

THE LANGUAGE OF «PATRONAGE» IN ISLAMIC SOCIETIES BEFORE 1700

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RESUMEN

No resulta fácil escribir sobre el lenguaje del mecenazgo en las sociedades islámicas, dado que en el árabe y el persa medievales no existe un término preciso para describirlo. A través de los siglos y en contextos diferentes se utilizan diversos términos para designar tal realidad. En ocasiones unas simples palabras bastaban para expresar relaciones de jerarquía, ascenso social o conocimiento entre las personas, mientras que otras veces se requería de un auténtico caudal lingüístico por el que se narraban, calibraban y enjuiciaban dichas relaciones. El uso de dichas palabras, así como su significado, estaba también definido espacial y socialmente. Este estudio pretende ofrecer una descripción de los problemas básicos a los que nos enfrentamos, ilustrándolos mediante ejemplos procedentes de la medicina, la astrología y en ocasiones de la filosofía y la teología.

PALABRAS CLAVE: mecenazgo, sociedades islámicas, vocabulario.

ABSTRACT

It is by no means easy to write a meaningful paper about the language of «patronage» in Islamic societies, because in medieval Arabic and Persian there is no unambiguous term for it. Over the centuries and in different contexts, there were various terms to describe this reality. Sometimes only a few words sufficed to express relationships of hierarchy, promotion and knowledge between people, while at other times a veritable linguistic manifold was tapped into for narrating, differentiating and evaluating. The use of the words and their meaning differed also territorially and socially. This work offers a description of some of the basic problems when dealing with this vocabulary, illustrating them with examples primarily from medicine, astrology and occasionally mathematics, philosophy and theology.

KEY WORDS: patronage, Islamic societies, vocabulary.



INTRODUCTION

In the first centuries of Islamic societies, «clients» were called *mawlas*. This described an adoption of someone by an Arabic tribe. It was a pre-Islamic custom which was now applied to the newly converted. Such a *mawlaship* was legally regulated. It could be inherited or transferred. This custom became so prestigious that in the 8th and 9th centuries, some men invented their pedigrees as *mawlas*, while others rewrote their ancestry immediately as that of an Arabic tribe.

A new concept rose to prominence under the Abbasid caliphs in the 9th century and even more so under the Buyid *umara'* in the 10th century: *istina'*. It signified the rearing and training of (slave) soldiers. According to Mottahedeh, the relationship of *istina'* was of a more informal kind than the *mawlaship*. He also saw it as «a surprisingly formal and serious relationship» where a man expected from his protégé (*sani'*) a lifelong commitment¹. Hence, Mottahedeh identified *istina'* with «patronage»². I could not find, however, a single case where *istina'* or its verbal forms were used for scholars. Nor did the triangle that Mottahedeh described as the defining feature of Buyid patronage, namely benefit (*ni'ma*), gratitude (*shukr al-ni'ma*) and obligation (*'uhda*, such as oath, vow or the guarantee of safe conduct) appear in texts about scholars and their relationship to rulers or courtiers³.

Does this mean that there was no patronage for the sciences or for scholarship in general? This is barely plausible. Too many mathematical, astronomical, astrological and other scholarly texts as well as instruments with dedications exist. Lately I even happened to come across a copy from 705/1306 of Qutb al-Din Shirazi's (634-710/1236-1311) encyclopedic work *Durrat al-Taj* dedicated to an emir in northern Iran that looks like having been illustrated by a painter in an art workshop. On its first folio is a circular motive (*Shamse*) that claims that Qutb al-Din himself had transcribed this copy for the library of the *Great Amir*⁴. Thus, since relationships between scholars, rulers and courtiers existed that we usually name «patronage», in which aspects did these relationships differ from those characteristic for the military and where did they agree? How did people in different Islamic societies before 1700 speak about such relationships? Which features changed over time? These and similar questions are at the heart of my paper. In section 1 I will discuss the linguistic similarities and differences between military and civilian «patronage relationships», mainly in regard to physicians and astrologers, but occasionally also to scholars of geometry and other mathematical sciences, and the activities described by such terms. In section 2 I will discuss problems with the expression most often used in the case of civilian relationships in two Islamic societies between the late 12th and the early 16th centuries, namely *khidma*, meaning service and later also

¹ R. MOTTAHEDEH, *Loyalty and Leadership in an Early Islamic Society*. Princeton, Princeton University Press, 1980, pp. 82-84.

² *Ibidem*.

