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Arabic (Islamized) Medicine and its Culture in Early French Renaissance

'Kedokteran Arab' (yang ter-islamisasi-kan) dan Budayanya dalam Renaisans Awal Prancis

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Abstract

This paper explores the impact of Islamised Arabic medicine on early Renaissance France, particularly in the south. Following Muslim conquests in Western Europe, including Sardinia, Corsica, and Al-Andalus, their presence reached Narbonne in 720 CE and faced a turning point at the Battle of Tours in 732 CE. Despite military defeat, Muslim intellectual influence endured, especially in Montpellier, where exiled scholars helped shape a major centre of medical education. The University of Montpellier became crucial in transmitting Arabic medical knowledge to Europe. This study contends that medicine was a vital, yet often overlooked, channel for Islamic knowledge to shape early French Renaissance thought.

Keywords Arabic Medicine; Islamic Civilization; Cultural Transmission; Early French Renaissance; Islamized Medicine

Abstract

Tulisan ini mengkaji pengaruh kedokteran Arab yang terislamisasi terhadap Prancis pada masa awal Renaisans, terutama di wilayah selatan. Setelah penaklukan Muslim di Sardinia, Korsika, dan Al-Andalus, kehadiran mereka mencapai Narbonne pada tahun 720 M dan mengalami titik balik dalam Pertempuran Tours tahun 732 M. Meskipun mengalami kekalahan militer, pengaruh intelektual Islam tetap bertahan, terutama di Montpellier, tempat para sarjana pengungsi turut membentuk pusat pendidikan kedokteran terkemuka. Universitas Montpellier berperan penting dalam mentransmisikan ilmu kedokteran Arab ke Eropa. Kajian ini menegaskan bahwa ilmu kedokteran menjadi jalur penting —meskipun sering terabaikan—dalam penyebaran pengetahuan Islam yang membentuk fondasi Renaisans Prancis

Keywords Kedokteran Arab; Peradaban Islam; Transmisi Budaya; Renaisans Awal Prancis; Kedokteran yang Terislamisas

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Introduction:

The Muslims harboured ambitions of conquering the southern shores of France from the moment they established their foothold in the West. By the early eighth century AD In the year 712 AD, the Muslims set their sights on the conquest of Sardinia, swiftly followed by the capture of Corsica. With their successful incursion into Al-Andalus, the next logical progression in their expansionist ambitions was the subjugation of Gaul, that is, France. They seized Narbonne in 720 AD and subsequently advanced further into Burgundy[1]

Subsequently, in the year 732 AD, a substantial expedition was mounted by the Muslims of Al-Andalus, led by the notable figure of Abd al-Rahman al-Ghafqi, with the intent to conquer the southern regions of Gaul, or France. The Muslims traversed the formidable Pyrenees, laying claim to Bordeaux, and continued their relentless advance northward until they encountered the resolute resistance of Charles Martel at the Battle of Tours, known in the annals of history as the Battle of Poitiers.[2] This pivotal confrontation not only culminated in the death of Abd al-Rahman but also marked a decisive turning point, as his forces faltered and withdrew. In the wake of his triumph, Charles Martel pursued a strategy of retribution by systematically dismantling Islamic settlements, including the notable city of Magalon on the southern coast of France, in the year 737 AD, Consequently, a substantial number of refugees fled from the ravaged regions, seeking refuge in the vicinity of Montpellier The majority of these refugees were Muslims, originating from Arab lineage or, at the very least, possessing a familiarity with the Arabic language. In contrast, the local populace in the surrounding regions had maintained contact with the Muslims and their rich civilisation in Al-

[1] Gavin Murray-Miller, "Mediterranean imaginaries: Europe, Empire, and Islam in the nineteenth century." *Mediterranean Europe* (s). Routledge, 2022. 56-75.

[2] Paul Aitchison, "The Battle of Tours Reconsidered." *Montview Journal of Research & Scholarship* 9, no. 1 (2022): 4.

Andalus It is to this very period that researchers attribute the emergence of the city of Montpellier, which would later evolve into a prominent centre for a renowned university, celebrated for its contributions to the field of medicine. This academic institution drew its medical knowledge from the rich heritage of Islamic civilisation, reflecting the profound impact that Muslim scholars had on the intellectual landscape of the time. Moreover, the close connections between southern France and Al-Andalus played a pivotal role in the city's formative development.[3]

Despite the significant blow dealt by Charles Martel in 732 AD, the migration of Muslims to southern France did not cease. Rather, they gradually began to reclaim some of their former strongholds, establishing a presence that would endure for two centuries. Notably, in 737 AD, the governor of Marseille ceded the province of Provence to them, marking a crucial moment of resurgence.[4] As soon as Charles departed this world in the year 741, the incursions of the Muslims into southern France were renewed. This time, however, these Islamic forays took on a distinctly maritime character, coupled with a broad and ambitious inclination towards settlement.

With the arrival of Prince Abd al-Rahman al-Dakhil of the Umayyad dynasty in al-Andalus and his conquest of Córdoba in the year 756, a new chapter commenced in the narrative of Muslim incursions along the southern shores of France, marking the beginning of a period of settlement in these land.[5]

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[3] Abattouy, Mohammed. "The Arabic-Latin intercultural transmission of scientific knowledge in pre-modern Europe: Historical context and case studies." *The Role of the Arab-Islamic World in the Rise of the West: Implications for Contemporary Trans-Cultural Relations*. London: Palgrave Macmillan UK, 2012. 167-219., Bsoul, Labeeb Ahmed, and Labeeb Ahmed Bsoul. "The Toledo School of Translation." *Translation Movement and Acculturation in the Medieval Islamic World* (2019): 141-180.

[4] Abd al-Hadi Nasri, The Role of Andalusia in the Spread of Arabic Science to Europe, p. 286

[5] Makki, Mahmoud. "The political history of al-Andalus (92/711-897/1492)." *The Legacy of Muslim Spain*. Brill, 1992. 3-87.

