

Andalusia during the two centuries (5–7 AH/ 11–13 CE): Beacon of Scientific Revival and Emancipator of the European Ecclesiastical Mind

Samir MEZERAI¹

¹ Abou Bekr Belkaid University of Tlemcen, Algeria

samir.mezeraï@univ-tlemcen.dz

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ABSTRACT: *The significant role of Andalusian institutions in the development of European scientific thought cannot be overstated. During a period when knowledge was largely confined to Western monasteries and churches, the enthusiastic engagement of European scholars with the sciences taught in Andalusia marked a pivotal moment in history. This interest was not merely aspirational but occurred at a crucial juncture when knowledge was predominantly insular and ecclesiastically bound. The Dark Ages imposed severe restrictions on the scope of rational sciences, particularly on theories that contradicted the Holy Scripture. In this environment, knowledge became the domain of a select few: a nobility priding itself on its lack of literacy and a clergy primarily focused on religious scholarship. Against this backdrop, a minority of scholars sought intellectual freedom by delving into the Islamic legacy of Andalusia. Their commitment to translating scientific works represented not just a quest for knowledge, but also a challenge to the ecclesiastical authorities that dominated the intellectual landscape of the time.*

KEYWORDS: Andalusia, Andalusian Schools, Churches, Education, Monks, Translation.

RÉSUMÉ : *La science peut être profondément redevable à ce désir scientifique irrésistible qui a attiré les esprits des Européens vers les sciences enseignées dans les instituts et écoles andalouses. Ce désir n'était pas vain : il a émergé à une époque où la science était essentiellement confinée aux bibliothèques des monastères et des églises occidentales. Avec l'avènement de l'âge des ténèbres, qui projetait une ombre lourde sur les sciences rationnelles, l'interdiction des théories contraires aux enseignements bibliques et le confinement du savoir à une élite arrogante peu portée sur la lecture, les moines se consacrèrent principalement à la transmission des sciences religieuses. Dans ce contexte,*

certaines passionnés trouvèrent une forme de liberté intellectuelle en explorant le patrimoine arabo-islamique d'Andalousie, échappant ainsi aux restrictions ecclésiastiques pour se consacrer à la science dans une quête de connaissance et de renouveau. La traduction d'ouvrages scientifiques ne représentait pas seulement un effort académique, mais également un acte de défi envers les autorités ecclésiastiques de l'époque. L'essentiel est que cette Renaissance occidentale et ce renouveau scientifique furent tributaires des moines et des papes.

MOTS-CLÉS : Andalousie, écoles andalouses, éducation, églises, moines, traduction.

الملخص: قد يكون العلم ممتنا غاية الامتنان إلى تلك الرغبة العلمية الشغوفة التي شددت عقول الأوروبيين في الاستفادة من العلوم التي كانت تُدرّس في المعاهد والمدارس الأندلسية، إذ أن تلك الرغبة لم تكن منقطعة الرجاء، في وقت كان العلم منظوبا منثيا على نفسه في مكتبات الأديرة والكائس الغربية. ومع تعاظم عصر الظلمات الذي خيم بظلاله القائمة على مختلف العلوم العقلية وتحريم كل النظريات العلمية التي تخالف تعليم الكتاب المقدس، وانحصار العلم بين سينيورات يفخرون بأنهم لا يقرأون، ورهبانا كرسوا معظم حياتهم لتناقل العلوم الدينية، لم يبق أمام بعض الشغوفين سوى التحرر والانعقاد من قيود الكنيسة، واستشمام عبق الحرية من خلال مذاكرة التراث العربي الإسلامي في الأندلس، والاعتكاف على ترجمة المؤلفات العلمية، وغاية ما هنالك أن هذه النهضة الغربية والانبعث العلمي كانت تحت رحمة الرهبان والبابوات.

الكلمات المفتاحية: الأندلس، الترجمة، التعليم، الرهبان، الكائس، المدارس الأندلسية.

Introduction

Attempting to allocate a just and objective scholarly space for the reevaluation of the works of Orientalists, who often overlook historical facts, can prove to be a formidable and daunting task. This challenge involves disentangling their views from a web of distortion and their neglect of Eastern influence on Western civilization. Despite the gravitas and historical claims in Orientalists' writings, an inherent recognition of Andalusia and the Eastern world's contributions is unmistakably present in Western European thought. This acknowledgment is evident in the academic curricula of their universities, where the legacies of Arab and Muslim scholars are routinely highlighted. The degree of this gratitude seems to correlate with the scale of the intellectual treasures that had enriched scholars, monastic learners, and explorers alike. These individuals committed themselves to the assimilation

and transmission of knowledge at a time when Europe's own historical narrative was inexorably linked to eight centuries under the influence of Islamic civilization.

