Journal of Medieval and Islamic History

حولية التاريخ الإسلامي والوسيط

An Annual Peer-Reviewed Journal interested in Medieval, Byzantine, and Islamic History

Journal of Medieval and Islamic History (in Arabic حولية التاريخ الإسلامي والوسيط) is an annual peer-reviewed journal issued by Seminar of Medieval and Islamic History, History Dept., Faculty of Arts, Ain Shams University. It is founded in 2000 AD by Prof. Rafaat Abdul-Hamid, Prof. Ahmed Abdel-Raziq, and Prof. Tarek M. Muhammad. It is a scholarly print and open access on-line international journal, which aims to publish peer-reviewed original research-oriented papers and book reviews in the fields of Medieval History, Medieval Slavonic History, Crusades, Byzantine History, Byzantine Egypt, Islamic History, and the relations between East and West. *Journal of Medieval and Islamic History* encourages and provides a medium for the publication of all original research contributions of significant value in all aspects of Medieval History and Civilization are welcome. It aims to publish research that contributes to the enlargement of historical knowledge or the advancement of scholarly interpretations.

The certified abbreviation of the journal is JMIH. It is presided over by a distinguished board of Historians and Academicians and is backed by an international advisory board panel consisting of prominent individuals representing many well-known Universities. JMIH publishes high-quality papers and review papers, too. It gives the chance to the academics to publish their top papers, book reviews, and studies widely.

Aims and Scope (أهداف المجلة)

Journal of Medieval and Islamic History aims to publish peer-reviewed original research-oriented papers and book reviews in the fields of Medieval History, Crusades, Byzantine History, Islamic History, and the relations between East and West. JMIH encourages and provides a medium for the publication of all original research contributions of significant value in all aspects of Medieval History and Civilization are welcome. It aims to publish research that contributes to the enlargement of historical knowledge or the advancement of scholarly interpretations, too.

Publisher

Duties of the Editorial Board (واجبات هيئة التحرير)

Editor-in-Chief

The editor-in-chief oversees all the editors of a publication and ensures each issue is released on time. With the assistant editors, the editor-in-chief creates the editorial board, or outline, for each of the publication's editions or issues. The editor-in-chief reviews all articles, reviews, and photographs, and provides suggestions, if needed, about any changes to make before the publication goes to

[IV]

press or is released digitally. Layouts and design need approval by the editor-in-chief. In the end, the editor-in-chief has the final word about which articles and reviews get published.

The editor-in-chief has the responsibility of drawing up budget proposals and any other information requested by the publishers. The editor-in-chief generates ideas for new ways of doing things, such as using new technology, implementing ways to increase readership, and how to call great scholars to write in the journal. Tough problems are often handled by the editor-in-chief, and advice about editorial issues is also provided. Whenever a social function happens, the editor-in-chief is the publication's representative, and some travel can be required.

Editors

• Treating all authors with fairness, courtesy, objectivity, honesty, and transparency

• Establishing and defining policies on conflicts of interest for all involved in the publication process, including editors, staff (e.g., editorial and administration), authors, and reviewers

• Protecting the confidentiality of every author's work

• Making editorial decisions with reasonable speed and communicating them in a clear and constructive manner

• Being vigilant in avoiding the possibility of editors and/or referees delaying a manuscript for suspect reasons

• Establishing clear guidelines for authors regarding acceptable practices for sharing experimental materials and information, particularly those required to replicate the research, before and after publication

• Establishing a procedure for reconsidering editorial decisions

• Describing, implementing, and regularly reviewing policies for handling ethical issues and allegations or findings of misconduct by authors and anyone involved in the peer-review process

• Informing authors of solicited manuscripts that the submission will be evaluated according to the journal's standard procedures or outlining the decision-making process if it differs from those procedures

• Clearly communicating all other editorial policies and standards.

Co-Editors

Under supervision of the editor-in-chief, they participate in all processes of editing, as editors, as a practice.

The Review Process for Papers (مراحل وآلية تحكيم البحوث المقدمة)

Double-Blind Peer Review

Journal of Medieval and Islamic History pays great attention to the role of peer review. Reviewers evaluate the article upon an assessment form includes the reviewing criteria of JMIH as follows:

  – Importance / Originality
  – Methodology
  – Bibliography; both print and digital
  – Language and the extent to which subjects of the paper are harmonic with one another
  – Results

Procedures

1- Two reviewers are selected for the paper; at least one is from outside the Journal's community (Faculty, Editorial board, and advisory board).

2- The researcher receives the response of the reviewers: the evaluation, the paper, and the attached report, (if applicable).

3- If the reviewers respond by accepting, the paper is accepted for publication and two letters of acceptance are extracted in Arabic and English.

4- If the reviewers respond by refusing, the paper will be rejected without a refund of the reviewing fees.

5- If one of the two reviewers refuse and the other accepts, a third reviewer shall be chosen to separate, considering the report of the third reviewer the editorial committee gives the final decision.

Submission

1- The Author submits his research article through our journal's online submission system. He will need to register for an account to do this.

2- Once his account is set up, he will need to continue the submission process.

Journal check

The paper will then be checked by the journal Editor to see if it fits with the aims and scope of the journal. If ok, it will enter it into a rigorous, double-blind peer-review process that considers the quality, originality, approach, and clarity of the paper.

Decision

1- Once the reviewers (from two to three reviewers) have reviewed the manuscript, they will make one of the following recommendations:

2- Accept, minor revisions, major revisions, or reject. The final decision will be decided by the editorial committee.

3- Reviewer feedback on the paper will be provided to the corresponding author via e.mail.

Revision

The author will receive an email from the Editor containing the final decision.

If the author is asked to make revisions, he has two weeks to resubmit for minor revisions, and three weeks resubmit for major revisions.

Once he has resubmitted his paper, it will be reassigned to the same reviewers if they to check whether their comments have been addressed.