³ *Ibidem*, pp. 70-9.

⁴ MS Istanbul, Süleymaniye Library, Fazil Ahmad Pasha 867, f 1a.

employment. In section 3 I will talk about some changes in civilian «patronage relationships» as the result of the spread of the madrasa as the major symbolic institution of education. My last section is concerned with the arts and their usage as markers of «patronage» for the sciences.

1. LINGUISTIC SIMILARITIES AND DIFFERENCES BETWEEN MILITARY AND CIVILIAN PATRONAGE RELATIONSHIPS IN THE CASE OF PHYSICIANS AND ASTROLOGERS

Basic terms that were used to talk about relationships between rulers and courtiers on the one hand and physicians or astrologers on the other come from the vocabulary used for relationships between the caliphs or the *umara'* and their troops. Examples are terms like benefit (*ni'ma*), honor, grace (*karama*, *ikram*), stipend (*jamakiyya*, *jiraya*) or *iqta'* (tax farm). Paying a stipend to or bestowing a tax farm on a scholar is mentioned occasionally already in the classical period, in particular for the Abbasid caliphs. It became more regular for the Ayyubids, a dynasty of Kurdish mercenaries that rose to power by overthrowing the Fatimid caliphate in Egypt and Syria in 1171. According to Eddé the increased transfer of social and economic privileges of the military to leading religious scholars reflected the need of this upstart family to win civilian support in the main cities of their new realm⁵. In addition to religious scholars, the Ayyubids also granted some of their physicians a tax farm, while paying them a stipend was the rule⁶.

Civilian terminology expressing different layers or perspectives of a relationship between a scholar and male or female members of a dynasty, a vizier or another courtier was fairly rich and variegated. In the classical period it included, as I have explained elsewhere, words that express either the perspective of the «client» or that of the «patron». A «client» was someone who was bound to or connected with someone else (*ittasala bi*) and who enjoyed the favor or was in the good graces of another person (*haziya inda*). A «patron», in contrast, bound (*irtabata*), engaged (*irtabata*), elevated (*'azzaza*), summoned (*da'a*), fetched (*istahdara*), carried away (*hamala*) or hired (*istakhdama*) someone else. This terminology contains at least one element of Mottahedeh's triangle, namely obligation (*ittasala bi*, *irtabata*, *'azzaza*). It indicates asymmetric, but shared power, i.e. «clients» were not powerless: they were coveted or desired ardently (*ishtaqa ila*), could be invited (*da'a*) instead of ordered

⁵ A.-M. EDDÉ, *La principauté ayyoubide d'Alep* (579-658/1260). Stuttgart, Franz Steiner Verlag, 1999, p. 280.

⁶ S. BRENTJES, «Ayyubid princes and their scholarly clients from the ancient sciences», in A. FUESS, J.-P. HARTUNG (eds.), *Court Cultures in the Muslim World: Seventh to Nineteenth Centuries*, SOAS/Routledge Studies on the Middle East, Londres, Routledge, 2010, pp. 326-56.



and, if successful, were favored or graced (*haziya ila*)⁷. Indeed, Ibn Abi Usaybi'a's description of the relationships between Ayyubid princes and their physicians shows beyond doubt that the physicians were active participants in forming such a relationship—they chose, they refused, they had alternatives, they had skills, they were rich, they had preferences. At times, they were willful, spoiled or overbearing. In addition to honor (*ikram*) and benefit (*ni'ma*), Ibn Abi Usaybi'a also used more or less frequently terms like favor (*huzwa*), respect (*ihtiram*) and companionship (*subha*)⁸. The first two are well known from Mottahedeh's study. Favor given by the patron complements the above mentioned verb describing the «client's» status. It underlines that despite the more or less regular monthly payment of stipends and the regular daily visits of the royal patrons by their physicians the relationship was not an employment regulated by a written contract and remunerated by a salary. Respect, however, indicates something new, if not in regard to such relationships in previous Islamic societies, so at least in the discussions about such relationships. It implies that the relationships between Ayyubid princes and their physicians also contained an element of merit. Merit, mostly described as rank (*martaba*), was appealed to in negotiations about the character of the relationship and the amount of the remuneration.