At a cursory glance, the wealth of data from historical sources regarding the impact of Andalusia on the West might suggest a straightforward formation of our historical discourse. However, this apparent simplicity is misleading. The plethora of historical texts and evidence; notwithstanding, it remains challenging to completely set aside various theories and viewpoints that hint at Orientalist bias, particularly in their efforts to obscure historical realities. In engaging in an academic discourse, a pivotal question emerges: if we posit that medieval Europe eschewed the impact of Arab-Islamic civilization, how credible is this stance? Conversely, if Arab-Islamic civilization was not a beacon of renaissance and a conduit of emancipation for medieval Europe, then what explains the fervent scientific expeditions, scholarly pursuits, and translation endeavors undertaken by their monks, students, and explorers?

The Ren Exploring these hypotheses may reveal the profound influence of Islamic civilization in Andalusia on the intellectual and cultural evolution of the West. The vast array of scientific knowledge, literary works, and translations that emanated from Andalusia and Sicily were crucial in reconnecting Europe with the classical heritage of antiquity. This intellectual revival, fueled by the scholarly contributions of Andalusian scholars and their commentaries on Greek and Persian texts, laid the foundational stones for the Renaissance, illuminating the late medieval period.

This examination underscores an undeniable historical truth: the synthesis forged by Islamic civilization in Andalusia was instrumental in shaping Western civilization across diverse fields. Thus, delving into this subject is crucial for a comprehensive understanding of the Arab-Islamic heritage and its enduring role in the ongoing advancement of human civilization.

aissance Project in Europe and the Journey of Salvation

The phenomena that are evident to us today, including diverse values, behaviors, laws, sciences, and lifestyles, owe their existence to the critical interplay of time and place. These elements exert a significant influence on several fundamental aspects of life, often giving rise to transient phenomena that are easily overlooked in terms of their origins and how they have been transmitted to us. This perspective helps in understanding that phenomena

are not spontaneously created, nor are they exclusively a product of their immediate context.

This insight leads us to a consideration of Western European society, especially when it is synonymously referred to as the "Renaissance," commonly perceived as an era of progress and advancement. The Renaissance embodies a complex amalgamation of arts, beliefs, sciences, languages, and urban development, much of which was derived from the Islamic civilization before the Renaissance era. The Western world's assimilation of scientific knowledge from the Islamic civilization was a pivotal step in its development. Franz Rosenthal points out that the Arab-Islamic civilization's synthesis, incorporating elements from Greek, Persian, and other heritages through extensive translation efforts, significantly shaped its trajectory in Andalusia and Sicily. This synthesis marked a transition from the classical ancient periods to the Renaissance in Europe, introducing unique scientific works and knowledge to the West through cultural exchanges (Rosenthal 1975, p. 14).

An in-depth analysis of the origins of schools in medieval Europe is essential to understanding this transition. It is a historical fact that the West had established state-run schools prior to the Islamic influence in Andalusia. However, these schools were predominantly under the Church's influence, known as monastic or ecclesiastical schools, and their primary focus was on producing clergy and perpetuating a constrained theological doctrine rather than fostering rational science (Ata Allah Al-Jamal and Abdel Razzaq Ibrahim 2000, p. 7).

The literature housed in monasteries and churches was mostly in Latin, tailored to theological studies (Maher Hammada 1978, p. 210). This situation resulted in the stagnation of scientific and intellectual development. Gustave Le Bon comments on this phenomenon, noting that the cultural centers in the West were dominated by lords who took pride in their illiteracy, and the most knowledgeable individuals in Christianity were the monks (Le Bon 1884, p. 614). This context sets the stage for understanding the religious reformation that emerged in the 15th century, led by figures like Martin Luther, Calvin, and Zwingli.

