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Dr. İlker KEÇETEP

Zonguldak Bülent Ecevit Üniversitesi, Çaycuma Meslek Yüksekokulu, Yabancı Diller
ve Kültürler Bölümü , ilkerkecetep@yahoo.com

OTTOMAN MADRASAS AND SOCIAL SCIENCES

Abstract

This academic study sheds light on the Ottoman madrasas and social sciences in Ottoman madrasas. In the Ottoman Empire, which took over the scientific and cultural heritage of the Anatolian Seljuk State, as in all fields, intensive studies were carried out in the fields of education science and research. Education and science schools that called madrasa were established and many valuable studies carried out in the fields of social sciences, religious sciences, natural sciences and those studies and developments prepared basics of sciences and guided the world sciences

Ottoman madrasas and social sciences and other sciences in Ottoman madrasas are important factors that provide the foundations of modern science in the Republic of Turkey. At the same time, the Ottoman madrasas had a positive impact on the world science, especially on development of science in the western world, and provided the development of science all around world.

Key Words: Ottoman Madrasas, Social Sciences, History of Science

**ZONGULDAK BÜLENT ECEVİT UNIVERSITY, ÇAYCUMA
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Özet

Bu akademik çalışma Osmanlı medreseleri ve Osmanlı medreselerinde sosyal bilimler konusuna ışık tutmaktadır. Anadolu Selçuklu Devleti'nin bilimsel ve kültürel mirasını devralan Osmanlı İmparatorluğu'nda her alanda olduğu gibi eğitim bilim ve araştırma konularında da yoğun çalışmalar yapılmış medrese adı verilen eğitim ve bilim okulları kurulmuş, sosyal bilimler, dini bilimler, fen

bilimleri gibi pekçok alanda dünya bilimlerine temel hazırlayan ve yön veren çok değerli çalışmalara ve gelişmelere imza atılmıştır.

Osmanlı medreseleri ve Osmanlı medreselerinde yer alan sosyal bilimler ve diğer bilimler modern Türkiye Cumhuriyeti'ndeki bilimin temellerini sağlayan önemli faktörlerdendir. Aynı zamanda Osmanlı medreseleri başta batı dünyası olmak üzere dünya bilimini olumlu yönde etkilemiş ve bilimin gelişimini sağlamıştır.

Anahtar Kelimeler: Osmanlı Medreseleri, Sosyal Bilimler, Bilim Tarihi

Introduction

Science has great importance at every step of humankind and in every aspect of living. Humankind was able to see the future, develop and proceed with a light which held by information and thus was able to build civilizations during history. Technological developments and inventions that offered to humankind are results of the science. Science which is the best way shown by mind advances and develops in every society if there is sufficient study and effort. Science is developing and advancing rapidly, branches of science started to increase and take new shapes and acquire new contents.

According to other anonymous definitions the science is series of theory, hypothesis and laws about scientific problems. The science reaches realities by the help of well organized studies, research and experiments. Mission of science is to provide usage human benefit of these realities. It is a whole of observation, experiment, researches and studies that is done objectively to further theory and hypotheses improving. In a nutshell, science or scientific mentality is a product of systematically and methodical acquired information before anything else, so this situation creates basis key points of science of theory and hypothesis.

All hypotheses have to be tested and if possible, these validities should be tested with alternative hypotheses. It should rely on datum that achieved in laboratory or field, through experiment or observations without resort to supernatural factors.¹

One of the newest (modern) science which can be characterized as a deep and open ocean is social sciences. In Western civilizations, especially in the last two century, social sciences began to take shape with influence of important social developments and ideological developments which occurred in Western Europe. Science and social sciences which is one of the main braches are perpetual in a development and transformation. Countries influence each other with some channels such as scientists, philosophers, technological developments, communication and movement and idea. When we analyse history of science in general it is clearly and easily seen that Eastern civilizations and Western civilizations affected each other continuously.