In 1207/8, the Ayyubid Sultan al-'Adil informed his vizier that he wished to add a second physician to the medical service of the troops who would cooperate with the current office holder Muwaffaq al-Din 'Abd al-'Aziz (d. 604/1208). The vizier recommended his own physician Muhadhdhab al-Din whom he informed about the promotion: «I praised you in front of the sultan and these thirty Nasiri dinar are for you every month in the service». Al-Muhadhdhab refused: «O my Lord, the physician Muwaffaq al-Din 'Abd al-'Aziz has every month one-hundred dinar and a [further] payment equivalent to them. I know my rank in the science and I do not serve below this settlement»⁹. When al-Muhadhdhab had begun his career as young doctor, the vizier Safi al-Din b. Shukr had taken him in his service paying him a comfortable income (*jamakiyya*) since «he knew ... his rank in the medical arts»¹⁰.

Companionship finally describes a particularly close relationship which demanded for instance a high degree of mobility. This meant that the physician was expected to travel with the prince wherever the latter went. If Ibn Abi Usaybi'a can be trusted, this special relationship demanded the consent of the client and led to no negative consequences if rejected, since several Ayyubid physicians refused to enter

⁷ S. BRENTJES, «Patronage of the mathematical sciences in Islamic societies: Structure and rhetoric, identities and outcomes», in E. ROBSON, J. STEDALL (eds.), *The Oxford Handbook of the History of Mathematics*, Oxford, Oxford University Press, 2008, pp. 301-28.

⁸ IBN ABI USAYBI'A, *Uyun al-anba' fi tabaqat al-atibba'*. N. RIDA (ed.), Beirut, Dar Maktabat al-hayat, 1965, pp. 581f, 589, 591, 600, 630, 635, 637, 639, 646, 652, 661, 683f, 698, 718 et passim.

⁹ *Ibidem*, p. 729.

¹⁰ *Ibidem*.

into such a companionship¹¹. It is unclear though which other features separated companionship from a standard «patron»-«client» relationship.

2. THE PROBLEM OF *KHIDMA*

The differences between military and civilian terminology became increasingly blurred when forms of *khadama* (to serve, to be at service) pushed alternative parlance to the fringes. As *istakhdama* (to hire, to engage the service) shows it was already used in the classical period. Service (*khidma*) and its cognates became central terms apparently first with the smaller military dynasties in northern Iraq, Syria and perhaps Anatolia. The regional spread of this terminology as the dominant language of «patronage» needs further study. It is by no means clear when and how this preponderance came into being. It is, however, evident that writers in Baghdad and cities of Ilkhanid Iran continued to use a much more diversified language.

What kind of relationships can *khidma* and its cognates describe? In a text on arithmetic needed by scribes and other practitioners Abu 'l-Wafa' Buzjani (994-998), a courtier of the Buyid emir 'Adud al-Dawla (r. 978-983) in Baghdad and a well-known scholar of the mathematical sciences, wrote that everybody who had knowledge (of something) approached the Buyid emir for «*khidmatihī*» trusting in his (giving) him charitable gifts and being honest towards him.¹² Here, «*khidmatihī*» cannot possibly mean the emir's service to the applicants in a literal sense nor does the grammatical construction seem to allow a translation like «they approached him for being taken into his service». Thus, it might be possible that «*khidmatihī*» referring to the emir signifies here his exercise of «patronage» which then is specified by charitable gifts and honesty or integrity. Immediately afterwards, however, Abu l-Wafa' applies the verb *khadama* to himself in the sense of a service of a «client» to his «patron»: «I had served him with composing a book...»¹³.

In later sources, *khidma* seems to cover all sorts of «services», military as well as civilian ones, religious as well as secular types. Its increasing application in Ayyubid and Mamluk sources to relationships between rulers and courtiers on the one hand and scholars, including physicians, astrologers and *muwaqqits* (scholars who determined prayer times, the directions of prayer and the beginning of the new moon with mathematical and astronomical means and tools), on the other poses serious problems for the understanding of what constituted «patronage» and what belonged to other categories of social relationships, if we do not wish to inflate the usage of the term «patronage» to any and sundry kind of *khidma*.

Ibn Abi Usaybi'a's *subba* (companionship) seems to indicate that *khidma* was a generic term for a relationship between two people in a hierarchy, while *subba*

¹¹ *Ibidem*, pp. 673, 696.

¹² A. SALIM SA'IDAN, *Tarikh 'ilm al-hisab al-'arabi*. 'Amman, al-Jami'a al-urduniyya, 1971, p. 64.