The educational landscape of medieval Europe, when closely examined, reveals a significant divergence between two fundamentally different educational paradigms. This disparity becomes apparent when considering

the experiences of Christian Frankish prisoners in Andalusia. These captives learned Arabic and various other scientific and intellectual disciplines, and upon their release, they brought this knowledge back to their homelands. In contrast, Muslim prisoners working in farms, estates, monasteries, and churches of the West imparted essential agricultural skills to the local populace, skills that were commonplace in their native lands (Hassan Mahmoud 1986, p. 260) (Arslan, n.d., pp. 226-233). Meanwhile, Western monasteries and churches often prohibited the study of scientific texts among the free members of society, viewing such pursuits as sinful and contradicting church doctrines, leading to the persecution of proponents of these scientific theories.

Tracing the origins of some of the earliest and largest schools in Western Europe, it becomes evident that many were established by clergy members, indicating that medieval European education initially began within churches. These churches initially focused on teaching religious hymns, reading, and numeracy (Gonzalez Palencia 1955, p. 533). The Church thus emerged as the hub for both religious and secular education, with a system broadly aligned across European churches, modeled after the ecclesiastical framework of Rome, the spiritual epicenter of Europe. Over time, these institutions evolved into centers for translating the works of the Arab-Islamic, Greek, Persian, Indian civilizations, among others, after these texts were introduced through Andalusia, Sicily, and the Levant, leading to extensive translations, commentaries, and scholarly works (Islahi 2005, pp. 14-18).

To comprehensively discuss the emergence of educational institutions in Europe, one must turn scholarly attention to Toledo, which became the capital of Castile under Alfonso VI in 478 AH/1085 CE. In 519 AH/1125 CE, the monk Raymond was appointed bishop of Toledo, marking the beginning of a significant period in Europe's intellectual revival. The establishment of the Toledo School of Translators was a pivotal moment in this renaissance. Key figures in this endeavor included the Jewish scholar John of Seville (Yuhanna bin Dawud al-Isbani), known as (Yahya al-Ishbili), and Domingo Gundisalvi, the bishop of Segovia and a prominent ecclesiastical authority in Toledo.

John of Seville, proficient in both Arabic and Castilian, translated numerous Arabic texts on astronomy, mathematics, and astrology into Castilian

(Spanish). Gundisalvi then translated these works from Castilian into Latin, the lingua franca of the church and the clergy. This collaborative effort significantly contributed to the dissemination of scientific knowledge in Europe. It is noteworthy that John of Seville eventually succeeded Raymond as the bishop of Toledo (Gonzalez Palencia, 1955, p. 537) (Sheikha, 1996, p. 132).

The Toledo School of Translation further cemented its academic prominence with the arrival of Gerard of Cremona (died 583 AH/1187 CE). His scholarly drive led to the formation of a translators' committee under his guidance, translating a multitude of valuable scientific texts. Many of these translators were Arabs or Arabized scholars (El Ghazi & Bnini, 2020, p. 73). The available knowledge about the Toledo School of Translation largely stems from these translated scientific and intellectual works, which captivated Western thinkers and readers alike.

Key figures such as Gerard of Cremona exemplify this influence. He translated the entirety of Ibn Sina's (Avicenna's, d. 428 AH/1037 CE) *Al-Qanun fi al-Tibb* (The Canon of Medicine), into Latin as *Canon Medicinae* (Ibn Sina 1999, p. 7). Another pivotal work by Ibn Sina, *Urjuzah fi al-Tibb* (The Medical Poem), which intricately organizes medical subjects and bridges theoretical and practical medicine, was rendered into Latin in the 13th century as *Canticum* or *Cantica*, translating to "song" or "poem" (Ibn Sina, *Urjuzah fi al-Tibb*, 1956, p. 2). Al-Zahrawi's (Abu al-Qasim Khalaf ibn al-Abbas Al-Zahrawi, d. 404 AH/1013 CE) renowned *Kitab al-Tasrif liman 'Ajiza 'an al-Ta'lif* (The Method of Medicine) further illustrates this trend, having been translated into Latin in Venice in 899 AH/1495 CE and later in Strasbourg in 938 AH/1532 CE, among other translations (Al-Zahrawi 2001, p. 12).