If sufficient improvements have been made, the paper will be accepted. If not, he may be asked to perform multiple revisions or have his paper rejected.

Guidelines for Reviewers: (إرشادات للمحكمين)

Reviewers must ensure that all authors have equal opportunity to publish and their origin, nationality, ethnicity, race, religion, gender or political beliefs do not influence the peer review process.

Following General Guidelines of Elsevier How to Contact a Review

General Roles

- A reviewer must carry the single-blind peer-review process
- Ensure proficient peer review process and submit reviews within the timeframe
- A reviewer will have to review a maximum of 2 in the same issue and of 10 manuscripts per annum
- Should contribute to the Journal with professional information representing their subject expertise
- Reviewers can suggest alternate reviewers with subject expertise relevant to the manuscript
- Reviewing process will be in light of JMIH assessment form via the online reviewing system, or the reviewer will send his report to the following e.mail: https://jmih.journals.ekb.eg/

Guidelines for editors (Based on Elsevier Legal guide for editors concerning ethics issues)

Responsibilities of the editor(s) of JMIH include the vetting and reviewing of articles submitted by authors. In most cases, this process will be straightforward. However, in some cases, ethical issues may emerge either during the vetting and reviewing process or after publication when a complaint is made. The most ethical problem that may encounter the editor(s) is plagiarism.

Plagiarism & JMIH's Policy

Plagiarism is strictly forbidden, and by submitting the article for publication the authors agree that the publishers have the legal right to take appropriate action

against the authors if plagiarism or fabricated information is discovered. Plagiarism is condemned and discarded, and authors are blocked from future submission to JMIH. Editors and Reviewers are urged to check for plagiarism using available online applications, such as http://smallseotools.com/plagiarism-checker/ , https://www.grammarly.com/plagiarism-checker

Publishing Ethics: Ethical guidelines for authors (Based on Elsevier ethical guidelines for authors) (أخلاقيات النشر)

Reporting standards

Authors of reports of original research should present an accurate account of the work performed as well as an objective discussion of its significance. Underlying data should be represented accurately in the paper. A paper should contain enough details and references to permit others to replicate the work. Fraudulent or knowingly inaccurate statements constitute unethical behavior and are unacceptable.

Data Access and Retention

Authors are asked to provide the raw data in connection with a paper for editorial review, and should be prepared to provide public access to such data (consistent with the ALPSP-STM Statement on Data and Databases), if practicable, and should, in any event, be prepared to retain such data for a reasonable time after publication.

Originality and Plagiarism

The authors should ensure that they have written entirely original works, and if the authors have used the work and/or words of others that this has been appropriately cited or quoted.

Multiple, Redundant, or Concurrent Publication

An author should not in general publish manuscripts describing essentially the same research in more than one journal or primary publication. Submitting the same manuscript to more than one journal concurrently constitutes unethical publishing behavior and is unacceptable.

Acknowledgment of Sources

Proper acknowledgment of the work of others must always be given. Authors should cite publications that have been influential in determining the nature of the reported work.

Authorship of the Paper

Authorship should be limited to those who have made a significant contribution to the conception, design, execution, or interpretation of the reported study. All those who have made significant contributions should be listed as co-authors.

[VIII]

Where there are others who have participated in certain substantive aspects of the research project, they should be acknowledged or listed as contributors.

The corresponding author should ensure that all appropriate co-authors and no inappropriate co-authors are included on the paper and that all co-authors have seen and approved the final version of the paper and have agreed to its submission for publication.

Disclosure and Conflicts of Interest

All authors should disclose in their manuscript any financial or another substantive conflict of interest that might be construed to influence the results or interpretation of their manuscript. All sources of financial support for the project should be disclosed.

Examples of potential conflicts of interest that should be disclosed include employment, consultancies, stock ownership, honoraria, paid expert testimony, patent applications/registrations, and grants or other funding. Potential conflicts of interest should be disclosed at the earliest stage possible.

Fundamental errors in published works

When an author discovers a significant error or inaccuracy in his/her own published work, it is the author's obligation to promptly notify the journal editor or publisher and cooperate with the editor to retract or correct the paper. If the editor or the publisher learns from a third party that a published work contains a significant error, it is the obligation of the author to promptly retract or correct the paper or provide evidence to the editor of the correctness of the original paper.

Guides for Authors (إرشادات للمؤلفين)

JMIH publishes articles in Arabic, English, and French. Authors should submit the manuscript that has been carefully proofread and polished.

Authors are required to read carefully and follow the instructions for authors to JMIH. Acceptance or rejection notification will be sent to all authors through e-mail.

The submitted article is the final version. The manuscript should be submitted exactly according to the instructions for authors to JMIH.

The maximum number of illustrations, maps, plates, and figures is 12 per paper.

Submit your manuscript electronically.

If you have problems or difficulties uploading your files electronically, please contact the editorial board at https://jmih.journals.ekb.eg/

Send your manuscript as a pdf blind file (without the author's data) to https://jmih.journals.ekb.eg/ for further peer-review process.

Important Dates

JMIH is an annual journal, its print issue is published each December since 2000.

The deadline is July 31st for publication in December of the same calendar year.

Ain Shams University Contributions

Authors from Ain Shams University expected to not exceed 25-50% percent per issue. Contributions over this percent will be delayed to the next issue considering the agreement of their authors. Priority depends on the submission date of the final article.

JMIH can publish a special issue (Monograph/supplement) any time of the year.

Please note that Review Papers/Articles are also acceptable.

Once a paper is accepted, authors are assumed to cede copyrights of the paper over to JMIH. Once the paper is accepted it will be published online even before the scheduled issue date.

Submit your paper along with a signed Copyrights Form, while submitting a paper to JMIH.

The Copyright Transfer Form submitted with us will become void in case the paper is not accepted in our Journal.