¹³ A. SALIM SA'IDAN, *op. cit.*, p. 64.





describes a relationship of closer personal ties with more obligations. The Ayyubid historian and scholar of the mathematical and philosophical sciences Ibn Wasil (604-697/1208-1289), for instance, described both his relationship to his father as well as that to his Ayyubid royal «patron» as *khidma*¹⁴. As I have suggested elsewhere, in Ibn Abi Usaybi's portrayal of Ayyubid conditions *khidma* described a relationship that consisted of single professional acts in a case of sickness, but excluded long-term, personal obligations of shared time beyond the immediate treatment of the disease¹⁵. The example of Muhadhdhab al-Din quoted above shows that *khidma* positions were offered, not only sought. In the case of Sultan al-'Adil, his vizier acted as the broker, the HR director, so to speak. In cases of *subha* Ibn Abi Usaybi's language seems to suggest that the invitation came directly from the «patron» to the «client». When *khidma* positions were on offer in the Ayyubid period, they could be negotiated. Since invitations to *subha* were also negotiated, negotiation seems to have been a characteristic element in the relationships between Ayyubid princes and their elite doctors. The doctors' potential for negotiation depended on their professional skills, rank and information. Muhadhdhab al-Din could not have refused the offered position, if his professional self-confidence had not been well-developed nor could he have challenged the offered salary if he had not known the salary of his colleague. No retaliation from the vizier against his unwilling and ungrateful «client» apparently occurred. Muhadhdhab al-Din rather became a very successful physician of several Ayyubid princes.

The problem to understand what kinds of relationship were subsumed under the term *khidma* continues for the Mamluk period. Four examples from Shams al-Din al-Sakhawi's biographical dictionary illustrate the range of difficulties.

- a. Was the Christian secretary employed or appointed by a Mamluk officer, his «client» or his (well-paid) «servant»?

Ibrahim b. 'Abd al-Razzaq al-Iskandari, known as Ibn Ghurrah; his origin was in Cairo in a family of Coptic secretaries; «he bound himself to the service for Mahmud al-Ustadar (majordomo) and distinguished himself in it and was promoted until he was the head of administration of the private (properties/lands) before he was 20 years old replacing Sa'd al-Din Abu l-Faraj b. Taj al-Din Musa in Dhu l-Hijja 798 h.» ... he continued to raise becoming the head of the secret correspondence and related matters; finally «Sultan al-Zahir Barquq (1382-89, 1390-99) held him in high prestige and his son al-Nasir Faraj gave him the long-term (?) post (*istaqarra bi*) of supervising the army in addition to the private (properties/lands) and other things ... and (appointed him) together with his brother to the vizierate»...¹⁶.

¹⁴ S. BRENTJES, *op. cit.*, 2010, p. 344.

¹⁵ *Ibidem*, p. 330.

¹⁶ S. AL-DIN AL-SAKHAWI, *Al-Daw' al-lami' li'ahl al-qarn al-tasi'*. Cairo, s.d., vol. 1, p. 65.

b. A scholar employed (?) and promoted a scholar (?)

Ibrahim b. 'Umar al-Baqā'i, an inhabitant of Cairo, then of Damascus..., he studied a bit of astrology, ...he took *fiqh* (law) in Cairo with a number of scholars, among them al-Sakhawi's teacher Ibn Hajar al-'Asqalani; ...«he earned his living as a witness for one of his sheikhs, namely al-Fakhr al-Asyuti, and others and by copying (manuscripts), teaching small children and other (things). He travelled in the service of my sheikh (i.e. Ibn Hajar) to Aleppo where he took from the sheikhs of transmission (i.e. the transmission of *hadith*) as well as elsewhere ... My sheikh promoted him by nominating him in the lifetime of al-Zahir Jaqmaq (1438-53) to the reading of *hadith* in the fortress»...¹⁷.

c. Scholars and the wife of a Mamluk officer employ (?) a scholar and, occasionally, also his wife

Ahmad b. 'Ali al-Qahiri al-Hanafi, *khadim* (domestic servant, attendant, «client»?) of al-Amin al-Aqsaray'i ... «he rose in the service of the sheikh and in his attendance (*mulazama*) in the *hajj*, the closeness at the two *haramayn* (Mecca and Medina) and other things. He was present in his lectures and he did not betray (? , *anfaka*) him until he died after he had given him the permission to teach and to give *fatwas* according to what was said. He became very wealthy through his affiliation to him and his appointments to many posts. He attended the service at the *Ashrafiyya* (madrasa) as a deputy, and he desired his independence from it after the death of its holder. ... After his sheikh (had died), he joined the sister of al-Muhibb, who was the wife of the *majordomo* in the year 87. He was entrusted with the external affairs and his wife with the internal affairs so that the two did not interfere in each other's business until she died. ... Likewise he attended the service of al-Burhani al-Karaki, the Imam, until he became entrusted, in the days of his disappearance, with the revenues of his domains, and he wrested them from him as tenure (? *wa-ntaza'aha minhu al-mulk*)»...¹⁸.