The field of mathematics also saw significant contributions, notably through Robert of Chester, an English cleric and orientalist residing in Al-Andalus during the 12th century. His translation of Al-Khwarizmi's *Kitab al-Jabr wa al-Muqabala* (The Compendious Book on Calculation by Completion and Balancing) into Latin in 1145 CE as (*Liber Algebrae et Almucabala*) marked a crucial turning point in the dissemination of mathematical knowledge (Al-Aqiqi 1964, p. 124) (Al-Khwarizmi 1937, p. 13). Philosophically, the cultural intermingling in Al-Andalus greatly influenced figures like Musa ibn Maymun (Maimonides, d. 603 AH/1205 CE). His philosophical treatise

Dalalat al-Ha'irin (The Guide for the Perplexed) was first translated into Arabic by Samuel ibn Tebboun in a translation criticized for its excessive literalism. A subsequent translation by Yehuda al-Harizi was commissioned by the rabbis of southern France to clarify ambiguities present in the earlier translation (Rajab, 2019, pp. 736–737; Maimonides, n.d., p. 33).

The extensive and recurring translation of Andalusian heritage over the years profoundly influenced King Alfonso X (1221-1284 CE) of Castile, known as Alfonso el Sabio (the Wise). His optimistic outlook on the future of sciences in Spain and Europe was fueled by these translation efforts, leading him to commission experts to translate scientific and historical works. Relying on his intellectual prowess, Alfonso X mirrored the Islamic tradition of establishing educational institutions, founding several institutes for higher learning and Latin-Arabic studies in Seville in 1254 CE, under the endorsement and protection of Pope Alexander IV (Al-Bushra 1985-1986, p. 656) (Provencal 1994, p. 134) (Montgomery Watt 1983, p. 86).

Moreover, Italy also witnessed this translation movement in the 11th century, initiated by one of the earliest Orientalists, Constantine the African (1020-1087 CE), an Arabist physician known as the 'teacher of the East and the West' (El-Khouli 1993, p. 37). He devoted himself to translating a wide range of sciences from Arabic to Latin; Montgomery Watt, in his book "The History of Islamic Spain," asserts that the European Renaissance is inextricably linked to the intellectual and scientific influences of Arab-Islamic civilization in Andalusia. He suggests that the transmission of Greek heritage to Europe was feasible only through the works of Muslim philosophers such as Averroes (Ibn Rushd) (Imam Ghazali 2017, p. 65).

According to Montgomery Watt, Islamic Spain was merely an echo of Arab-Islamic civilization resonating through the centuries. The translation movement extended far beyond the examples one can cover within the confines of this study. Indeed, specialized institutions throughout Europe—such as those in Sicily, Naples, Toledo, Castile, and France—dedicated substantial resources to translating various scientific works from Arabic into multiple languages, often with the endorsement and encouragement of their monarchs (Al-Khouli 1993, pp. 37-38) (Al-Samadi 1994, p. 204) (El Ghazi & Bnini 2020, p. 73).

Western Europe's geographic closeness to Andalusia facilitated its remarkable exposure to Arab culture and sciences. Certain monasteries

became conduits for transferring this heritage through translations. Notably, the Santa Maria Monastery in Ripoll, Catalonia, played a crucial role. Monk Gerbert of Aurillac (938-1003 CE) resided there, benefiting immensely from the translation movement (Sedeck 2022, p. 96). He studied mathematics and astronomy in Cordoba for three years, gaining extensive knowledge before returning to his homeland. Later, as Pope Sylvester II in Rome, he established two schools: one in Rome, the papal seat, and another in Reims, France. A third school was subsequently established in Chartres (Abu Abia 2004, p. 971) (Al-Bushra, 1985-1986, p. 646) (Kazem Al-Nasr Allah & Al-Kaabi 2015, p. 97) (Al-Aqiqi 1964, p. 120). He also significantly contributed to founding a school in Laon, France, led by his students (Sheikha, 1996, pp. 130-131).

Another notable institution was established during the reign of Alfonso X after he conquered Murcia in 641 AH/1243 CE (Anan 1990, p. 606). In this city, the scholar Muhammad bin Ahmad al-Raqtî al-Mursî was found, and Alfonso built a school where Muslims, Christians, and Jews could study (Ibn al-Khatib 1975, pp. 67-68). This event stands as a significant counter-argument to the notion that education in Andalusia was solely focused on literary sciences such as language, calligraphy, literature, and poetry, or religious sciences like jurisprudence and hadith. It necessitates a thorough reassessment of our understanding if we assume that Alfonso X intended to educate Christians and Jews in the religious sciences or to propagate an Arab-Islamic culture that could undermine the Western Crusader heritage.