In the closing years of the eighth century, Prince Abd al-Rahman devoted himself to constructing a formidable fleet, anchoring it in fortified bases along the Andalusian coast at ports like Tarragona, Tortosa, Seville, Almeria, and other key harbours facing France across the Mediterranean. Once confident in his security against Abbasid threats, Abd al-Rahman directed this naval power towards the conquest of Mallorca, Menorca, Ibiza, and other islands of the Balearic archipelago. His maritime strategy underscored a vision not merely of territorial expansion but of cultivating a lasting Arab-Islamic presence across the Mediterranean, linking distant shores in a network of cultural and intellectual exchange.[6]

Following the death of Emperor Charlemagne in 814 AD, the wave of Islamic expansion in southern France gained renewed momentum. Muslim forces advanced through the Rhône delta, reaching as far as Arles and its surroundings. By the mid-ninth century, in 848 AD, they extended their reach to Marseille and steadily expanded along the southern French coast, nearing Genoa. Their foothold grew stronger, and by 889 AD, they had seized Arles and entered the region of Saint-Tropez, capturing new territories in Provence. By the close of the ninth century, they had established formidable bastions in southern France, the most significant being the fortress of Fraxinatum in Provence near Arles. This stronghold served as a strategic base for exerting influence over neighbouring lands, bringing Marseille and the Alpine passes between France and Italy under their sway. Their presence in Provence endured until the end of the tenth century.

This swift overview underscores a fundamental truth: Muslims had a firm footing in southern France as the first light of the European Renaissance began to dawn. The Islamic expansion, historically marked by its constructive

[6] Norma, Bouchard, Norma, and Valerio Ferme. "The Return to the Mediterranean in Contemporary Western Thought: Old Contexts, New Approaches." In *Italy and the Mediterranean: Words, Sounds, and Images of the Post-Cold War Era*, pp. 13-42. New York: Palgrave Macmillan US, 2013.

and civilising spirit, brought forth settlements in southern France that became vibrant centres of Islamic civilisation, serving as forward outposts of Andalusian culture. By the tenth century, a prominent Islamic community was established in the city of Nice, then under the Kingdom of Arles, actively contributing to cultural life through diverse endeavours. While the light of Arab influence shone brightly over Andalusia in the eighth century, France remained under the rule of monarchs known as the *rois fainéants*, the "do-nothing kings."[7]

While Muslim political influence gradually receded from southern France towards the end of the tenth century—owing largely to the weakening of the Cordoban heartland—their cultural impact, as witnessed in Sicily and Andalusia, endured with authenticity and vigour. Within this environment and atmosphere, the University of Montpellier emerged, bearing the torch of Islamic medicine whose illumination would extend to the University of Paris and beyond, reaching universities across western and central Europe at the dawn of the Renaissance[8].

The University of Montpellier

The city of Montpellier, sometimes referred to as Montpelhièr, is situated in the south of France, just 10 kilometres from the shores of the Mediterranean Sea. This coastal proximity has long influenced its role as a hub of intellectual and cultural exchange, placing it at the intersection of Mediterranean and European currents, which would shape its future as a seat of learning and the sciences.

The origins of the Faculty of Medicine at the University of Montpellier are shrouded in mystery. Whether this esteemed faculty branched from the

[7] Ira M.Lapidus, "The evolution of Muslim urban society." *Comparative Studies in Society and History* 15, no. 1 (1973): 21-50.

[8] Haskell D.Isaacs, "Medicine, science and technology: Islamic reactions to Western learning." *Culture, Theory and Critique* 31, no. 1 (1987): 43-57.

University of Salerno in southern Italy or emerged under influences from Andalusia, the outcome remains consistent in our inquiry: in both instances, the guiding force was unmistakably Islamic. The University of Montpellier began to gain renown in the eleventh century, attracting scholars from diverse regions. The ruling family's commitment to tolerance and justice fostered an environment where intellectual pursuits could flourish, allowing scholars to establish the foundations of one of Europe's earliest distinguished scientific institutions. [9]

By the twelfth century, the practice of medicine in Montpellier had become a shared endeavour, with monks in monasteries and Muslim physicians alike contributing to the medical knowledge and practices of the region. This convergence of diverse medical traditions underscored Montpellier's role as a bridge between cultures, where religious and intellectual communities coalesced in pursuit of healing and scientific advancement[10]. Those who chose the city as their abode, along with some of the Jewish populace, particularly after many of them fled from Spain to Montpellier following the Almohades' ascendance to power in the year 1147 CE.[11]

The earliest reference to the Faculty of Medicine at the University of Montpellier found in contemporary sources dates back to the first half of the twelfth century, specifically in the year 1137 CE, when we learn that Adalbert, who would later become the Archbishop of Mainz, enrolled in that institution after having acquired a measure of literary studies in Paris.[12]

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[9] Faraj Muḥammad al-Hūnī, *Tārīkh al-Ṭibb fī al-Ḥaḍārah al-'Arabīyah al-Islāmīyah*, ṣ. 282.

[10] Giuseppe.Bianco, "Defending Spirit, Spiritualizing Matter: Nineteenth-Century French Academic Philosophy and The Medical Sciences." *History and Theory* 62, no. 3 (2023): 462-476.

[11] Allen Fromherz. "The Making of the Maghrib: 1147–1500." In *Oxford Research Encyclopedia of African History*. 2022.

[12] Robert Darnton. "Reading, writing, and publishing in eighteenth-century France: A case study in the sociology of literature." *Daedalus* (1971): 214-256.

Chaos reigned in the practice of medicine; there existed no system whatsoever, allowing anyone to establish a school for practice and education. In the year 1220 CE, Cardinal Conrad, the representative of Pope Honorius III, sought to impose order upon this disarray. He established the Montpellier School of Medicine, organising it in a manner akin to the Islamic medical schools. Henceforth, those aspiring to practise medicine were required to obtain a license to practise, bestowed by a panel of judges composed of esteemed physicians, presided over by a religious authority.