There are various types of schools, institutes, universities and similar institutions in which scientific studies, research, education and similar activities take place. Madrasa was the name of educational institutions in Ottoman Empire. Ottoman madrasas which were the nest of science and social sciences played important role on scientific developments not only in Turkey

¹ Namık Kemal Üniversitesi, e-article ‘‘Bilim, Bilim İnsanı ve Bilimsel Yöntem’’, euniversite.nku.edu.tr/bilim.pdf, p.1 (Access Date: 11.09.2015)

but also rest of the world. Ottoman madrasas focused on religious and secular sciences including Qur'anic studies, Islamic Metaphysics, Ethics & Islamic Ethics, Law, Logic, Philosophy, History, Medicine, Chemistry, Astronomy and so on. This article will try to express and enlighten history of Ottoman madrasas and social sciences briefly.

Ottoman Madrasas and Social Sciences

Science has dynamic and developing structure, it continuously develops by information and science, it does not show a stable feature. Science has phenomenal quality and it relies on observable phenomenon or phenomena. When tackled in terms of historical development of science it can be immediately noticed that it has very deep-rooted and rich past. Eastern civilization as well as Greek and Western civilization has made significant contributions development of science. However, from the point of view creating a part of accumulation which may be accepted a basis for the scientific researches providing producing of the knowledge systematically, contributions of Egypt and Mesopotamia civilizations shouldn't be ignored. According to the Greek mentioned these civilizations make contribution in astronomy and mathematic fields. Before the Greek, these civilizations which mentioned had contributed in field of medicine, astronomy and mathematic.²

Greeks have contributed to many new inventions and the life of idea by systemized scientific data. After the birth of Islam, Muslim scientists made new additions with Sanskrit and Greek works translated into Arabic and the western world pioneered in scientific study and researches with renaissance. Initially, all science branches are located in philosophy. Philosophers were people who had a vision of life by synthesizing all the information knowledgeable in all disciplines. Aristoteles who wrote book almost in all subjects and accepted his books in related to science field as an authority is the most beautiful example of this kind of philosopher. Science history of Ottoman Empire is one of the least known, researched and ignored fields.

Ottoman science is a term used to refer to the scientific studies that have been carried out within scope of time and place that have ruled the Ottoman Empire. Ottoman science that progressed within a term of 6 centuries from 13th century to 20th century that emerged in Anatolia in the shape of a small principality at the end of 13th century, dominated the whole Anatolia and Balkans and great part of Arabian countries, turned into enormous empire with a large landscape where Ottoman empire reigned and it covers all of the scientific activities. These scientific activities contain translations from foreign languages in various disciplines and operating related to education and science institutions. Although development of Ottoman Empire enables to evaluate with different approaches and from different aspects, there are two main period in ottoman science. First and the longest main period was classical period that the effect lasted up to 20th century which has dominant position of classical Islamic science in the Middle East. The second main period was the period of modernization coming true under the effect of science.³

² Orhan Türkdoğan, **Bilimsel Araştırma Metodolojisi**, Timaş Yayınları, İstanbul, 2009, p.203.

³ Mustafa Ergün, "Bilim Felsefesi" <http://www.egitim.aku.edu.tr/bilimfelsefesi.pdf>, p.1 (Access Date:11.09.2015)

When Ottoman Empire had been established, it inherited cultural heritage in Anatolia and provided continuity of existing madrasahs, hospitals and other institutions this also scientifically realized in this way. Ottomans created a world that was particular feature according to them at the framework of Islamic civilization. There have been Seljuks and Anatolia in earlier periods, Persian and various science institutions at around and scientists who studied in this institutions; when Ottoman Empire has been established in Anatolia these science institutions with their students reverted to establish government.⁴

Administrative structure system which was established by Nizamülmülk in Bagdad in 1067 and was opened its branches in important cities such as Belh, Nisabur, Herat, Isfahan, Basra, Amil and Rey with education teaching method in Nizamiye madrasahs assigned to Anatolian Seljuk Empire from Great Seljuk Empire and then Ottoman Empire which inherited from all these empires were transferred in the same way.

Main classes given in Bagdad Guardhouse Madrasahs were:

Religion and Law Classes: Interpretation, İslamic Law, Tradition, Kalam, Reading the Holy Qur'an

Religion and Literature Classes: Persian and Arabic Literature, Grammar, Oratory, Poem, History, Wounding and Modification

Philosophy Classes: Logic and Philosophy

Positive Science Classes: Arithmetic, Surgery, Medicine, Geometry, Calculation.⁵

However these educational institutions constitutively gave religion, language and law education including Guardhouse Madrasahs. Being read some basic work about positive science with the same importance in Seljukians and Ottomans, even being dedicated to emperors have place in terms of showing the relation about this field. This shows that religion, language, nation union have the same value in positive science field, too.