It appears that his aim, by engaging Muslim scholars, was to address the cultural and scientific stagnation that Europe had experienced. Notably, according to Ibn al-Khatib, the scholar al-Raqtî was highly knowledgeable in ancient sciences, including logic, geometry, arithmetic, music, and medicine, and was regarded as a philosopher and physician (Ibn al-Khatib, 1975, pp. 67-68).

The Spanish monarchs displayed a profound interest in educational institutions, steadily amplifying their dominion and expressing a fervent desire to reclaim Andalusian educational establishments. This eagerness was evident in the unparalleled increase in reopening some Arab-Andalusian schools. A striking example of this occurred when the Christian bells tolled in the courtyards of Valencia's schools after the city fell to "Jaime I" in 636 AH/1238 CE (Muhammad Abdul Hamid 1982, p. 384). The schools erected

during the rule of Ya'qub al-Mansur ibn Yusuf ibn Abd al-Mu'min ibn Ali, from 580-595 AH/1184-1199 CE, were converted into Christian educational centers (Al-Fasi 1972, p. 217) (Al-Manuni 1977, p. 21). Considering Spanish historian Salvador Gallego's acknowledgment of Christian schools in Islamic Valencia (Muhammad Abdul Hamid 1982, p. 384), Jaime I's actions can be interpreted as a strategic completion of a cleansing campaign targeting Andalusian Islamic schools.

Madrasas in Andalusia: Between Religious Obligations and a Revivalist Mission

The field of science owes an immense debt of gratitude to the fervent intellectual curiosity that drove Europeans to seek out the knowledge offered in Andalusian academies and schools. This pursuit of learning was far from ephemeral; it continued to grow, reaching its zenith as scholarly expeditions to Andalusia became more frequent. By the year 312 AH/924 CE, under the reign of Caliph Al-Nasir, the influx of students into Andalusia numbered approximately 700 (Al-Tikriti 1968, p. 90) (Al-Samarrai et al. 2000, p. 477). Historical texts and archival documents reveal numerous letters from European monarchs and principalities to the rulers of Islamic Andalusia, chronicling these scholarly missions and uncovering many historical truths that had long been obscured. These correspondences and delegations are not only fascinating for their historical context but also serve to refute Western claims that deny Andalusia's intellectual pre-eminence, which continuously attracted students and scholars from across the globe.

Among these correspondences, the letter from Philip, King of Bavaria, to Emir Hisham I bin Abd al-Rahman Al-Dakhil, who governed between 172-180 AH/788-796 CE, stands out. It explicitly conveyed the king's intention to send a delegation to Andalusia to learn from its scientific and cultural advancements. Responding favorably, Emir Hisham I welcomed a scientific mission of 215 students, led by the king's minister William, known as William the Trustworthy in Arab records (Danoun Taha 2003, p. 60). These students were integrated into various Andalusian institutes and schools. Historical narratives record those eight members of this mission, including three women, chose to remain in Andalusia, embracing Islam and integrating into local society (Danoun Taha 2003, p. 60) (Abbas Zainal 1971, pp. 709-710).

Further evidence supporting the reality of these scholarly missions can be found in the correspondence from George II, King of Wales, to Caliph Hisham III in 428 AH/1036 CE. This letter led to the dispatch of a delegation to Seville, headed by Princess Dobant, including eighteen noblewomen. Accompanying them was Svilk, the palace chief of staff from Wales. The letter, dated 419 AH/1028 CE, expressed the king's admiration for Andalusia's flourishing academic and craft institutions. The letter eloquently states:

From George, King of England, Gaul, Sweden, and Norway, to the esteemed Caliph Hisham III, sovereign of the Muslims in the Kingdom of Andalusia. With profound respect and admiration, we acknowledge the extraordinary advancements that your renowned institutions of learning and industry have achieved. We desire that our sons may acquire the knowledge and virtues exemplified by your illustrious civilization, hoping to illuminate our own lands, currently shrouded in ignorance, with the light of knowledge and wisdom that flourishes under your reign... (Al-Barr 1993, p. 13)

Caliph Hisham III warmly received the letter, replying in kind and agreeing to host and support the mission, signifying a mutual acknowledgment of the value and influence of Andalusian learning.