In the thirteenth century, two notable works were translated in Montpellier:

1. The Book of Foods by Ibn Zuhr: Translated by Prophatius and Bernard of Honofridi. Profatius and Bernardus Honofredi. [13]
2. The Treatise on Medicine by Ibn Sina, accompanied by the commentary of Ibn Zuhr, was translated by Armenghadus Blasius.
3. Armengaud Blasius Cantica cum commento.[14]

At that time, a curriculum was devised that encompassed sixteen volumes, of which thirteen pertained to the field of Islamic medicine. These esteemed texts are as follows:

1. The Antidotarium
2. The Canon of Avicenna
3. The Continent
4. Al-Mansouri and The Aphorisms of Rhazes
5. Treatise about Pestilence

[13]Daniel G König. "Sociolinguistic Infrastructures." *Connected Stories: Contacts, Traditions and Transmissions in Premodern Mediterranean Islam* 44 (2022): 11.

[14] Elisabeth Leedham-Green. "A Catalogue of Caius College Library, 1569." *Transactions of the Cambridge Bibliographical Society* 8, no. 1 (1981): 29-41.

6. The guide of Doctors
7. The spring water
8. The book of fevers by Isaac
9. The Isagoge of Honein
10. The translations of Constantine (Ibn Al Abbas Mesue and Ibn Al Jazzar)
11. The Techne of Galen
12. De Morbo et Accidenti of Galen
13. The Aphorisms of Hippocrates

The flourishing of the University of Montpellier was both rapid and steady, such that by the close of the thirteenth century, it had attained widespread renown across Europe, particularly in the realm of medicine.. There is no clearer testament to the profound influence of Islamic medicine on the Faculty of Medicine at the University of Montpellier than the famous decree issued by... In the early years of the fourteenth century, specifically in the year 1309, Pope Clement V, upon the counsel and recommendation of the esteemed scholars of the University of Montpellier, foremost among them Arnald of Villanova, instituted a decree stipulating the qualifications requisite for the practice of medicine. This mandate required prospective physicians to undertake examinations in specific texts, paramount among which were the works of Avicenna, Rhazes, Hunayn ibn Ishaq, and Constantine the African, alongside other notable figures. Furthermore, this edict delineated a select

number of texts that the aspiring medical student was to study during the initial phase of their education[15].

Among these works is a treatise on fevers by Hunayn ibn Ishaq and a work on the mitigation of harmful foods by John ibn Masawayh. The University of Montpellier played a pivotal role in the transmission of Arabic sciences, serving as a vital outpost for the Arab-Islamic culture within the Iberian Peninsula. In the year 1304, the treatise on laxatives by Ibn Rushd was translated there from a Hebrew version. By 1340, the curriculum at the Faculty of Medicine at the University of Montpellier was firmly established, with each subject assigned to a specialised professor. Notably, among these subjects was the first book of "The Canon" by Ibn Sina, alongside another course encompassing the fourth book of the same seminal work. It is noted by Delacée Oléry in his treatise "Arab Thought and Its Place in History" that the students of Montpellier continued to rely on "The Canon" well into the seventeenth century..[16]

Islamic medicine occupied a prominent position within the university's curriculum throughout the thirteenth and fourteenth centuries. During this period, it became not only a cornerstone of scholarly inquiry but also a beacon of intellectual advancement, reflecting the rich tapestry of knowledge cultivated by scholars of the Islamic Golden Age[17]. The teachings and practices of Islamic medicine, with their intricate synthesis of theory and empirical observation, garnered respect and attention, influencing both contemporary thought and future medical practices across Europe and beyond. The professors elucidate the teachings of Ibn Among the illustrious figures revered in this intellectual tradition were Ibn Sina, Al-Razi, and Al-Zahrawi. Galen was

[15] De Divitiis, Enrico, Cappabianca Paolo , and Oreste De Divitiis. "The “schola medica salernitana”: the forerunner of the modern university medical schools." *Neurosurgery* 55, no. 4 (2004): 722-745.

[16] عبد الهادي نصري، دور الأندلس في انتشار العلوم العربية إلى أوروبا، صفحة 294

[17] Hichem Kadri. "The Enduring Significance of Islamic Philosophy: Navigating Traditions and Cultivating Wisdom."

occasionally referenced, yet most other Greek physicians remained obscure in this discourse. Noteworthy among the esteemed professors were Arnau de Villanova, Armengol de Plaçens, Pierre de Capestan, and Jean de Hohenheim, collectively known as the "Arabists." This designation arose from their focused study of Arab physicians, whose works illuminated the path of medical knowledge, standing as testament to the enduring influence of Arabic scholarship in the realm of medicine.

ويعطنا كتاب "الدروس والمفاتيح "The Book of Lessons and Keys" offers a precise glimpse into the curriculum of the University of Montpellier from the year 1489 to 1500. The subsequent list delineates the number of texts taught annually at the university, illuminating the esteemed position held by Ibn Sina in comparison to Galen and Hippocrates during this period.[18] This hierarchy of scholarly significance underscores not only the reverence accorded to Ibn Sina's contributions but also the pivotal role that his works played in shaping medical education and practice in an era marked by a profound engagement with classical knowledge.

العام الميلادي	أبقراط	جالينوس	ابن سينا
1489	1	2	4
1490	0	0	3
1491	0	2	4
1492	1	0	4
1493	2	3	6
1494	1	2	5

[18]Dimitri Gutas. "Avicenna and after: the development of paraphilosophy. A history of science approach." *Islamic Philosophy from the 12th to the 14th Century* (2018): 19-71.