From the year Ottoman Empire was established; Libraries which had rich collections was started to be opened and scientists from different states in Islamic World were brought to the Ottoman Empire by providing very good opportunities according to the period of the time. Thus the capital cities Ottoman like İznik, Bursa and Edirne became the center where scientists heaped together in a short time before the conquest of Istanbul.

First Madrasa which was science nests of Ottoman Empire and the starting point of sciences was İznik Madrasa established in the period of Mr. Orhan in 1330. From the point of teaching and building; it is a follow up for Madrasahs which were established in the period of Seljukian. The first head Mudarris of İznik Madrasa is Davud bin Mahmud-ür-Ru-mi-ül-Kayseri who took education in Egypt and has specialization in mental and transplantation science. The second Madrasa of Ottoman Empire was established in Bursa by Lala Şahin who was one of commander of Orhan Bey. In this period almost all the science works have inked in

⁴ Abdülhak Adnan Adıvar ; *Osmanlı Türkleri'nde İlim*, Remzi Kitabevi 4. baskı, İstanbul, 1982, p.15.

⁵ Adıvar, p.16.

Arabic. So, Arabic was in the most important science language position. Kalam, Islamic Law, Logic and Math were among the sciences which were studied in Arabic.⁶

In this period there weren't any work that were inked about positive science in Ottoman Empire. When examined the period of Fatih the Conqueror which is one of the brightest period of science history; even in this period positive sciences had no special place, It's seen that came to the fore the science branches of Islamic Law, Kalam, Logic, etc. and studied better upon these sciences. It's possible to say that scientific and philosophical thought developed by Fatih the Conqueror's acceded to the throne. Because firstly he became a Sultan who considers important the science and philosophy. Scientific studies were supported and scientific works from foreign language started to be translated in his term. For example; works of Greek Philosophers were translated into Arabic, Farsi and some of them were translated into Turkish. Philosophy precepts were examined and existing information in the field of philosophy were increased and tried to be improved.

In respect to Math and Astronomy, Ottoman Empire's the most brightest period had begun with Ali Kuşçu who came from Turkistan to Istanbul. It's possible to separate the studies of Ali Kuşçu into two main category; these are; Astronomy and Math, Philology and Kalam.

As well as Ali Kuşçu in this term there are a lot of names came to the forefront in Ottoman Science life, for example Akşemseddin and his work which is called Kitab-ı Tıp inked about medicine, Sabuncuoğlu Şerefeddin Ali bin Elhac İlyas and his work which is called Cerrahname-i İlhani inked about medicine and Hocazade Esirüddin Mufaddal bin Ömer-ül-Ebheri's Hidayet'ül Hikme which was inked about physics.⁷

Having place in terms of science in the term of Fatih the Conqueror one of the most important developments had been established the Madrasah Islamic-Ottoman Social Complex. The first Madrasah Islamic-Ottoman Social Complex in Ottoman Empire was established by Fatih the Conqueror by name Sahn-ı Seman. Sahn-ı Seman Islamic-Ottoman Social Complex as well as medical, cultural and social in institute which was occurred with magnificent mosque and 16 madrasahs was built around 8 of these madrasahs for higher education and rest of Madrasahs were being used for secondary education. Fatih the Conqueror showed special importance for being studied upon mental sciences including astronomy and maths in his foundation certificate-charter related with Sahn-ı Seman. Islamic-Ottoman Social Complexes positively contributed scientific development without a shadow of a doubt in Ottoman Empire.⁸

From the end of the term of Fatih the Conqueror science has come the situation that encounters with western world in Ottoman Empire, however in this term Ottoman science tried to keep away from western science as possible. Until 16th century scientific thoughts was in quite slow development in Ottoman Empire.