This unmistakable signal leaves no room for doubt: Andalusia was a pivotal destination for academic pursuit. Further scrutiny of the educational mission reveals a broader objective than mere knowledge acquisition. The imminent scientific and intellectual renaissance in Europe necessitated an expanded focus on remedying deficiencies in arts and crafts. Consequently, Andalusian craftsmanship became a focal point for students and intrepid travelers. They eagerly sought to master disciplines such as music (Gonzalez Palencia 1955, pp. 535–536); (Al-Abbadi 1971, p. 373); (Abbas 1997, p. 45); (Mezerai 2021, p. 464), textile manufacturing (Al-Himyari 1984, p. 183); (Al-Idrisi 1863, p. 202); (Khmeisi 2006–2007, p. 91); (Mezerai 2017–2018, pp. 255–256), and embroidery. Other sought-after crafts included nursing, paper and glass production, shipbuilding, and the application of Andalusian architectural techniques, among numerous other sciences and crafts.

Alfonso IX was a leader with a visionary mindset deeply committed to reforming Spain's faltering education system. He harbored profound disdain for the status quo, recognizing that a transformation in the educational landscape was imperative. He envisioned universities that would not only honor the past but also propel Spain towards academic excellence. His efforts culminated in the establishment of the University of Salamanca, "scholas Salamanticae," in 1218 CE. This pioneering institution, among Spain's earliest, received its official designation as a university through a royal decree by Alfonso X in 1254 CE, further endorsed by Pope Alexander IV in 1255 CE (Mariano 1999, p. 31). Intriguingly, the oldest recorded university in Spain, the University of Valencia, vanished soon after its inception (Cegarra Cegarra 2019, p. 437). However, due to the lack of archival sources and the insufficiency of precise data, it is not feasible to establish a definitive chronology for these events.

Attempting to trace all the evidence and clues attesting to the profound influence of Andalusian Arab civilization on the rest of Europe would lead to an extensive and interminable endeavor. However, highlighting a select few instances can enrich our historical narrative. One such example is a letter from the renowned Andalusian Arabist, Alvaro of Cordoba, a prominent Christian cleric. (Al-Amarti 1971, p. 86) (Simonet 1903, pp. 324, 379, 457, 641). He expressed his dismay:

"My Christian brethren delight in Arabic poetry and tales, and in studying Muslim theologians and philosophers. Their intent is not to counter these teachings but to acquire an eloquent and accurate Arabic style. Now, where can one find laymen reading Latin Annotations of the Holy Gospels ? Or non-clergy engrossed in the works of apostles and prophets? Alas! The educated Christian youth are versed only in Arabic language and literature, eagerly embracing it while neglecting their own language, spending fortunes on these texts." (Al-Jarrari, 1981, p. 18) (Anani, 1999, p. 38) (Gonzalez Palencia, 1955, pp. 485-486) (Provençal, 1994, p. 101).

This letter significantly enhances appreciation of the comprehensive historical role of language. The Arabic language's sediment of civilizational contributions magnified in strength and influence as it performed a utilitarian function. Without Arabic's facilitative role in communication, the myriad elements of Andalusian Arab culture, including its diverse sciences, spiritual values, and both tangible and intangible heritage, would not have permeated other regions of Europe as effectively.

The complex history of Europe's oldest universities, when closely examined, reveals a narrative less obscure than some Western accounts might lead us to believe. The key to understanding this history lies in recognizing the profound influence of Arabic language and culture on Western society. This impact is evident in the adoption of educational systems from Eastern and Andalusian schools, including methodologies for awarding degrees, teaching licenses, tuition structures, financial grants, and other academic practices common in Arabic educational institutions (Guillom 1936, pp. 234-236).

Although this evidence alone may not conclusively prove the East's contribution to Western development, it significantly challenges the notion that it played no role. However, asserting that Eastern schools significantly impacted monastic thought by drawing clerics toward the scientific methods of the Arab world is far from mere speculation. For instance, the establishment of Colegio de Miramar in Mallorca in 1276 CE by Raymundus Lullus, (Al-Amarti 1971, p. 129) (Fischer 1994, p.195) supported by the king, exemplifies this influence. Thirteen Franciscan monks were trained in Arabic at this institution, facilitating Christian missionary work in Muslim territories.

Further, the Council of Vienne's 1311 decision to establish classes for Eastern languages (Arabic and Tartar) at prestigious universities like Paris, Louvain, and Salamanca underscores this influence (Parker 1936, p. 125) (Al-Samadi 1994, p. 205). From this perspective, it becomes apparent that Andalusia was not just a participant but a pivotal force in the Western European Renaissance. On this basis, it is reasonable to assert that Andalusia was, in fact, the true catalyst for the Western European Renaissance. Consequently, Europe must seek its intellectual and cultural identity within the archives, streets, schools, and libraries of Islamic Andalusia.