1495	1	4	5
1496	1	2	4
1497	0	2	6
1498	1	2	5
1499	1	1	4
1500	1	4	3

The number of texts studied by the three physicians at the University of Montpellier reveals a compelling narrative. From 1489 to 1500, the works of Ibn Sina were preeminent, commanding a substantial share of the curriculum. Indeed, in certain years, they constituted the sole subject of study, as exemplified in 1490. This enumeration further illustrates that Hippocrates did not possess the significance that the West often endeavours to ascribe to him. Such insights compel us to reconsider the dynamics of medical thought during this era, where the legacy of Ibn Sina overshadowed that of his predecessors, reflecting the profound impact of Arabic scholarship on the intellectual landscape of the time.[19]

The professors offered commentary on Ibn Sina and elucidated the works of Al-Razi and Maimonides, while Galen was referenced intermittently, and Hippocrates was seldom revisited. Other Greek physicians remained largely unknown. Among the renowned instructors at the School of Montpellier were Arnaud de Villeneuve, Ermengaud Blein, Pierre de Capestang, and Jean Jacme, collectively referred to as the "Arabic Scholars" due to their exclusive focus on teaching Arabic medicine. Islamic medicine maintained a significant position within the educational landscape until the mid-sixteenth century, and the prevalence of "Arabist" scholars among the faculty attests to the enduring influence of this rich intellectual tradition. Even

[19] Sabry Hafez. "Edward Said's Intellectual Legacy in the Arab World." *Journal of Palestine Studies* 33, no. 3 (2004): 76-90.

after the year 1500, Islamic medicine continued to be taught at the University of Montpellier, retaining its advocates.[20] In the work of Austruc, we find one professor, René Moreau, vehemently criticising another, Jacobus Sylvius, for his exclusive emphasis on Islamic medicine while neglecting Hippocrates and Galen. Moreau further reproaches the University of Montpellier for its apparent preference for Islamic medicine. In his commentary within "Astroc," he states: "It is true that Montpellier has long taught Islamic medicine; however, it did not possess the luxury of choice, much like other European universities." This exchange highlights the ongoing tensions within the academic discourse of the time, reflecting the broader cultural currents that influenced the evolution of medical thought in Europe. Henry de Mondeville gained renown as a distinguished surgeon within this institution, authoring a significant work entitled "Anatomy and Surgery," from which he drew extensively upon Arabic sources. Similarly, the name of Guy de Chauliac shone brightly at the School of Montpellier. His seminal text, "The Great Surgery," composed in 1363, achieved considerable fame and secured a prominent position in the annals of medical literature.[21] Both figures exemplify the rich interweaving of Arabic influence within the fabric of European medical thought, underscoring the importance of cross-cultural exchanges in the evolution of surgical practice during this period. In the medical circles of Europe until the seventeenth century, this work became a foundational text for instruction in universities, enduring in prominence until the eighteenth century. It stood at the forefront of medical literature in its time, with the author openly acknowledging the Arab influence throughout his pages. Almost every page references Arab physicians, particularly the works of Abu al-Qasim al-Zahrawi. The French surgeon Jacques de Léchamp (1513–1588) benefited immensely from these insights. However, the glory of this school waned with

[20] Maud Kozodoy. "The Jewish physician in medieval Iberia." *The Jew in Medieval Iberia (ed. Jonathan Ray), Academic Studies Press, Boston* (2010): 102-137.

[21] Danielle Jacquart. "Theory, everyday practice, and three fifteenth-century physicians." *Osiris* 6 (1990): 140-160.

the decline of Al-Andalus, which fell into Spanish hands, ceasing to be a centre of cultural radiance under Spanish rule as it had been under Arab Islamic governance. The light of civilization dimmed at the School of Montpellier, yet the influence of Islamic culture continued to extend across Europe, leaving an indelible mark on its medical landscape.[22]

It is not surprising, then, that the Orientalist and German physician Max Meyerhof, in concluding his research on science and medicine, acknowledges the enduring legacy of Arabic scholarship, stating: "We must concede, in all humility, that the Arab Islamic heritage continues to thrive in our sciences to this day." Similarly, Nicholson asserts: "What discoveries today can be regarded as noteworthy when weighed against our indebtedness to the Arab pioneers, who stand as a brilliant beacon during the dark Middle Ages, particularly in Europe?" Such reflections highlight the profound impact of Arabic contributions to knowledge, underscoring their pivotal role in shaping the intellectual landscape of the era.

All of this illustrates the pivotal role that Islamic medicine played in the development and flourishing of the School of Montpellier, from its inception until at least the latter half of the sixteenth century. This rich tradition enabled the University of Montpellier to evolve into a prominent scientific centre, not only within France but throughout Europe, attracting both medical students and patients alike. The legacy of Islamic scholarship thus served as a foundation for the university's esteemed reputation, fostering a vibrant intellectual environment that resonated far beyond its immediate locale.

In Paris, a parallel development unfolded, mirroring the earlier experiences of Montpellier and Salerno. The organisation of the school was essentially a replication of its predecessors, and it would be superfluous to

[22] Whitsel, Laurie P., Funke Ajenikoko, Paul J. Chase, Janay Johnson, Brooke McSwain, Melanie Phelps, Reyna Radcliffe, and Mark A. Faghy. "Public policy for healthy living: How COVID-19 has changed the landscape." *Progress in Cardiovascular Diseases* 76 (2023): 49-56.

elaborate extensively on the curriculum of the Parisian institution, for it bore a close resemblance to that of Salerno and Montpellier. Notably, among the prominent professors of Paris was Gilles de Corbeil, an alumnus of Salerno. It is important to note that the University of Paris garnered its fame more from philosophy and the humanities than from the study of medicine. This distinction highlights the differing academic trajectories of these institutions, reflecting the broader intellectual currents of the time.