Note: In case manuscript accepted and Copyright Form and Payment received your paper will be published Online, even before the release date of Volume.

Additional Instructions for authors for a manuscript for the annual peer-reviewed Journal Issued by the Faculty of Arts – Ain Shams University (JMIH)

Abstract

This section should summarize the content of the paper and should detail the problems, experimental approach, major findings, and conclusion in one paragraph. Avoid abbreviation, diagram, and references in the abstract. It should be single-spaced and Try to keep the abstract below 150 words and should not exceed 250 words for full papers. Please make sure that the margins and layout explained below are followed as this will help us to maintain uniformity in the final print version of the journal. Both form and content of the paper have to be as per these guidelines else your paper will not be published even though its content has been accepted.

Keywords

Provide about 4-6 keywords that can identify the most important subjects covered by the paper. They must be placed at the end of the abstract.

Introduction

JMIH publishes papers in Arabic, English, and French in all main fields of the Medieval and Islamic History papers must be divided into various sections starting with 'Introduction' and ending with 'Conclusion'.

Text of paper should be divided into - Introduction, Materials, and Methods, Results, Discussions, References, or suitable headings in Medieval History, Crusades, Byzantium, Slavonic Countries, Islamic History, and Civilization, and related theoretically oriented papers and reviews.

The paper must be presented into one text with figures and Tables in their proper place.

The text heading may have 12 font titles. The graph/figure may have 12 pt font titles with good resolution.

The table/figure heading must be in text form and should not form part of the image.

The manuscript should include a brief introduction stating the purpose of the investigation and relating the manuscript to similar previous research.

Only information essential to the arguments should be presented.

The paper must be in final form since we will publish it directly. The paper should be exactly in this format.

The manuscript should be prepared in Arabic, English, or French using "MS Word" with A4 page. "Times New Roman" font should be used. The font size should be 12 pt, but the main subheadings may be 13 pt.

The article can be up to 7500 words excluding references and abstract.

For proper referring and fast publication, all manuscripts should be grammatically correct.

Text Formatting

The submitted article shall contain no tab or stylesheet. When necessary, the text shall be set in italic. Notes shall be put at the bottom of the page and automatically numbered from 1 to n. The basic structure of the submitted article shall be defined by unnumbered headings. Each table or illustration shall be provided in a high resolution in its proper place within the article. Illustration and table legends shall include the source unless the element is published for the first time, the author (photographer, designer, etc.), if any, and his/her affiliation

Major headings are to be in a bold font of 13 pt uppercase letters without underline as above.

Subheadings: Subheadings should be as here "Subheadings:".

They should start at the left-hand margin on a separate line, followed by a colon ": " without space.

Text continues directly after the subheading in the same line. The beginning of this paragraph shows a sub-subheading.

Article's Title: The title should be centered across the top of the first page and should have a distinctive font of 13 points Times New Roman. It should be in a bold font and in lower case with initial capitals.

Authors' names and addresses should be centered below the title.

The name(s) should be 12 points Times New Roman, and the affiliation(s) is the same but 11 points.

Bibliographical references

In the footnotes, bibliographical references should be 10 points Times New Roman and shall refer to the references provided at the end of the article. They shall contain the author's family name and a short version of the article/volume's title. The authors must use Chicago University Style on the following website: https://www.chicagomanualofstyle.org/home.html

References

References should be 12 points Times New Roman at the end of the article shall be drafted according to as the following:

Monograph: Muhammad, T. M., *Muhammad, his Ethics and Qualities*, Cambridge 2021.

Collective work: Muhammad, T. M. and Romer, C. (Eds.), *Thought, Culture, and Historiography in Christian Egypt, 284-641 AD*, Cambridge 2020.

Book, proceedings: Salem, N., "A Fragment of a Deed of a Surety, " in Muhammad, T. M. and Romer, C. (Eds.), *Thought, Culture, and Historiography in Christian Egypt, 284-641 AD*, Cambridge 2020, 191-195.

Article: Ameen, A., "Travelers' Works as an Important Source in Studying Archaeology in Light of the Hadji 'Ali Mosque of Athens," *Shedet* 2 (2015), 6-22.

Chapter or article in a collective book: Grossmann, P., "Madinet Madi," in *The Coptic Encyclopedia*, vol. V, New York 1991, 1497-149.

Websites: Websites have to be written as a hyperlink with the last visit and time.

Note: IFAO or Dumbarton Oaks Abbreviations of the Journals must be used.

As for the Greek references and texts, they must be written in IFAO Unicode Greek font.

Quotations in the text must be written between converted commas with font 11pt.

[XII]

Transliteration

JMIH adopts the list of Transliteration of Arabic and Persian Characters published in *Encyclopaedia Islamica* ("System of Transliteration of Arabic and Persian Characters", in *Encyclopaedia Islamica*, Editors-in-Chief: Wilferd Madelung and Farhad Daftary. Consulted online on 18 March 2017, First published online: 2013; First print edition: ISBN: 9789004246911, 20131209), published by Brill. Kindly download the list from this website: https://referenceworks.brillonline.com/entries/encyclopaedia-islamica/system-of-transliteration-of-arabic-and-persian-characters-transliteration

Conclusion

The manuscript should have a relevant brief conclusion and should reflect the importance and future scope.

Arabic and English/French Abstracts

The manuscript should end with Arabic and an English abstract summarizing the content of the paper.