Conclusions

In the midst of ongoing heated discussions about Europe's intellectual and scientific lineage during the late Dark Ages and early Renaissance, it becomes imperative to scrutinize the historical context of Western society at that time. This society, shackled by the overbearing dominance of the Church, struggled with its intellectual emancipation. The Church, ensconced within its fortresses, monopolized a constrained view of knowledge, largely ignoring the responsibility to disseminate rational sciences. Contrastingly, Islamic societies, whether in the East, Sicily, or Andalusia, exhibited an unparalleled degree of academic liberty. Institutions like mosques and kuttabas were centers for imparting a wide array of knowledge, spanning both traditional and rational disciplines.

This educational freedom was further enhanced by the issuance of academic licenses and the nurturing of students, who were destined to carry this knowledge forward. Europe, at this juncture, became a beneficiary of an extensive array of scientific texts and literature, channeled through these Islamic educational institutions. These resources familiarized Western scholars with the pedagogical practices prevalent in the Eastern and Andalusian centers of learning, playing a pivotal role in the birth of European universities in the 12th and 13th centuries. The emergence of Europe from the Middle Ages into an era of scientific and intellectual blossoming was not mere happenstance. It was the culmination of widespread influences, propelled by the intellectual and cultural exchanges from the Islamic world, that signaled the end of the Dark Ages.

Appendices

Appendix 1: Manuscript excerpt from Ibn Sina's Al-Qanun fi al-Tibb



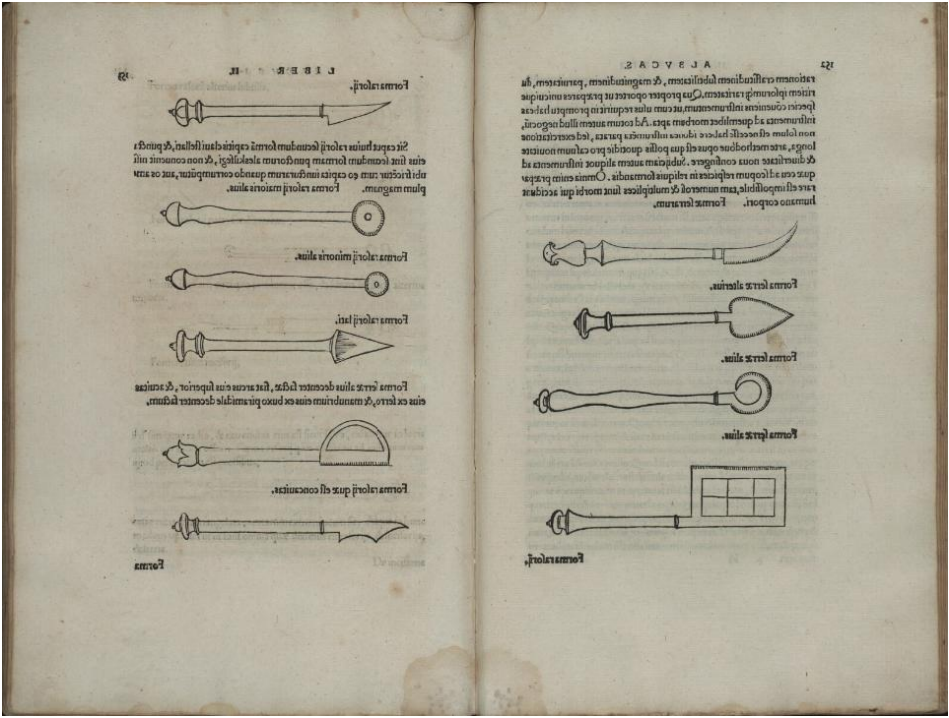
(Ibn Sina, 25 Jumada 525 AH, f. 191)

Appendix 2: Manuscript excerpt from Ibn Sina's *Urjuzah fi al-Tibb*.



(Ibn Sina, n.d., f. 14)

Appendix 3: Images of medical instruments from Al-Zahrawi's Kitab
al-Tasrif li-man 'Ajiza 'an al-Ta'lif.



(Al Zahrawi, 1541 CE, f. 94)

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