Eastward Advance of Andalusian Jewish-Muslim Culture from the 12th Century Onward: Toward a New Vision of Islmaic Thought

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I. Introduction

This presentation offers a preliminary overview, which has yet to be examined. Nevertheless, it will, I hope, be the important starting point of further research. The area we call the Middle East and more broadly Eastern Islamdom, included cultural centres for scientific activities of the Islamic world, with these centres situated in the cities of Damascus, Baghdad, Cairo etc. Andalus, Muslim Spain and Maghrib, North Africa received religious thoughts and scientific activities from the east and the cultural influence of Eastern origin dominated until the 11th century, roughly until the end of the Umayyad period (751－1031). The age of "petty kings"(*mulūk al-ṭawā'if*) cultivated original cultural activities which had their origins in the Umayyad period. The kings of Saragossa, the Banū Hūd (which is the tribal name), favoured philosophers, including the famous philosopher, Ibn Bājja (d.1138), and men of letters; those of Toledo, the Banū Dhī al-nūn, favoured scientists; those of Seville, the Banū 'Abbād, favoured poets, etc. In addition, many scholars (not only Muslims but also Jews and Christians) were involved in the blossoming of these original activities. The beginning of the political decline of a country often occurs before it has attained its cultural pinnacle.

It should be noted that it was during the 12th century that Andalus and North Africa exported most of their ideas not only to Europe (France, Italy, Germany and England) through translations, but also to the East (Egypt, Syria, Persia). The latter export of their cultural heritage, that is to say, eastward bound, was not limited to this century but continued in the following centuries. It is this theme on which we are now focusing. In the following, I would like to present some academic genres and religious activities with examples. And I would like to refer to Jewish scholars as well as Muslim scholars, as the former played certain decisive roles in the transmission of knowledge, in particular, in the fields of natural sciences and philosophy.

II. Science

Firstly, scientific fields are focused. We are quite well informed about the development of science in Muslim Spain thanks to the writing of Ṣā'id al-Andalusī of Toledo (d. 1070), *Kitāb ṭabaqāt al-umam* (*Book of the Categories of Nations*), which describes sciences developed in various nations as well as Muslim Spain. Chapters 5 to 14 have titles such as "Science in India", "Science in Persia", "Science in Chaldeans", "Science in Greece", "Science of the Romans", "Science in Egypt", "Science of the Arabs" (this is general information), "Science in the Arab Orient", "Science in al-Andalus" and "Science of Banū Israel." The latter two chapters are important for our purpose.

Ṣā'id al-Andalusī's work was quoted and referred to by several medieval writers. Among them are 'Alī ibn Yūsuf al-Qiftī (d. 1246), Aḥmad ibn Abī 'Uṣaybi'ah (d.1270), Yūḥannā ibn al-'Ibrī (Bar Hebraeus, d.1268). Bar Hebraeus lived, taught and researched in Marāgha, a town in North-West Iran, well known for the famous Marāgha observatory built in 1259 by the Mongol ruler, Hulagh. We will refer later to the Marāgha observatory which has another dimension of relevance to our purpose. Now, I would like to concentrate on al-Qiftī and Ibn Abī 'Uṣaybi'ah. The former was a biographer/bibliographer as well as an adviser or officer of sovereigns (especially Ṣalāḥ al-Dīn) in Cairo and Aleppo, especially famous for his *Tārīkh al-ḥukamā'* (History of Physicians). The latter was a biographer/bibliographer as well as a physician who practiced in the Nūrī hospital in Damascus and the Nāṣirī hospital in Cairo. He wrote a biographical / bibliographical work, '*Uyūn al-Anbā' fī ṭabaqāt al-aṭibbā"* (Information Sources of the History of Physicians). It is notable that the works referred to above include information about "Science in al-Andalus" and "Science Banū Israel" cited from Ṣā'id al-Andalusī's *Book of the Categories of Nations*. In addition, the latter includes information concerning Andalusī and Jewish scholars who lived after the age of Ṣā'id al-Andalusī. Also in the above mentioned works, are some writings by these scholars, which means that eastern scholars could read these western books or at least knew of the titles of such books written in western lands.

