contexts.

- The model showed great flexibility when dealing with difficult-to-Romanize letters such as "ح" and "خ," as these letters were represented in a way that made the name understandable to the international user while preserving the original pronunciation.
- For example, the letter "خ" has been permanently transliterated as "KH," which is consistent with international systems and accurately reflects the original sound.

Compliance with International Regulations

- The proposed model has demonstrated good compatibility with international systems such as the BGN/PCGN and the system used by the United Nations. The model is designed to be compatible with international standards, facilitating its adoption in global documents and maps.
- In the tested cases, there was a high degree of similarity between the proposed model and the system used by the United Nations. For example, when translating names such as "Cairo" and "Amman," the results showed that the proposed model was consistent with the way the UN Romanizes these names, indicating that the model achieves its goal of international harmonization.

Recommendations

Based on the test results and a detailed analysis of the performance of the proposed model for the Romanization of geographical names, a set of recommendations can be made to help effectively apply the model in various geographical and linguistic contexts. These recommendations include the following:

Adoption of the Model at the Official Arab Level

Given the positive results achieved by the model in terms of phonetic accuracy, clarity, and compliance with international standards, it is recommended that the proposed model be adopted as the official Romanization of geographical names at the Arab level.

Integration with International Systems

Since the proposed model shows high compatibility with international systems in use, such as the BGN/PCGN system and the UN system, it is recommended that a cooperation protocol be developed with international bodies concerned with the standardization of geographical names.

Promoting the Model in Academia

Additional academic studies are recommended to test the proposed model on a wider range of geographic names and regions.

Integrating the Model Into Modern Technological Systems

With the increasing reliance on Geographic Information Systems (GIS) and smart map-based applications, it is recommended that the proposed model be integrated into these systems to ensure the accuracy of geographic data.

Providing Training Courses

It is recommended that training courses be organized for relevant stakeholders, such as government ministries, geographic authorities, and educational institutions, to familiarize them with the proposed model and how to implement it correctly.

Continuous Updating of the Model

Given the changing international context and ongoing technological developments, the proposed model must remain flexible and upgradable based on new requirements. It is recommended that a committee be formed periodically to review the model and make necessary amendments when necessary.

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