d. A Muslim scholar worked (?) for a (Christian ?) secretary in the Mamluk administration: «Ahmad b. Muhammad al-Qahiri al-Shafi'i, ...was deputy judge..., served Ibn al-Kuways, the *katib al-sirr* (secretary of the secret correspondence), then Ibn Mazhar..., and he acquired reputation and landed property...»¹⁹.

These four examples indicate that the boundaries between «patronage» and «servitude» had become fluent. I know, however, too little about the social and economic differences between labor, employment, service and other kinds of dependencies in Islamic societies for offering more than the following observations. The duration of either type of relationship obviously was not a primary criterion of

¹⁷ *Ibidem*, pp. 101-2.

¹⁸ *Ibidem*, vol. 2, p. 7.

¹⁹ *Ibidem*, p. 102.



differentiation between them. The rank of the superior person per se with whom the relationship was formed also does not clarify which type of social format the relationship possessed. High ranking Mamluk officers, their wives, the sultans themselves, but also scholars were served and promoted those who served them. The «servants» could come from well-regarded families or could be poor. Becoming rich and the owner of property/land, however, was certainly an important ingredient of scholarly «service» in the higher echelons of Mamluk society. The rejection of service for the powerful that can be found so often among religious scholars either stressed as a praiseworthy behavior or indeed exercised had apparently lost its appeal. «Clients» were praised when proving trustworthy, but as example 4 shows also looked for enriching themselves as did «patrons».

3. «PATRONAGE» AND THE MADRASA

Madrasas, mosques, houses of *hadith*, Sufi *khanqahs* and cognate institutes plus hospitals were the only institutional recipients of «patronage» in the way they were set up, namely by a religious donation (*waqf*). Whether observatories should or could be regarded as another such institutional recipient depends on the formal status, i.e. whether a *waqf* certificate was signed when they were founded or extended. In Ilkhanid Maragha this seems to have been the case. Institutional «patrons», on the other hand, did not exist. The «patronage» for institutions contained in the way how the institutions were run always an element of a person-to-person patronage. The act of founding such an institution by *waqf* included donating professorships, posts for physicians, *muwaqqits* and other personnel, depending on the purposes and intentions of the donor. These positions needed to be filled. The appointment procedures for new office holders were regulated, but in practice not always followed. The concept of the *waqf* prescribed that the donor or an administrator chosen by him or her alone had the right of appointing office holders. After his or her demise, a successor, also chosen by the donor, would take over this function. In particular in this period after the death of the original donor, other powerful people either from the ruling dynasty or from among the scholars often interfered in this process not merely by recommending or choosing office holders against the wishes of the succeeding administrator/s, but, as is well known in particular for the Mamluk period, by more violent means of interference such as bribery, denunciation, theft or even murder²⁰. All these kinds of meddling with the legal stipulations of the *waqf* gave many opportunities to people engaged in powerful and well-functioning

²⁰ M. CHAMBERLAIN, *Knowledge and Social Practice in Medieval Damascus, 1190-1350*. Princeton, Princeton University Press, 1992, pp. 91-107; S. BRENTJES, «Reflections on the role of the exact sciences in Islamic culture and education between the twelfth and the fifteenth centuries», in M. ABATTOUY (ed.), *Etudes d'histoire des sciences arabes*, Casablanca, Fondation du Roi Abdul-Aziz Al Saoud pour les Etudes Islamiques et les Sciences Humaines [sic], 2007, pp. 15-33, in particular pp. 29-30.