For example, in the information added by Ibn Abī 'Uṣaybi'ah, two famous persons, one a Jewish scholar, Maimonides (mentioned as al-Ra'īs Mūsā, d.1204) and the other a Muslim scholar, Ibn Rushd (Averroes, d. 1198), are presented. Al-Qiftī also mentioned Maimonides without Ibn Rushd. Ibn Abī 'Uṣaybi'ah listed *Kitāb Kabīr 'alā madhhab al-Yahūd*, which refers to Commentary on the Mishna or *Dalālat al-Ha'rīn* (*The Guide of the Perplexed*) as well as Maimonides' medical works. As for Ibn Rushd, Ibn Abī 'Uṣaybi'ah covers almost all of his commentaries on Aristotelian Works. This is an important point because many modern scholars have the idea that these works of Ibn

Rushd were ignored during the middle ages following his death, at least in the Islamic world. Maimonides wrote most of his books in Cairo after having emigrated eastwards from Andalus and Maghrib; this emigration is a case of knowledge transmission. So it is easy to understand that the biographer/bibliographer would inform us of his writings. As for Ibn Rushd's case, however, it is difficult to imagine the situation. Maybe the key to understanding the situation is J. Vernet's description in his treatise "Natural and Technical Sciences in al-Andalus" included in Slama Khadra Jayyusi's *The Legacy of Muslim Spain*.

> These invisible exports, which had started unobtrusively at the end of the 10th century, now grew as a result of the scientific progress achieved in the Iberian Peninsula during the 11th century: the flow of imported books—or at least of Eastern ideas—virtually came to a halt, while the scholars who emigrated eastwards personally conveyed their knowledge to those parts (i.e. Egypt, Syria and Persia) or else their works reached Cairo and Damascus in the hands of merchants, many of whom were Jewish.

III. Astronomy

Secondly, I would like to present two examples from the field of exact sciences: one from Mamluks (Dynasty in Syria and Egypt from 1250 to 1517) astronomers, and the other from the Marāgha observatory previously referred to. D. King gave three cases of Andalusian influence on Mamluk astronomers in his treatise "Astronomy of the Mamluks," in *Isis*. The first case concerns a commentary on the work of Andalusian astronomers. This commentary was available in the treatise on astronomy of the Andalusian Jābir ibn Aflaḥ (d. 1150), whose works reportedly Maimonides too read with his friend in Cairo. The second case is the first Mamluk scholar of *'ilm al-mīqāt* (science of timekeeping, especially used for prayer), Abū 'Alī al-Marrākushī (active in Cairo around 1280). His name indicates that his family hailed from Marrakesh and al-Marrākushī is generally thought to have worked in the Maghrib. His work, *Kitāb al-Mabādi' wa-al-ghāyāt fī 'ilm al-mīqāt* (*A Compendium of Astronomical Timekeeping*) does not rely on his Egyptian predecessors, but rather, he mentions various earlier Andalusian and Maghribi astronomers. The third case is the introduction to Syria in the twelfth century of the universal plate of Astrolabe of the 11th century Andalusian astronomer al-Zarqāllu (d. 1100), who worked as an instrument maker in Toledo for Ṣā'id al-Andalusī. Ṣā'id al-Andalusī was an excellent astronomer as well as a biographer/bibliographer. Astrolabes usually had several plates for use on different latitudes, but al-Zarqāllu invented a universal one for use on all latitudes.

The next example from the field of exact sciences concerns the Marāgha Observatory. An impressive number of scientists from all over the Islamic World were attached to the Marāgha Observatory: Naṣīr al-Dīn al-Tūsī, ‘Alī ibn ‘Umar al-Qazwīnī, Muayyad al-Dīn al-‘Urḍī, Muḥyī al-Dīn al-Maghribī, Chinese Fao Mun Ji, etc. Among them Muḥyī al-Dīn al-Maghribī, whose name indicates that his family or he himself came from North Africa, played an important role. His version of *Zīj Ilhānī* reflected results of observations made at the Marāgha Observatory, in contrast with Nasīr ‘al-Dīn al-Tūsī’s *Zīj Ilhānī*. The latter does not improve the previous *Zīj*. We do not have information on whether Muḥyī al-Dīn al-Maghribī used Andalusian methods or not. However, it is certain that North African scholars took part in the observatory.

* This paper is due to appear in a fuller version later on.