Acknowledgment

Contents
I. Non-Arabic Papers

II. Arabic Papers

I. Non-Arabic Researches

Early Aspects of the "Arabic-Latin Translation Movement" in Medieval Spain: The Letters of Gerbert (d. 1003) as Evidence

Samer S. H. Qandil
Faculty of Arts, Ain Shams University, Egypt

The translation movement intimately tied to the great movement of the 12th century, but some researchers devoted much attention to the period before. In his article of 1951, Robert Lopez declared "Still another Renaissance", and he paid attention to the 10th century as an age of renaissance1. In the second half of the tenth century AD, a new phase of relations launched between the Islamic world and Europe. The Iberian Peninsula (Andalusia) was an essential bridge to exchange ideas and cultures through the Mediterranean. In this century, the Arabic sciences were translated and transferred to the Latin culture, especially in the field of mathematics and astronomy. The letters of Gerbert of Aurillac, Pope Sylvester II, stand as witness of cultural transformation in that period. The French Benedictine monk visited al-Andalus between 967 and 970 A. D, where he studied mathematics, astronomy. In the history of science, he is known as the first transfer and user of Arabic numbers in the framework of Latin culture. However, this issue has been much debated among scholars and historians. This article, thus, is an attempt to shed light on the process of the transmission of Arabic sciences into the medieval West. In this paper as well, we are traced first the origins and early history of this tradition, and subsequently some remarks on its survival after the tenth century are offered. The starting point for our discussion is of course the information to be found in the scientific works of Gerbert. The conclusion of the present work presents the views of contemporary historians regarding the impact of diplomatic relations between the Islamic world and the West on cultural exchange during the tenth century.

Gerbert of Aurillac (d. 1003) was one of the most famous intellectual characters of the tenth century and, as Pope Sylvester II, presided over the turn of the first to the second millennium C.E. He is known as the most educated man of his time, the first French pope, and a

---

[1] - The classical work of Haskins "The Renaissance of the Twelfth Century" devoted much attention to that later period. The interactions and Acculturation before the 12th century have not received much attention. However, a few decades earlier this issue become subject to academic scrutiny. For more details and discussions among the scholars about this issue see; E. T., Mommsen, "Petrarch's Conception of the' Dark Ages", *Speculum* 17 (1942), pp. 226-242; Knowles, D., *The Evolution of Medieval Thought*, London, 1998, pp. 72- 84; Robert Lopez," Still Another Renaissance?", *American Historical Review* 57 (1951), pp. 1-21.

politician who played a significant role in the rise of the Capetian Dynasty in "France". As a statesman, he exerted decisive influence over the young Emperor Otto III. His character and works have been extensively studied from a variety of perspectives. Gerbert's remarkable work as a teacher, who significantly broadened the intellectual horizon of several students and made outstanding findings by the use of various teaching methods and devices, ranks him among the greatest and most influential figures of the high Middle Ages. He devoted much attention to the classical heritage, as clear in his many quotes of Roman authors, including Cicero, Terentius, Pliny, Seneca etc[1]. He expresses his attitude toward classical works and philosophies, stating, "in our opinion, nothing in man's life deserves reverence other than the wisdom of these great men whose wisdom is unfolded in the numerous volumes of their works".[2]

He was born somewhere in the region of Auvergne, in Central France around the year 945. Since neither his place of birth nor his parents were known[3], it seems likely that he was of low birth (*humili genere*). Around 963, he entered the monastery of St. Gerald at Aurillac[4]. There, he studied Latin Grammar (*gramatica edoctus est*) under a teacher named Raymond. It seems that Gerbert proved to be an apt student, and his abbot wanted him to study the *quadrivium*: arithmetic, geometry, music, and astronomy. In 967, Count Borrell of Barcelona visited the monastery, and the abbot asked the count to take Gerbert along to Spain with him to study mathematics there. [5]

He was a Benedictine monk who participated energetically in the Reform Movement. He later became the archbishop of Reims (991–997) and Ravenna (998–999) and finally the Bishop of Rome (999–1003). Gerbert's influence rests on the fact that he taught a number of illustrious scholars, and even kings and emperors. In the cathedral school of Rheims, Gerbert taught many students who became remarkable scholars and churchmen. These include the historian Richer, Constantine of Fleury (985–1014), the French King Robert II the Pious (r. 987/996–1031), and Fulbert of Chartres (d. 1028) who contributed to a revival of the cathedral school of

---

[1] - See for example; *The Letters of Gerbert: With his Papal Privileges as Sylvester II,* translated with an introduction by Harriet. Pratt Lattin, Columbia University Press, 1961, Letters 175, 182, 201.
[2]- Letter 175.
[3]- There is an account mentions unknown father of Gerbert named him Agilbert; "*patre Agilberto natione Aquitaniorum*", see; *Liber Pontificalis*, tome 2, p. 263.
[4]- Richer, *Histoire de France* (888-997)*,* ed. et trad. Robert Latouche, tom. 1, Paris, 1930, II, p. 51.
[5]- Richer, *Ibid*

Chartres.[1] Many people of Gerbert's time could not explain why a person of such humble birth had been able to gain such a high degree of knowledge and abilities and to hold important public and political positions. It was assumed that he was either a magician or had made a pact with the devil. In this way, the legend of Gerbert took its earliest form.[2]

Gerbert's works include several writings. One of them is about theological issues entitled "De Corpore et Sangune Domini". He produced a work in logic named "*De Rationali et Ratione uti*". In addition, he produced a number of treatises on specific topics of the *quadrivium*, including "*Liber Abaci*" and "*De Geometria*" in mathematics. Also attributed to him is a work in astronomy entitled "*Liber astrolabi*". [3] Last but not least, Gerbert also wrote many letters. All the original letters he wrote before he became pope were lost. But he regularly began to keep copies of his letters after he became abbot of St. Columban of Bobbio in 982. The existing collections of Gerbert's letters were copied by his students and can be divided into two groups: the first one is based on copies which he kept in one or more registers. This group is known through two different sets of manuscripts. The other group consists of miscellaneous letters that were either found in different manuscripts or included in the works of certain church councils.[4]

Emperor Otto II (972- 983) designated Gerbert as abbot of Bobbio in northwest Italy in 982. In Bobbio, Gerbert suffered from the repeated attacks on the abbey and its land possessions by local nobles[5]. Otto II's

---

[1]- See this study on him; Faulk, J., *Bishop Fulbert of Chartres (1006- 1028): A Political Biography*, PhD Thesis, University of Illinois at Chicago, 1991.