In other words, although the Faculty of Medicine at the University of Paris was influenced both by the University of Montpellier and by Islamic medicine, the predominant philosophical character of Paris meant that its study of medicine did not attain the same status as that achieved by Montpellier or Salerno. Nevertheless, by the late fourteenth century, Islamic medicine had secured a significant and evident standing at the University of Paris. The works of Ibn Sina and Ibn Rushd became central to the medical curriculum, serving as the authoritative texts to which instructors referred and upon which examinations were based. This development underscores the enduring impact of Arabic scholarship, even within a framework that prioritised philosophical inquiry over medical practiceThe Faculty of Medicine at the University of Paris continues to be adorned by two prominent portraits at its entrance, one depicting Ibn Sina and the other representing Al-Razi. These images stand as a testament to the enduring legacy of these great scholars, symbolising the profound influence of Islamic medicine on the development of medical education in Europe. Their presence in such a prestigious institution serves to honour the contributions of Arabic scholarship, which, despite the philosophical predominance of the university, remains an integral part of its historical and academic identity.[23]

[23] Nigel Blake. "Truth, identity and community in the university." *Curriculum Studies* 3, no. 3 (1995): 263-281.

One example that underscores this point is the addition of eight new texts to the Library of Paris in the year 1395, five of which were works of Arabic medicine. This incorporation reflects a significant engagement with Islamic medical knowledge, illustrating how the intellectual currents of the time continued to embrace and integrate the rich heritage of Arabic scholarship into the broader tapestry of European learning. Such additions not only enriched the library's collection but also affirmed the pivotal role that Arabic texts played in shaping medical understanding during this period.

1- The Simple لموسى بن ميمون الذي يدعى Mesure.

2- The Practise لموسى بن ميمون أيضاً.

3- The Theriaca لأبي القاسم الزهراوي.

4- The Anti-dotarium لأبي القاسم الزهراوي.

5- The Totum Continens لأبي بكر الرازي وهو الكتاب الأكثر ثمناً والجوهرة المميزة في جامعة باريس.

6- The Concordance لمؤلِّفه Jean de Saint Aiman.

7- The Concordance لمؤلِّفه Jean de Saint Flour.

8- The Usual Particum لمؤلِّفه جالينوس.

This illustrates the significant role that Islamic medicine played in the establishment of the University of Paris. By the end of the Middle Ages, Europe boasted eighty universities, of which nineteen were situated in France alone. This proliferation of educational institutions reflects a burgeoning intellectual landscape, heavily influenced by the contributions of Arabic scholarship. The integration of Islamic medical knowledge into the academic fabric of these universities underscores its enduring legacy and highlights the pivotal role it played in shaping the educational ethos of the era. One of the most telling

anecdotes that underscores the esteemed status of Arabic texts is the story of "The Comprehensive Book" and Louis XI. The king sought to place a copy of this work in his library and requested the University of Paris to lend him a manuscript. After numerous difficult discussions among the professors, the university agreed to loan the book, albeit upon securing a financial guarantee consisting of twelve sets of silver tableware and one hundred ducats in gold. This requirement serves as a testament to the immense value placed upon "The Comprehensive Book" during that era, highlighting the high regard in which Arabic scholarship was held and its significant influence on the intellectual landscape of the time.

This provides us with a glimpse into the role that Islamic medicine played in the inception and evolution of medical schools across Europe. The influence of Arabic scholarship is evident in the curricula and practices adopted by these institutions, reflecting a rich tapestry of knowledge that transcended cultural boundaries. The integration of Islamic medical thought not only enriched the educational landscape but also fostered a spirit of inquiry and innovation that would shape the future of medicine in the continent. Thus, the legacy of Islamic medicine remains a vital thread in the narrative of European medical history..

The movement that began In Salerno, the influence of Arabic medicine rapidly spread, eventually encompassing all of Europe. The physicians, guided by the wisdom of Arab scholars, became the bearers of this knowledge, and their practices began to shape the medical landscape of the entire continent. For centuries, figures have emerged as paragons of wisdom, whose example was revered and emulated. By the close of the Middle Ages, there existed some eighty European institutions of learning, among which nineteen were French, dedicated to the study of Islamic medicine and the works of Arab physicians. These schools produced generations of physicians, philosophers, pharmacists, and surgeons such as Roger Bacon, Thomas Aquinas, Guy de Chauliac, Henry

of Mondeville, and many others. Their collective endeavours gave birth to a scientific and cultural thought that laid the foundation and served as the ferment for what would later be termed the European Renaissance. Building upon the foregoing, it becomes evident that It may be asserted that Islamic medicine was a crucial force in Europe's emergence from the Age of Darkness. Furthermore, it can be affirmed that in the majority of French texts and publications, there is scarcely a recognition of the debt owed, nor any acknowledgment of the gratitude due to the civilisation that once illuminated the path of European progress..

Such was the role of Islamic medicine in the universities of Italy and France at the dawn of the Renaissance. From this, it becomes clear how these institutions diligently sought to absorb the medical knowledge of the Muslims, to nurture and benefit from it, and subsequently to transmit it to the emerging universities of Europe that branched from them, drawing upon these systems and methodologies as their foundational models.

Scholarly centres in Andalusia, Damascus, Cairo, and Baghdad were frequented by European students of knowledge. Under the guidance of each Arab physician, a number of aspiring doctors, drawn from across the Arab world and the Frankish lands, would gather to study. They absorbed the teachings of these learned men, translating their works into Latin or into the vernacular languages of Europe. Equipped with the fruits of this rich knowledge, they would then return to their homelands, having been enriched by the intellectual and scientific heritage of the Arab world. All centres of learning in Europe relied upon Toledo, Seville, and Cordoba, where the Arabists and scholars of science would make their pilgrimages. These cities stood as beacons of knowledge, drawing intellectuals from across the continent, eager to engage with the vast treasury of wisdom preserved and expanded by the scholars of the Islamic world.

The transmission of Arab scientific influence from East to West through journeys can be attributed to two distinct types: The first type of journey was undertaken by the Arab scholars themselves, as a result of the continuous connections between the East and the West, through Africa and Spain on the one hand, and the Arab capitals on the other. Some scholars travelled from the West to the East, and undoubtedly, the pilgrimage had a profound impact on the exchange of ideas and scientific knowledge. The journey to Mecca was not solely for religious purposes; it was also an opportunity to seek knowledge. Lucien Leclerc, in his work, identified several such Arab travellers, stating: "Muhammad ibn Abdun journeyed from Andalusia to Egypt, where he practised medicine in the hospital of Fustat.[24] Likewise, the sons of Yunus al-Harani travelled to Baghdad to study medicine, remaining there for ten years. Additionally, Omar ibn Hafs went to Kairouan in pursuit of learning."