After Fatih the Conqueror's death the interest being showed against positive science continued for a little more time. For example; Pasha Sinan and his student Mollah Lütfi from

⁶ Aykut Kazancıgil, **Osmalılarda Bilim ve Teknoloji**, Ufuk Kitapları, İstanbul, 2000, p.15

⁷ Ekmeleddin İhsanoğlu, Salim Ayduz; "Yenileşme Döneminde Osmanlı Bilim ve Eğitimi" , Türkler, 14. Cilt, Ankara, 2002, s.888.

⁸ Adivar, p.32.

Tokat have done scientific studies about astronomy and math. In this period; It's seen that there were translations from Ancient Greek. One of the most important name of this term was Mahmud Bin Mehmed who was known as Mirim Çelebi who was educated person in the fields of math and astronomy in Ottoman Empire. Another name who was famous in the same field was Uluğ Bey, he wrote Farsi works and followed a didactics way in his math books that he revealed.

One of the most important regulation in Madrasas established in the period of Fatih the Conqueror. In Madrasas in addition to logic, rhetoric, kalam, syntax, geometry courses, some of social science courses were given such as geography, history and philosophy.⁹

The period of Magnificent Süleyman reigned for long years, It's seen that from the point of science the important developments happened Suleymaniye Islamic-Ottoman Social Complex which is famous all around the world and carries importance from the point of Ottoman science was built up by Sinan the Architect with the order of Magnificent Suleyman. One of the prominent feature of Süleymaniye Islamic-Ottoman Social Complex is containing in itself the first self-contained medical school. In this period sea and geography science developed visibly. Piri Reis made big contributions and very valuable studies which made him famous all around the world in this field. His most important work named Kitab-ı Bahriye was written in 1521 and he made the world history with the world map drawn by him. In 16th century very much works belong to geography and cosmography were occurred in Ottoman Empire; For example, works named Tuhfet-üz-zaman and Haridet-ül-evan inked by Mustafa bin Aliy-ül Muvakkit were occurred by Arabic books which were trend in this period with the way of collection and translation.¹⁰

In this period the land of Ottoman Empire reached its widest borders. Many of the scientists had been walking around the Ottoman borders with Padishah and the army. Padishahs' reigning everything in the country and every topic unconditionally, disinterest against positive science and the other science branches had been influencing the studies of scientists directly. On the one hand the wars, on the other hand literature and poem had completely filled this period, science had kept in the background. Hesitance and deterioration period had lived in given education in 16th and 17th century in Ottoman Empire and positive sciences started to go off the boil.

After Magnificent Süleyman period science and philosophy topics didn't get attention they need. During Tulip Period and Tanzimat Reform Era according to have various attempts on the purpose of development of science, important changes and developments weren't lived.

Considering that Sultan Murad the 3rd's period, It's seen that existing of written encyclopaedical works about various science. Almost all of these works translated from Farsi and Arabic or comprised of collected works. In this period the meaning of the word science was very large and it is even accepted the various branches of a science as a single science.

⁹ Ülker Öktem; 'Osmanlı Medreselerinde Felsefe', OTAM Dergisi, Sayı: 15, Ankara, 2004, p.240.

¹⁰ Mehmet Dağ, Hıfzırahman Raşit Öymen; İslam Eğitim Tarihi, Milli Eğitim Basımevi, Ankara, 1974, p.186.

In this period there weren't any printing house in Ottoman Empire and it was forbidden to bring and to sell the pressed works in the country. The books written in Farsi and Arabic language entry to the country and to be sold was possible only with the allowance of the Sultan. According to book named *Histoire du Serail et de la Cour* pressed in Paris in 1633 of Michel Baudier who gave information about thinking life of this period. In the period of Murad the 3rd, Ottoman Empire had 120 madrasahs and about 9000 students had education in these madrasahs and students weren't studying, they dived into enjoyment and entertainment binge. Murad the 3rd enacted a edict dated Shawwal 29, 983 (January 31,1576) for to be parried this Situation.¹¹

Started from the 2nd part of 16th century institutionalization of science activity was important from the point of specialize of Ottoman science. The first was the establishment of Takiyüddin el-Rasıd Observatory, second one was establishment of a medical school as a self-contained institution in Süleymaniye Islamic-Ottoman Social Complex. However through the last years of 16th deterioration appeared in Ottoman madrasahs naturally affected science and technology in negative way. Consistence that was seen in spelling of science works and teaching of science in 16th century became more distinct situation in 17th century. Scientific thought appeared in western world in writing works take part in this period and Tercüme-i Hâl works only full of with the names of people who are famous around judgement and administration.¹²