«patron»-«client»-relationships. Outsiders, however, were not the only people who tried to influence the choice of a new professor or other office holder. Those who actually held a post as a professor undertook various activities to ensure that the post remained either in their families or in the hands of a preferred student. They also engaged in numerous efforts, legal and illegal, to amass themselves as many posts as possible. As example c above shows they hired deputies who took over their teaching obligations. Insofar we can understand the relationship of *khidma* between two scholars as one of deputizing of a younger or less successful scholar for an older one who had been more successful in the struggle for posts. The reasons for this massive social networking among the professorial elite and those who wanted to enter it were the monetary and cultural gains that these posts offered. The donation certificate stipulated a regular payment and its amount in addition to certain types of work the office holder was supposed to carry out such as reading the Qur'an, teaching a certain subject to a certain number of students, determining prayer times etc. Thus a position at a madrasa or another one of the previously mentioned institutions seems to have been much more stable and formally closer to a contractual employment than a position at court or in the administration. The more positions a professor, a *muwaqqit*, an Imam or a physician could acquire the higher his income and the greater his fame, bargaining power and personal network. *Muwaqqits* as well as physicians did not hold only positions in their specialization, but could combine them with professorships in the various law-schools²¹. Hence, they too were beneficiaries and exploiters of the madrasa system and its opportunities of «patronage» relationships. This is made visible too by the fact that the biographical entries which were dominated by a vocabulary reflecting the studying and teaching purposes of the scholarly system in many cases also include elements of the «patronage» language and that in addition to rulers, courtiers, the military and their wives or daughters also scholars acted now in the capacity of «patrons» and took other scholars not only as adjuncts or junior companions, but as «servants», i.e. most likely «clients», as examples b and c above imply.

In addition to the new pecuniary and cultural possibilities for the educated to devote themselves to their studies and writings and to form allegiances and power centers, the language of «patronage» also grew richer. New terms seem to have been for instance to appoint s.o. to, to place s.o. in (*qarrara hu or fi*), to settle down, to take or give a permanent place of living, i.e. a permanent position (*istaqarra bi*) and to devote or dedicate an honor or service, to privilege s.o., to make s.o. special (*ikhhtassasa bi*). But as example 1 above indicates they were also applied to the secretarial «class». This means more research about the role of the teaching institutions and their relationships to the members of the secretarial «class» is needed for a more precise and reliable understanding of the «language of patronage».

²¹ AL-NU'AYMĪ, *Al-Dāris fī tārikh al-madāris*. J. AL-ḤASANĪ (ed.), Beirut, Maktabat al-Thaqāfa al-Dīniyya, 1988, 2 vols., vol. 1, p. 519, vol. 2, p. 131.



4. THE ARTS AS MARKERS OF PATRONAGE FOR SCHOLARS

In addition to dedications, biographical dictionaries and relevant remarks in historical chronicles the quality of the handwriting, in particular if executed in one or more styles of calligraphy, and various kinds of illustrations serve as markers that not only the text, but the particular copy or manuscript may have been an element of a «patronage»-relationship. As art historians have argued since the early twentieth century, the translation of Greek, Syriac and Middle Persian scientific manuscripts included also the transfer of frontispieces, miniatures and other art forms²². Although no illustrated scientific manuscripts are extant from the translation period (8th-10th centuries) except for the rare folios from Dioscurides' *Materia Medica*, some of the few extant exemplars from the twelfth and thirteenth centuries were undeniably produced in a courtly context. One of these splendidly illustrated works is a manuscript of Ibn al-Razzaq al-Jazari's book on automata and other mechanical devices (1205/6)²³. Another one is the Pseudo-Galenic *Book of the Antidotes* (*Kitab al-Diryaq*) of which two manuscripts exist in Paris (date 1198/9) and Vienna (13th c) the calligraphy and painting of which are superb (in both cases in Seljuq «style»)²⁴. From the Ilkhanid dynasty onwards, more material has survived to establish a safer basis for the importance of art as a marker for «patronage» for the mathematical and other sciences. In particular the great and powerful dynasties like the Timurids, the Safavids, the Mughals and the Ottomans sponsored art workshops at their courts where many excellently illustrated scientific manuscripts were produced. Examples are Arabic, Persian and Ottoman Turkish versions of 'Abd al-Rahman al-Sufi's (903-986) *Book of the Constellations of the Fixed Stars* (*Kitab suwar al-kawakib al-thabita*) written for the already mentioned Buyid emir 'Adud al-Dawla in the tenth century, Arabic and Persian versions of Dioscurides' *Materia Medica*, astronomical handbooks like the *Ilkhanid Tables* produced by a team of scholars at the Ilkhanid court of Maragha in the thirteenth century or the so-called *New Royal Tables* or *Tables of Ulugh Beg* produced by another team of scholars