[2]- The legend of Gerbert started in the eleventh century with Cardinal Benno (d. 1098), Cardinal of the antipope Guibert during the debate between Pope Gregory VII and the emperor Henry IV. Cardinal Benno added to Ademar's statement "where he studied science and magic". He was convinced that Gregory had studied under the supervision of some illustrious masters who had educated him the "doctrine of Demons". Those teachers were Benedict IX and Lawrence of Amalfi one or both of whom was a pupil of Gerbert. Benno mentions also that Gerbert asked the Demon about the date of his death and the demon answered," you shall not die till you have celebrated Mass in Jerusalem". From this time on, Gerbert had a title of "*Pope Magician*". see; Ordericus Vitalis, *Ecclesiastical History of England and Normandy,* trans. Thomas Forester, (London, 1854), I. p. 145; William of Malmesbury, *The Kings before the Norman Conquest*, pp. 150-152; Flusche, A. M., *The Life and Legend of Gerbert of Aurillac: The Organ Builder Who Became Pope Silvester II*, New York, 2005, p. 82 ff; Darras, J. E, *Histoire genérale de l' église: depuis la création jusqu' à nos jours*, Paris, 1891, tom. XX, p. 331.

[3]- E. Darby asserts that this work is originally a Latin translation of Arabic work in Astrolabe which was inserted in the works of Gerbert, but he was not the author. Darby, J., "A Note on Early Treatise on the Astrolabe", *the Geographical Journal* 85 (1935), p. 179.

[4]- Lattin, *The Letters*, pp. 20- 21. For more details on the manuscripts of the letters of Gerbert see; Darlington, O., "Obscuro Loco Natus", *Speculum* 11(1936), p. 511.

[5]- Letters 8, 12, 18, 19.

death on December 7, 983 made matters worse. Therefore, the French abbot fled to the imperial palace at Pavia[1]. Early in 984, Gerbert returned to Rheims to practice his job as secretary of archbishop Adalbero of Rheims (969–989). He, when he was involved in politics, and for reducing the disastrous impact of politics on him, used to return to study and indulge in knowledge to find consolation and solace.[2] At this time, Gerbert wrote many letters, some of them explained his intellectual interests. He had always been thirsty for knowledge and filled his repertoire with the treasures of Bobbio's manuscripts. From the library of the monastery of Bobbio he discovered and obtained the works of Boethius in astrology and geometry: *De Astrologia* and *De Geometria*[3]. It should be borne in mind that, from the beginning, the importance of Bobbio, as an educational monastery center, was one of the main reasons for Gerbert to accept this impossible mission at Bobbio.[4]

The letters reflect his interests as a scholar, teacher, politician and churchman, and more importantly, it stands as a testimony to the first steps of the translation movement from Arabic into Latin in northern Spain in the last quarter of the 10th century.[5]

The first evidence is a letter[6] written to Guarin, abbot of St. Michel de Cuxá who was a close friend of the Catalan counts, especially Miró Bonifill, bishop of Gerona from whom Gerbert requested the same arithmetical work in his letter II.[7] Gerbert declared many times that he put his trust and kept in touch with the Spanish princes and churchmen, particularly those of Catalonia. This was due to his stay for three years in Spain. Impatient at the delay he soon afterwards wrote to another of his Spanish friends, Bonifil, requesting from him a copy of the same book.[8]

---

[1]- Lattin, *The Letters*, p. 9.
[2]- Letters 160, 161.
[3]- Letter 15.
[4]- Letter 51.
[5]-The letters that provide the testimony on the cultural exchange and translation movement are: Gerbert d'Aurillac, Epistola 17, 25, 24, in: *Lettres de Gerbert (983- 997),* ed. Julien Havet (Paris, Bibliothèque de l'École des chartes, 1889), pp. 13-14, 19-20, 19. These letters are equal to the letters 25, 33, 32, in: *The Letters of Gerbert* of H. P. Lattin.
[6] - Letter 25.
[7]- Lattin, *The Letters*, not. 6, p. 64. The statment came as follow: "Abbot Guarin left with you a book entitled *De multiplicatione et divisione numerorum* (multiplication and division of numbers) written by Joseph the Spaniard, and we both would like a copy of it…". Letter 25.
[8]-"Joseph the Wise edited certain sentences De *multiplicatione et divisione numerorum* (multiplication and division of numbers), and my father Adalbero, archbishop of Rheims, wishes to have these through your efforts". Letter 33.

The third letter was written to Lobet of Barcelona (d. 997), a nickname of Seniofred (Shnīr شنير)[1] the prominent and wealthy archdeacon of the cathedral of Barcelona. In this letter Gerbert requested a book *De Astrologia* translated by the recipient, "Although I have no claim on you, still your renown and your courtesy lead me to trust in you, in fact to presume on you. And, so, I am asking you to send me the book *De Astrologia*, translated by you, and if you desire anything from me in return, ask for it unhesitatingly".[2] This statement may refer to an Arabic translation done by Lobet for a book dealing with astrology. It can be also noted as significant testimony for a presumed Latin-Arabic translation movement started at Catalonia at that time. Therefore, some scholars rely on this translation movement as a starting point to identify Arabic writings influences on Gerbert's works, especially the majority of those texts translated into Latin were on mathematic and astronomy.[3]

Richer de St. Rémy, a historian and devoted pupil of Gerbert, indicated that his teacher travelled with Count Borrell of Urgel, the ruler of more than half of Old Catalonia (966- 993), to be under supervision of Bishop Hatto of Vic to study mathematics. Richer added: "whether in Spain there were men proficient in arts".[4] This statement implies that Catalonian monasteries had outstanding teachers in liberal arts and otherwise had mathematical works that did not exist in Gaul at that time. This motivated Abbot Gerald of Aurillac, according to Richer, to ask Borrell to take Gerbert with him in his return.[5] However, two modern scholars, Karl Gümpel and Marco Zuccato, studied the archives of the libraries of the monastery of Vic and the monastery of Ripoll (Santa Maria de Rippol), and they draw the following conclusions. First, the library of the Cathedral of Vic did not have classical works related to Seven Liberal Arts (Trivium and Quadrivium), the library mainly included books needed for ecclesiastical offices.[6] Gümpel

---

[1] - This Arabic name mentioned in Arabic sources.