In previous centuries a small number of scientists have grown in madrasahs which are the nest of physical and natural scientist. However after 17th century positive and mental sciences gradually started to losing favour in madrasahs and classes was in the scope of Islamic Subjects as philosophy, math and astronomy stayed in the background. During 17th century in mental and translations science instead of new and original scientific works, paraphrase and translations were made. The works that can be accepted original, generally happened in the fields of medical, astronomy and math.

In 18th century, it wasn't a bright period from the point of positive science. However it was rich in the sense of general culture. Damat İbrahim Pasha was one of the name acted very important role in the development of the science in this period. He protected the scientists and increased the number of books in libraries, then ordered for translating the very much works into Turkish. Another important development was the establishment of printing house and started to press works. İbrahim Müteferrika pressed 17 books; one of the most important scientific works is *Cihannuma* which was written by Kâtip Çelebi.

In 18th century teaching was mostly for Islamic-Law in Arabic in Madrasahs. Some of positive science works were tried to be transmitted timidly and trembly from western to madrasahs but these attempts couldn't reach to success, attempts generally were as attempts of scientists grown out of madrasah. However through the end of this century: It has seen that began to appear the modernization acts in Ottoman science. For example; modern math started to take shape with the effect of German and French Military Officers came for modernization of Ottoman Army with the way of military duty.

¹¹ Remzi Demir ; *Osmanlılarda Bilimsel Düşüncenin Yapısı*, Ankara, Epos Yayınevi, 2001, p.25.

¹² Tahir Hatipoğlu ; *Türkiye Üniversite Tarihi 1845–1997*, Selvi Yayınevi, Ankara, 1998, p.240.

In 18th century various reforms were done for overt this hesitance and deterioration happened in parallel to general situation of Ottoman Empire. In 1773, Mühendishane-i Bahri Hümayun which was one of the first higher education institution gives education in western style. In this school, in addition to Arabic, Turkish, French, algebra, geometry, arithmetic, topography, integrant, trigonometry, mechanic, differential calculus, ballistics, and astronomy classes, history, warfare history, and geography classes were given.

CONCLUSION

Ottoman science, in the first century of the first main period continued from the end of 13th century until the end of 19th century, has reminded under the influence of traditions canalizing specific directions. Samarkand and Meraga schools had been effective in mathematics and astronomy fields, Egypt schools had distinctive and pioneer features in the field of medicine. Though not as effective as these traditions, other effect affecting Ottoman science, Jewish and Muslim scientists coming from Andalusia to Ottoman territory made effects in fields of medicine and astrology. For example; after invasion of Granada in 1492, Jewish scientists who were living there wanted to come under rule of Ottoman Empire and majority of them settled Istanbul by migration.

In classical period of Ottoman Empire, science was effected by Islamic religious features. In Ottoman Empire Science consisted of two main parts; one of them is Rational sciences other is Hearsay sciences. Rational sciences are an accumulation of knowledge obtained result of research, observation and experiment by human being mind. Hearsay sciences are Islamic science, all scientific studies related to Islamic religion include in this field.

In Ottoman Empire and Western Civilization, science had a wide meaning including all human information without separating from each other. All of Islamic law, remark (kalam), astrology, alchemy, countenance science, magic, and dream interpretations were within scope of science. This wide meaning and scope that had science continued until emerging the first light of science in modern meaning in 19th century. All of these disciplines was taught in madrasahs, actually madrasahs acted like university of Ottoman Empire. Therefore scholars who graduated from madrasah had title of scholar; scholars had full knowledge of Islamic law, remark, mathematic, committee, and medicine and astrology sciences.

Pre-republic, schools which may be accepted as a higher education institution are madrasahs. Madrasahs formed foundations of ottoman education and authority of Ottoman. Until 16th century madrasahs trained bureaucrats, clergymen, technicians needed by Ottoman Empire. Since 17th century, these institutions degenerated rapidly and they became reaction centres against innovation movement in Ottoman Empire.

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