Among them were physicians who journeyed from the East to the West, seeking the patronage of the Arab rulers in Spain. Books, akin to silken carpets, jewels, and precious ornaments, were brought from the East to Andalusia, where they were collected in vast libraries.[25] In the library of Cordoba alone, there accumulated some six hundred thousand volumes, as catalogued in a directory that filled forty-four volumes. Among these scholars was Abu Marwan ibn Zuhr of Andalusia, who travelled to the East, visiting Kairouan and Egypt, where he practised medicine for a considerable time. There was also Ishaq ibn Imran, who came from Baghdad to Tunis, and Abu al-Hakam Umar ibn Ahmad ibn Ali al-Kirmaani, who studied arithmetic and geometry, excelling in both fields. He journeyed to the East, passing through Harran, where his knowledge of geometry deepened, and he further honed his skills in medicine, specialising in cauterisation, surgery, and other medical procedures.[26] Upon

[24] Matar, Zeina. "The Horoscope of aṣ-Ṣāḥib Ibn ʿAbbād" *Zeitschrift der Deutschen Morgenlandischen Gesellschaft* 140.1 (1990): 28-31.

[25] Murray, Stuart AP. The library: An illustrated history. Skyhorse, 2009. P53

[26] Mitchell, Piers D. "Anatomy and surgery in Europe and the Middle East during the Middle Ages." (2016).p67

his return to Andalusia, he settled in Zaragoza, where he practised his craft until his death at the age of ninety in 458 AH (1065 CE). The second type of journey was undertaken by Western travellers, motivated by trade, tourism, and the pursuit of knowledge. To illustrate, we may mention among them:

1- Marco Polo, the renowned traveller whose chronicles of his journeys have become legendary.

2- Leonardo da Vinci, born in Pisa in 1180 CE, spent part of his early years working in trade in the Algerian city of Bejaia, where he learned arithmetic. His travels took him to Tartus, Ceuta, and Tunis, and he frequented the libraries of Alexandria and Damascus, engaging in scholarly discussions with the leading intellectuals of Cairo. He studied the manuscripts of the great mathematicians from Greece, India, and the Arab world, excelling in the field. Upon his return to Italy, the Emperor Frederick II recognised his talents and brought him into his circle of scholars. It was there that he wrote books and introduced the Western world to Arabic numerals and the concept of zero.

3- Among them was also the physician from Antioch, Andreas Albicus.Andereas Alpacus(1450-1522 CE) He spent over thirty years in Syria, having travelled specifically to study the Arabic language and to examine the original Arabic texts and manuscripts. He was a student of the renowned Shams al-Din Muhammad ibn Maki (d. 938 AH = 1531 CE). His travels to the East were frequent, often accompanied by his nephew, Paulus Baccius. During his time there, he collected numerous Arabic manuscripts. Upon returning to Padua, he was appointed professor of medicine at its university. He translated several Arabic works into Latin, some of which he annotated. A number of these translations were published posthumously, including his Latin version of Ibn al-Nafis's commentary on the fifth section of Avicenna's Canon,

which was printed in 1527 CE. He also revised the Latin translation by Gerard of Cremona of Avicenna's Canon, a work that was reprinted multiple times, with a total of thirty-six editions in the fifteenth and sixteenth centuries. Moreover, he added a glossary of terms with definitions, and his translation of Ibn al-Baitar's Book of Simple Medicines was published in 1602 CEIt is certain, however, that not all the books translated by Albicus were intended for publication. His copy of Ibn al-Nafis's Commentary on Anatomy became part of the Nani family library in Venice. As the esteemed scholar al-Jalili notes, he was able to consult the catalogue of the library, which contained this valuable manuscriptThe catalogue, prepared by Simon Assemani, Professor of Eastern Languages at the University of Padua, and published in 1792 CE in Padua, contains a description The manuscript, written in 734 AH (1333 CE), a mere fifty-five years after the death of the author Ibn al-Nafis, comprises 306 pages. The existence of this manuscript holds immense significance in the history of the discovery of the circulatory system. However, it is certain that not all the works translated by Albicus were intended for publication. Among his holdings was a copy of Ibn al-Nafis's Commentary on Anatomy, penned in 734 AH (1333 CE), which remains a crucial witness to the early transmission of medical knowledge, five and fifty years after the death of its author..

4- Among these figures was also Theodore of Antioch, who studied the works of al-Farabi, Avicenna, Euclid, and pursued a profound study of mathematics under the guidance of the great scholar Kamal al-Din Yunus (born in Mosul in 1156 CE, educated at the Nizamiyya, and later teaching at the Kamilia in Mosul, where he solved the geometric problems posed by Frederick II). Theodore's growing reputation eventually attracted the attention of Frederick, prompting him to leave

the East and join the emperor's court, where he worked alongside the scholars in translating and transmitting Arabic texts.

5- Among them, for instance, was Gerbert, who became Pope in 999 CE under the name Sylvester II and passed away in 1002 CE. He was one of the earliest figures in Europe to take an interest in Arabic culture and is credited with introducing Arabic numerals to Europe, replacing the Roman system. He sought to spread the knowledge he had acquired, yet his efforts were met with suspicion, and many regarded his work as miraculous, accusing him of having sold his soul to the devil. As Monsieur Renan remarked, "Albert the Great owed everything to Avicenna, and Thomas Aquinas owed his entire philosophy to Averroes.".

6- In 935 CE, Otto the Great, King of the Germans, sent a monk named John of Lorraine to Cordoba, where he resided for nearly three years.[27] During his time there, he studied Arabic science, language, and culture, and upon his return, he brought with him hundreds of Arabic scientific manuscripts.