[2] - "Licet apud te nulla mea sint merita, nobilitas tamen ac affabilitas tua me adducit in te confedere, de te praesumere. Itaque librum de astrologia translatum a te mihi petenti dirige, et si quid mei voles in recompensationem, indubitate repose". Letter 24 in Havet, Lettre de Gerbert; Letter 32 in Lattin, The Letters of Gerbert.

[3] - Saenger, P., "Separated Script at Reims and Fleury at Time of Gerbert and Abbo" in *Le livre et l'histoire, Études offertes en l' honneur de professeur Henri- Jean Martin*, Geneva, 1997, p. 4; Darlington, Gerbert, p. 461; Chandler, C. J., *Charlemagne's Last March: The Political Culture of Carolingian Catalonia*, 778-987, PhD. thesis, Purdue University, 2003, pp. 169- 174.

[4] - Richer, *II*, p. 51.

[5] - Picavet, F., *Gerbert un pape philosophe: d'après l'histoire et d'après la légende*, Paris, 1897, pp. 30-31; Riché, P., Gerbert d'Aurillac: le pape de l'an mille, Paris, 1987, pp. 25-27.

[6] - Gümpel, K. W., "Gerbert von Aurillac und Spanien", *Archivum Bobiense* XXIV (2002), pp. 79-96, p. 85; Zuccato, M., "Gerbert of Aurillac and a Tenth-Century Jewish Channel for the Transmission of Arabic Science to the West", *Speculum* 80 (2005), pp. 742-763*, p. 748.

adds, "If there were books in the Quadrivium, they could have been kept by Hatto himself elsewhere."[1] Second, regarding the library of Santa Maria de Ripoll, its archives contained works of many classical authors. However, Zuccato doubts that these lists were recorded in the tenth century; they are, apparently, belonging to the lists of the eleventh century. Moreover, as noted by Zuccato "none of the astronomical texts included in the tenth-century manuscripts can explain Gerbert's astronomical teaching or his mastery of the mathematical sciences".[2] One the other hand, another vision is embraced by some French scholars[3], who assert that Gerbert had been studied mathematical and classical astronomy deeply under Hatto's tutorship. Pierre Riché indicates, in Gerbert's case that: "We can say that the Monastery of Rippol and other centers were able to offer the possibility of scientific studies".[4]

By the mid tenth century onwards, diplomatic relations between Umayyad Caliphate of Córdoba and its Christian neighbors of Europe emerged with a new period of political and cultural exchange. Emperor Otto I sent John of Gorze to the palace of Umayyad Córdoba in 953, and he remained for three years in Spain. In a correspondence, 'Abd al-Rahman III al-Nasir sent the Mozarabic messenger and scholar Recemundo to the German king in return.[5] The relationship with Catalonia had increasingly taken on a marked cultural dimension. According to al-Masʿūdī, Gotmar (عرماز)[6] had presented in 940 to al-Hakam II, son of Caliph 'Abd al-Rahman III a copy of The Chronicle of the Frankish Kings during his embassy to Córdoba.[7] It is possible to propose that Gotmar carried Arabic works in mathematics and astronomy with him on his way back to Catalonia. Of course, these scientific relations between the bishops of

---

[1]- Gümpel, *Gerbert,* p. 84.

[2]- Zuccato, *Gerbert*, pp. 748- 750.

[3]-See for example; Gainet, M., "Le Voyage de Gerbert en Espagne," Travatix de I'Acade'mic de Reims, XV (I85I), pp. 218-32; Picavet, F., *Gerbert un pape philosophe*, pp. 30-31; Leflon, J., *Gerbert: humenisme et chrètiené au Xe siécle*, Wandrille, 1946, pp. 22-23; Riché, *Gerbert*, pp. 25- 26.

[4]- Riché, *Gerbert*, pp. 25- 26.

[5]- For more details, see; Vita Johannis Gorziensis, *MGH, SS.* IV, ch. Cxxi; and also, the French translation; Jean, abbé de Saint-Arnoul, *La vie de Jean, abbé de Gorze. Présentée*, trad. Michel Parisse, Paris, 1999. According to Thompson the bishop of Gorze carried with him Arabic writings into Lorraine; "The Introduction of Arabic Science into Lorraine in the Tenth Century", *Isis* 12 (1929), pp. 184-193, pp. 185-186. Recemundo himself was a scientist, he composed a treatise entitled "calendar of Cordoba". *Le Calendrier de Cordoue de l'année 961*, Texte arabe et ancienne latine, R. Dozy, Leyde, 1873.

[6]- Became a bishop of Girona in 944 AD. He visited Córdoba in 940 AD as an envoy of the Count Sunifred II of Sardinia (died between 965 and 968 AD). Gümpel, *Gerbert*, p. 84.

[7] al-Masʿūdī, Murūj al-dhahab wa ma'adin al-jawhar, ed. & comment, Qasim Wahab, Manshurat Wazarat al-Thaqafa, Damascus, 1988, vol. 1, p. 197.