²² K. WEITZMANN, «The Greek sources of Islamic scientific illustration», in G. MILES (ed.), *Archaeologica Orientalia in Memoriam Ernst Herzfeld*, Locust Valley, 1952, pp. 244-66; R. ETTINGHAUSEN, *Arab Painting*. Ginebra, 1962; R. ETTINGHAUSEN *et al.*, *The Art and Architecture of Islam*. New Haven, Yale University Press, 1987; E. GRUBE, «Materialien zum Dioskurides Arabicus», in R. ETTINGHAUSEN (ed.), *Aus der Welt der islamischen Kunst, Festschrift für Ernst Kühnel*, Berlin, 1959, pp. 163-93; E.R. HOFFMAN, «The author portrait in thirteenth-century Arabic manuscripts: A new Islamic context for a late-antique tradition». *Muqarnas*, vol. 10 (1993), pp. 6-20, pp. 6, 8-9; E.R. HOFFMAN, «The beginnings of the illustrated Arabic book: An intersection between art and scholarship». *Muqarnas*, vol. 17 (2000), pp. 37-52.

²³ D.R. HILL (ed. and transl.), *The Book of Ingenious Mechanical Devices*. Dordrecht, 1974.

²⁴ MS Paris, BnF, Arabe 2964; MS Vienna, ÖNB, Codex A.F. 10. See also J. KERNER, «Art in the name of science: The Kitab al-Diryaq in text and image». Abstract, SOAS Conference: *Arab Painting: Text and Image in Illustrated Arabic Manuscripts*, 2004, pp. 13-4; http://www.qantara-med.org/qantara4/public/show_document.php?do_id=1496&lang=en, accessed 2 June 2011.



with some participation of the Timurid prince Ulugh Beg (1394-1449) in the early fifteenth century in Samarkand, works on planetary theory like Qutb al-Din Shirazi's *The Royal Gift (al-Tuhfa al-shahiyya)* written for Taj al-Dim Mu'tazz b. Tahir, the vizier of Amir-Shah Muhammad b. Sadr al-Sa'id (13th C.) or Shams al-Din Khafri's (d. c. 1550) commentary on Nasir al-Din Tusi's (1201-1274) astronomical textbook *The Memoirs (al-Tadhkira)*, both produced in Safavid Iran in the sixteenth and seventeenth centuries²⁵. Many of these illustrated scientific texts were originally products of «patronage» for the sciences. Now they were favored outlets for such activities as elements of education, research, cultural policy or political ambitions. Nasir al-Din Tusi, Ulugh Beg, the Safavid governor of Mashhad, Manuchihr Khan (d. 1636), the Safavid Great viziers Khalife Soltan and 'Alijan Muhammad Khan of Shah 'Abbas II (r. 1642-1666) and Shah Sulayman (r. 1666-1694) and the Safavid governor of Azerbaijan in this period, Mirza Quli Khan, all contributed either as patrons or as scholars to the production of copies of Sufi's book on the star constellations in its entirety or partially (only the images)²⁶. The copies of Ulugh Beg and Manuchihr Khan, today extant in the National Library of France in Paris, the New York Public Library and the Dar al-Kutub in Cairo, belong to the most splendidly illustrated ones of this work²⁷.

A number of these manuscripts and a few others on astrology and technology were illustrated with paintings that show a close relation to the styles developed in Isfahan. These manuscripts include the undated *Royal Gift* by Qutb al-Din Shirazi mentioned above; three copies of 'Abd al-Rahman Sufi's *Book of the Constellations of the Fixed Stars*, two of which were made on order of Manuchihr Khan between 1630 and 1634 in Mashhad, while one is undated, but placed by Anthony Welch in the middle of the seventeenth century; at least two copies of the Arabic text of this work, one produced possibly around 1630, the other being undated; a new Persian translation of Dioskorides' *Materia Medica* ordered by Shah 'Abbas I (r. 1588-1629);

²⁵ MS Paris, BnF, Arabe 5036; P. KUNITZSCH, «The astronomer al-Šūfi as a source of Ulugh Beg's Star Catalogue (1437)», in Ž. VESEL, H. BEIKBAGHAN et B. THIERRY DE CRUSSOL DES EPESSE, *La science dans le monde iranien à l'époque islamique*, Teherán, Institut Français de Recherche en Iran, 1998, pp. 41-47, in particular pp. 42-3; reprinted in P. KUNITZSCH, *Stars and Numbers, Astronomy and mathematics in the Medieval Arab and Western Worlds*. Variorum CS 791, Aldershot, Burlington, Ashgate, 2004, XII; Ž. VESEL, «Science and scientific instruments», in N. POURJAVADY (gen. ed.), *The Splendour of Iran*, 3 vols.; vol. III: C. Parham (ed.), *Islamic Period. Applied and Decorative Arts. The Cultural Continuum*, Londres, Booth-Clibborn Editions, 2001, pp. 268-307, 38 colored images; A. SOUDAVAR, *Art of the Persian Courts*. Nueva York, Rizzioli, 1992, p. 67;