7- Adelard of Bath was, the English mathematician and philosopher, advised his listeners to abandon European institutions and seek knowledge in the academies of Andalusia. He was among the foremost European figures to travel to Toledo, where he undertook the translation of al-Khwarizmi's Treatise on Astronomy.

8- Following him was the Spaniard Peter of Alfonso, who travelled to England bearing the knowledge of Arabic medicine, which he disseminated there, eventually becoming the physician to King Henry I. These two scholars were at the forefront of the transmission of Arab

[27] West, Charles. "Royal estates, confiscation and the politics of land in the kingdom of Otto I." *Biens publics, biens du roi. Les bases économiques des pouvoirs royaux dans le haut Moyen Âge*. Turnhout: Brepols (2019). p3

science—astronomy, mathematics, and medicine—during the first half of the twelfth century, and many others followed in their footsteps.[28] From the early twelfth century onwards, a flood of Arabic culture and science began to pour into Europe, reaching it through academies and universities, as well as through the students who came to study, and through the connections between the courts of kings and princes..

9- He was also from England Robert of Chester It was he who translated the Qur'an into Latin in 1143 CE, as reported by The Times of London on 18th July 1947, during its investigation into the life of Robert. The newspaper noted that "the Arabs, during that period, were at the forefront of the world's scholars." Among those who were influenced by Islamic civilisation and the sciences of the Arabs were many European scholars, who drew deeply from its wellspring. Notably, the renowned English scholar Roger Bacon and the German philosopher Albertus Magnus were among those who benefited from the rich legacy of Arab knowledge[29]. The vast expanse of the Islamic lands and the spread of Arab civilisation into the northern reaches of Europe, particularly Scandinavia, and more specifically Finland, is a remarkable historical phenomenon. In the early years of this century, a significant number of Arabic coins were discovered in this region. In 1956, a treasure of Arabic silver coins was unearthed in the Arctic Circle, among which were large quantities of Umayyad coins inscribed in the Kufic script. Furthermore, King Offa of Mercia (757–796 CE), the ruler of an Anglo-Saxon kingdom in England, who is also renowned for constructing the famous Offa's Dyke along the border with Wales, minted a gold coin, strikingly modelled after the Arab dinar. One side bore the inscription Offa Rex in Latin, while the reverse was adorned

[28] Ganchy, Sally. *Islam and science, medicine, and technology*. The Rosen Publishing Group, Inc, 2009. p1

[29] Huxley, Thomas. "The Wise Men of the Dark Ages." The Story of Chemistry (2005): 37. p15

with the Arabic phrase La ilaha illallah, Muhammadur rasulullah ("There is no god but God, Muhammad is the messenger of God"). This serves as irrefutable evidence of the widespread circulation of Arab coinage and Islamic mints, demonstrating the reach of Arab economic activity and trade as far as the furthest corners of the known world by the 2nd century of the Islamic calendar.[30]

The goods of China, along with the products of India and the broader Middle East, traversed the famed Silk Road—an ancient artery of commerce and culture that connected the East with the West. This network of trade routes, stretching across vast and varied landscapes, was not merely a conduit for material exchange but a profound medium through which ideas, technologies, and artistic traditions flowed. The Silk Road, in its very essence, epitomised the interconnectedness of civilisations, facilitating a dialogue between diverse peoples and contributing to the unfolding of global history in a manner that transcended the confines of geographical boundaries.[31] Through this historic route, the rich fabrics of China, the spices and precious stones of India, and the intricately crafted goods of the Middle East found their way into the hands of merchants and rulers from distant lands, forever altering the contours of world trade and shaping the course of human development. The cities of Kashgar, Samarkand, Khwarezm, and the lands beyond the River Oxus, extending to the basin of the Volga and the regions of Crimea and the Bulgars,[32] formed a vast and intricate network that ultimately reached the northern and western frontiers of Europe, stretching as far as Scandinavia and Finland. Islamic coins have even been discovered in the British Isles, and as far afield as Iceland in the North Sea, testifying to the extraordinary range of Arab trade and influence. These merchants, whose caravans bridged East and West,

[30] Heidemann, Stefan. The formation of the Islamic world, sixth to eleventh centuries. Cambridge university press, 2010. p30

[31] Winter, Tim. The silk road: connecting histories and futures. Oxford University Press, 2022. p20

[32] SPULER, BERTOLD. "CENTRAL ASIA: THE LAST CENTURIES." The Last Great Muslim Empires: Translation and Adaptations by FRC Bagley 3 (2024): 219.

sent their goods along three principal routes: through the Pyrenees and the Mediterranean, across Central Asia via Samarkand and Khiva, and along the Volga River, which served as a conduit between the northern reaches of Russia and Europe. The discovery of Arabic coinage along the Baltic coasts, in Poland, and other such regions further corroborates the notion that Arab traders ventured into Scandinavia, Sweden, Finland, and Denmark.[33] This evidence paints a vivid picture of the far-reaching commercial activities of the Arabs, whose presence in these distant lands reflects the expansive nature of their economic networks and their central role in facilitating cultural and material exchanges across continents.[34]

Conclusion

Europe emerged from the shadow of the Dark Ages, propelled by the intellectual, cultural, and scientific renaissance that blossomed in the late 15th century. Among the fundamental forces driving this revival was medicine, which played a pivotal role in advancing the period's transformative energy. This was made possible through the proliferation of medical schools across Europe, institutions that became fertile grounds for the development of new knowledge and the cultivation of learning. The origins of this intellectual blossoming can be traced to the rich intellectual heritage of the Arabs—whose works, sciences, educational systems, and institutions, such as the bimaristans (hospitals), schools, and libraries, had long flourished in the cities of the Arab and Islamic worlds. The transfer of this vast body of knowledge to Europe occurred through a myriad of channels, connecting the Arab and Western worlds and facilitating an exchange that would reshape European thought and practice. It was through this deep engagement with the learned traditions of

[33] Alestalo, M., & Kuhnle, S. (1986). 1 The Scandinavian route: Economic, social, and political developments in Denmark, Finland, Norway, and Sweden. International Journal of sociology, 16(3-4), 1-38.