Catalonia and al-Hakam II had been deep when the latter took over the Caliphate in Andalusia. It's probably, as stated by Karl Gümpel and Marco Zuccato, that Hatto and Miró Bonifill were members of the delegation which accompanied him.[1] This delegation founded a period of good cultural relationships between Catalonia and al-Andalus, not surprisingly that we notice many other delegations from Catalonia to Córdoba. According to Ibn Ḥayyān, in (360-364 AH / 970-974 AD) delegates were sent by Count Borrell (بريل) to the Caliph of Al-Andalus, and in (360 AH / July 971 AD) Miró Bonifill (بون فلي) head another embassy to Córdoba carrying a letter from the Count, to "confirm the peace and recognition of submission".[2] Apparently, Contrary to the commonly held view, Catalonia was very close to becoming an Andalusī client state.[3] Zuccato uses this account in order to, first, identify the real character of "Joseph Sapiens" as to be Abū Yusuf Hasday ben Ishaq ben Shapruit, head of the Jewish community in al-Andalus, by making connections and finding similarities between him and the biblical prophet Joseph.[4] Second, to emphasize the great role of the Jewish nasi (Iben Shapruit), as a mediator and translator of astronomical works of the North African astronomer Dunash Bn Tamim Al-qarawi. [5] According to Zuccato and Flavio Nuvolone, there is no account in the Latin sources before Richer's one to the "horizon armilla"; a circle drawn by the sun movement from the east to the west, in the Latin astronomical manuscripts before Gerbert. Zuccato adds; "this is the first Latin description of a demonstrational spherical instrument that is equipped with a "horizon armilla". Nuvolone points out that Gerbert's theory of the movement of stars and the method of assigning the North and the South Star, Polaris stems from Islamic astronomy.[6]

---

[1] - Gümpel, *Gerbert*, p. 84; Zuccato, *Gerbert*, p. 752.

[2] - Ibn Ḥayyān, *al-Muqtabas fī akhbār al-Andalus, ed. 'Abd al-Raḥmān 'Alī Ḥajjī, Dār al-Thaqāfah, Bayrūt, 1983*, pp. 22, 168.

[3] - Samer Sayed Qandil, *Gerbert "Pope Sylvester II" and his Role in Political and Cultural Life in Europe 945- 1003 AD*, MA thesis, Faculty of Arts, Ain Shams University, Cairo, 2009; Zuccato, M., "Nobisque potius obaedire delegistis quam Hismahelitis: The Political Predicament of Tenth-century Catalonia". *Journal of medieval Iberian studies* 11 (2019), pp. 1-18.

[4] - He argues that the similarities between Abu Yusuf Hasddy ben Ishaq ben Shaprut and the prophet are striking: First, they were both Jews who achieved a primary political role (in Egypt and al-Andalus). Second, they both became head advisers and right-hand men of kings (Pharaoh and the caliph). Third, they were both renowned for their wisdom and knowledge. Zuccato, *Gerbert*, p. 754.

[5] - A Jewish physician, astronomer and mathematician who lived in Qairawan in the third quarter of the tenth century / 4th AH. He served the Fatimid caliphs during their stay in Morocco. Zuccato, *Gerbert*, p. 755.

[6] - Nuvolone, F., "Infunze Islamiche nell´ astronomia di Gerberto?", *Archivum Bobiense* XXVI (2004), pp. 494- 495; Zuccato, *Gerbert*, pp. 757- 758.

One the other hand, there is evidence in different contemporary sources suggesting that Gerbert himself visited Córdoba; Adémar de Chabannes (d. 1030) asserts that Gerbert visited Córdoba seeking for wisdom, "for the sake of wisdom traversing first in France, then Córdoba".[1] Then William of Malmesbury, the English historian of the 12th century, narrated a long legendary story about the trip of Gerbert to Spain.[2] It is possible, however, to suggest that these active relations between Catalonia and Umayyad caliphate of Córdoba may have encouraged Gerbert to visit the capital of al-Andalus which had had a great reputation for its steams of seven liberal arts.[3] Umayyad Córdoba capital of Muslim Spain was noted as one of the most interesting cities in science in the world at that time. Furthermore, the Umayyad ruler al-Hakam II was recognized as scientist (Ālim عالم) and great collector of books; his library, according to Islamic sources, was one of world's richest libraries with many books in different fields of knowledge.[4] In the same context, mathematical science emerged in Andalusia at that time and we can notice many famous mathematicians, including Yahya ibn Yahya, known as Ibn al-Sumayna (d. 315 AH / 927 AD), who was a master of arithmetic and stars, as well as Mohammed bin Ismail known as the wise (Ḥakīm الحكيم) d. 330 AH / 943 AD).[5] The scientific movement in Andalusia, during al-Hakam reign, reached its peak stages of prosperity in the mathematical and astronomical sciences, and gained more enthusiasm with the participation of the Caliph himself.[6]

---

[1]- "Causa sophiae primo Franciam deinde Cordobam lustrans"; Adémar de Chabannes, *Chronique*, en *L'an mille,* ed. et trad. Edmond Pognon, Paris, 1947, p. 173.

[2]- William wrote his work at the beggining of the twelfth century, one hundred years after Gerbert's death. It is possible that he acquired his information from some now lost German sources, but we have no evidence for this. William himself says that he took his information from the folktales that were widely spread in his time. William of Malmesbury, *The Kings before the Norman Conquest,* trans. Joseph Stephenson, London, 1989, pp. 150-152.

[3]- This description was given by Hrothswitha of Gandersheim (935- 1001) in a poem dedicated to Pelagius the Cordobain martyr. The poem entitled "The Sufferings of Pelagius the Most Precious Martyr, who in our Times, at Cordova, was Crowned with Martyrdom". See; Hrotsvithae Operae, in *Scriptores Rerum Germanicorum*, ed. Paulus de Winterfeld, Berlin, 1902, p. 52.