²⁶ B. SCHMITZ, *Islamic Manuscripts in The New York Public Library*, with contributions by Latif Khayyat, Svat Soucek, Massoud Pourfarrok. Nueva York, Oxford, Oxford University Press and The New York Public Library, 1992, pp. 55, 123-4, figure 127; D.A. KING, *A Survey of the Scientific Manuscripts in the Egyptian National Library*. Cairo, 1986, pl. III; KUNITZSCH, *op. cit.*, 1998, p. 43; F. RICHARD, *Splendeurs persanes. Manuscrits du XII^e au XVII^e siècle*. París, Bibliothèque Nationale de France, 1997, p. 78.

²⁷ B. SCHMITZ, *op. cit.*, figure 127; MS Cairo, Dār al-Kutub, MMF9, D.A. KING, *op. cit.*; MS Paris, BnF, Arabe 5036, <http://mandragore.bnf.fr/jsp/rechercheExperte.jsp>, Richard, *Splendeurs persanes*, p. 78.



at least three Persian copies of the *Materia Medica* made in 1645 and 1657; and a work about the astrological meanings of each of the 360° degrees of the sky made in Isfahan in 1663²⁸. In addition to these copies, there are other illustrated scientific manuscripts produced in seventeenth-century Safavid Iran that may or may not be related to the art of the court²⁹. A further feature of this triangular relationship between «patrons», the arts and scholars was the emergence of pictures of scholars linked in «patronage»-relationships with the Ilkhanid, Timurid or Safavid courts. Examples are miniatures of Nasir al-Din Tusi, the vizier of *waqf* at the court of the first Ilkhanid ruler of Iran, Hülägü Khan (r. 1256-1265), and director of the observatory in Maragha, and the Safavid head physician Muzaffar b. Muhammad al-Hasani al-Shifa'i³⁰.

Examples of this role that courts and their art workshops played from the thirteenth to the seventeenth centuries in the production of luxury versions of scientific texts and that involved in several cases the participation of a court astronomer/astrologer or other scholars as a translator, commentator or copyist can also be found in connection with the courts of other dynasties than the Ilkhanids, Timurids and Safavids. Hence, a closer attention of historians of science in Islamic societies to illustrated manuscripts as suggested by Vesel³¹ and well argued for by her in her chapter «Science and Scientific Instruments» in the *Splendor of Iran* and the *Images of Islamic Science* is urgently needed³².

²⁸ B. SCHMITZ, *op. cit.*, p. 61; A. WELCH, *Collection of Islamic Art. Prince Sadruddin Aga Khan*. Ginebra, Chateau de Bellerive, 1972, 4 vols., vol. 2, pp. 60-1, 69-70, 122-3; Ž. VESEL, *op. cit.*, 2001, pp. 293-7.

²⁹ See, for instance, B. SCHMITZ, *op. cit.*, p. 61.

³⁰ For Tusi see F. RICHARD, «Les 'portraits' de Našir al-Dīn Tūsī», in N. POURJAVADY, Ž. VESEL (eds.), *Našir al-Dīn Tūsī, Philosophe et Savant du XIII Siècle*, Bibliothèque Iranienne 54, Teherán, Institut Français de Recherche en Iran, Presses Universitaires d'Iran, 2000, pp. 199-206, 4 images on pp. 202-206; for Shifa'i see for instance MS Paris, BnF, Supplément persan 1572, f 3.

³¹ Ž. VESEL, *op. cit.*, 2001, pp. 268-307; Ž. VESEL, S. TOURKIN & Y. PORTER (eds.), avec la collaboration de F. R. et F. GHASEMLOO, *Images of Islamic Science. Illustrated Manuscripts from the Iranian World*. Teherán, UNESCO-IFRI-Fond, M.Van Berchem-Azad University, 2009.

³² Este trabajo se encuadra en el proyecto de Excelencia de la Junta de Andalucía código P07-HUM02594, «Estudios sobre Historia y Filosofía de las Ciencias Físicas y Matemáticas».