[34] Fernández-Armesto, Felipe, and Benjamin Sacks. "Networks, interactions, and connective history." A Companion to World History (2012): 301-320.

the Islamic world that Europe was able to rediscover the lost arts of antiquity and pave the way for the scientific advancements that would define the Renaissance

In the first chapter, we examined in detail the state of Europe just before the transmission of Arab sciences to the West. In the second chapter, we addressed the Western denial of the Arabs' contribution to knowledge. The third chapter explored how Al-Andalus played a key role in transmitting Islamic Arabic medicine to Europe, highlighting the crucial work of Spanish translators in this intellectual exchange. In the fourth chapter, we discussed the significance of Sicily, Salerno, and the universities of Southern Italy in fostering this transfer of knowledge. The fifth chapter delved into the role of France in this intellectual movement, while the Crusades took centre stage in the sixth chapter. We concluded by reflecting on the vital influence of scientific journeys and trade in facilitating the spread of knowledge. Throughout these discussions, we endeavoured to identify the individuals who championed this mission in the regions mentioned, and we considered the role of rulers, political authority, as well as the economic and social structures that shaped this endeavour. Should there be any omission or error in this account, we humbly acknowledge our humanity, and pray that divine guidance may lead us toward truth and understanding.

In conclusion, while the Arabs may now be drawing from the wellspring of Western sciences, what they are receiving is, in essence, a settlement of an ancient debt owed by the West to the Arab world. The efforts currently unfolding in the Arab world to catch up with Western scientific progress bear a striking resemblance—indeed, to a large extent, an echo—of the intellectual pursuits during the Arab Renaissance, when the West, in its own turn, hastened towards the advanced sciences of the Arab world in that era. The cyclical nature of this exchange, wherein both civilisations have sought wisdom from each other, reflects not only the shifting tides of intellectual history but also the deep interconnectedness of knowledge across time and

space. Just as the West once sought to absorb the fruits of Arab scholarship, so too does the Arab world now seek to participate in the fruits of modern Western achievement, completing a historical circuit that continues to shape the trajectory of global intellectual development.

جدول بأسماء أهم الكتب العربية المترجمة إلى اللاتينية

المؤلفون العرب والمسلمون	الأعمال في اللغة العربية	الترجمات اللاتينية المقابلة	المترجمون	تاريخ الترجمة
حنين بن إسحاق	المسائل في الطب لجالينوس	**Isagoge and Tengi Galeni**	قسطنطين الإفريقي في دير مونت كاسينو	ما بين ١٠٧٢-١٠٨٧ م
حنين بن إسحاق	تركيب العين	**Libre de Oculis**	قسطنطين الإفريقي في دير مونت كاسينو	ما بين ١٠٧٢-١٠٨٧ م
إسحاق بن سليمان الإسرائيلي	كتاب الحُمّيات	**Libre de Febribus**	قسطنطين الإفريقي في دير مونت كاسينو	ما بين ١٠٧٢-١٠٨٧ م
إسحاق بن سليمان الإسرائيلي	كتاب الأغذية	**Libre de Dietis Universalibus et Particularibus**	قسطنطين الإفريقي في دير مونت كاسينو	ما بين ١٠٧٢-١٠٨٧ م
إسحاق بن سليمان الإسرائيلي	كتاب البول	**Libre de Urinis**	قسطنطين الإفريقي في دير مونت كاسينو	ما بين ١٠٧٢-١٠٨٧ م
علي بن العباس الأهوازي	كامل الصناعة الطبية (الملكي)	**Pantegni**	قسطنطين الإفريقي في دير مونت كاسينو	ما بين ١٠٧٢-١٠٨٧ م
		Regalis Dispositio	ستيفان البيزي في أنطاكية	القرن ١٢ الميلادي
إسحاق بن عمران الإسرائيلي	مقالة في المالنخوليا	**De Melancolia**	قسطنطين الإفريقي في مونت كاسينو	ما بين ١٠٧٢-١٠٨٧ م
أحمد بن الجزار	زاد المسافر وقوت الحاضر	**Viaticum**	قسطنطين الإفريقي في دير مونت كاسينو	ما بين ١٠٧٢-١٠٨٧ م
أحمد بن الجزار	الاعتماد في الأدوية المفردة	**De Gradibus**	قسطنطين الإفريقي في دير مونت كاسينو	ما بين ١٠٧٢-١٠٨٧ م
أحمد بن الجزار	كتاب المعدة	**Libre de Stomacho**	قسطنطين الإفريقي في دير مونت كاسينو	ما بين ١٠٧٢-١٠٨٧ م
أحمد بن الجزار	كتاب الجذام	**De Elephantiasis**	قسطنطين الإفريقي في دير مونت كاسينو	ما بين ١٠٧٢-١٠٨٧ م

أحمد بن الجزار	رسالة في النسيان	**De Oblivione De Coitu**	قسطنطين الإفريقي في دير مونت كاسينو	ما بين ١٠٧٢-١٠٨٧ م
يوحنا بن ماسويه	نوادر الطب	**Aphorism**	إيطالي مجهول	القرن ١١ أو ١٢ الميلادي
علي بن رضوان	الصناعة الصغيرة	**Expositio ad Tengi Galeni**	جيرارد الكريموني في طليطلة	القرن ١٢ الميلادي
قسطا بن لوقا	رسالة في الفصل بين الروح والنفس	**De Differentia Spiritus et Anime**	يوحنا الإشبيلي	القرن ١٢ الميلادي
يوحنا بن سرابيون	الكُنّاش الصغير	**Practica Breviarium**	مجهول	
الكندي	رسالة في معرفة قوى الأدوية المركبة	**De Gradibus**		

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