[4]- Ibn Ḥazm, *Jamharat ansāb al-'Arab,* Dār al-Maʿārif, Al-Qahirah, 1962, p. 92; Ibn. Khaldun, *al-'Ibar wa-Diwan al-Mubtada' wa-al-Khabar,* Commentary/ Khalil Shehadeh, Preface/ Suhail Zoukar, Dar Al Fikr, Beirut, 2000, vol. 4, pp. 187-188; al- Maqarrī, *nafḥ al-ṭīb, min ghuṣn al-Andalus al-raṭīb,* ed./ Ihsan Abbas, Dar Sader, Beirut, 1988, vol. 1, pp. 385-386; Ibn l-Khaṭīb, *Aʿmāl al-aʿlām,* ed. Evariste Lévi-Provençal, Dar al-Makshouf, 2 ed. Beirut, 1965, pp. 42-43.

[5]- Ṣāʿid al-Andalusī, *Ṭabaqāt al-'Umam,* p. 87.

[6]-Samer S. Qandil, *Gerbert*, p. 160.

[26]

This evidence could support the assumption of Arabic writings influence on Gerbert's works. Oscar Darlington argues that; Gerbert might easily have visited Cordova, since diplomatic relations between Cordova and Christian European rulers were robust. He adds: "Obviously Gerbert's mathematical knowledge was of a different order from anything known at the time in Christendom".[1] Menso Folkerts studies names and forms of numbers in Gerbert's "abacus" Liber Abaci, and ended in his analysis that the method of indication of the numbers in the abacus, which had been prepared by Gerbert and reported by Richer, in correspondence with the manuscript named Vigilanus, the oldest manuscript containing Hindi-Arabic numbers, which has been copied in the monastery of Albelda in Austria in the year 976 AD. This manuscript originated in northern Spain, and Gerbert may have been accessed during his visit to Spain.[2] The true situation is probably that Gerbert decided to use Western forms of the Arabic numerals, as we see them in the Vigila manuscript, to mark the counters of a particular kind of abacus, which was attributed to him.[3] Folkerts adds that the method of Roman numerals using the Greek characters to indicate the value of the number, have been replaced by Gerbert's signs method as described in the manuscripts of the 11th century, which show the impact of the Hindu-Arabic numerals system.[4]

Cerates	Calcus	Siliqua	Quimas	Arbis	Ormis	Andras	Igin
ᴢ	ᴏ—	ᴄᴏ L A	ᴄʃ	ʃᴄ	ᴤ	ᴏ	1
oboli di-midium	O B L	ordei	Elentis	Sepos	Temenias	Zenis	Calctis
OBL ʃ	oboli pars	III	ᴄᴏ	⬤	8	ʌ	ᴘ
siliquæ	P	2 �__? L,	ᴛ				
ᴄᴏ L A	IIII	ᴛ					
una et se-mis	U	III					
	P						
ɪ ʃ	XXXII	O B L					
ᴖ .	ᴖ						
P	P	ᴄᴏ ɪ Ѱ ɪ | siliqua					
xᴏvɪ	cxcɪɪ	xxɪɪ pars solidi					
		ɪɪɪ pars oboli					
		constans ɪɪɪ granis or-dei — p. cxʟɪɪɪɪ					

[1]- Darlington, O., "Gerbert the Teacher", pp. 461- 462.
[2]- Folkerts, M., "The Names and Forms of Numerals on the Abacus in the Gerbert Tradition", *Archivum Bobiense* IV (2001), pp. 246, 248.
[3]- Burnett CH., "The Semantics of Indian Numerals in Arabic, Greek and Latin", *Journal of Indian Philosoph,* vol. 34, no. 1/2, (April, 2006), pp. 15-30, p. 17.
[4]- That century witnessed the spread of a large number of arithmetic manuscripts, about thirty-five manuscripts, two of them; Bernelinus, and the second known as Geometria II were written in the tenth century in Lorraine and later attributed to Boethius. Folkerts, "The Names and Forms of Numerals", pp. 246, 248.
[5] - Liber Abaci, in *Oeuvres de Gerbert, pape sous le nom de Sylvester II*, ed. et intro. A. Olleris, Paris, 1867., pp. 311- 40, p. 348.

According to Richer, Gerbert's abacus was different from the old Roman abacus; the old Roman method was confused, while Gerbert's method is clear and more practical.[1] This method described by Richer is familiar to the Andalusian "dust method", using wooden board and metal pen. Furthermore, the names for the Hindu-Arabic numerals used in the tracts on the Gerbert's abacus originated from Germanic languages: 1) Igin, (2) Andras, (3) Ormis, (6) Caletis, (7) Zenis, (9) Celentis, and the rest of them: (4) Arbas (٥) أربعة،Quimas (٨) خمسة،Temenias ثمانية originated from Semitic languages, more decisively from Arabic.[2] But, the wide use of those numbers in arithmetic education was not common until Adelard of Bath (1080 - 1152 AD), learned about the work of Gerbert during his visit to France. Finally, calculations using Arabic numerals in the West was established after the Latin translation of al-Khwarizmi works was accomplished by Robert of Chester, and Gerard de Cremona in the twelfth century, and Leonardo da Pisa in the thirteenth century.

apices et colonnes de l'abaque de Gerbert, manuscrit latin du X ᵉᵐᵉ siècle

[1]- Richer, *II*, p. 63.

[2]- Buddhue, J. D., "The Origin of our Numerals", *The Scientific Monthly* 52 (1941), pp. 256- 267; Ball, W. R., *A Short History of Mathematics*, London, 1901, p. 143; L' Huillier, H., " Regards sur la formation progressive d' une langue pour les mathématique dans l' occident médiéval", en *Comprendre et maîtriser la nature au moyen age*, Genève, 1994, pp. 541- 555, p. 544; Allard, A., " L' influnce des mathématiques arabes dans l' occident médiéval", en *Histore des sciences arabes*, ed. Roshdi Rashed et Régis Morelon, tom. 2. mathématiques et Physique, Paris, 1997, pp. 199- 229, p. 200.

[3] - Folkerts, *The Names and Forms of Numerals*, p. 257.