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Nineteenth-Century Military Painters as *Mütefennin Zabits*: On the Origins of *Harbiye*-Graduates' Realist Attitude in Painting[1]

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Abstract: This study aims to examine how military painters' educational and intellectual backgrounds who graduated from *Mekteb-i Harbiye* (the Imperial Military Academy, 1834) shaped their approach to painting. I am trying to explain the role of painting lessons, the sources they fed on, and *Harbiye*'s view of the painting by questioning the factors that are effective in the preferences of the military painters, who mostly painted landscapes and still-lifes in the rich visual culture of the nineteenth century. I evaluate the specific courses related to modern painting from the curricula between 1845 to 1877 within the scope of science and functionality that prevailed after the *Tanzimat* (Reorganization) period (1839-1876). In this context, the study attempts to explain the dynamics in which the Ottoman Muslim population internalized modern painting and the realist attitude; on the other hand, it emphasizes that modern painting is seen as a tool in the modernization policy rather than an artistic activity by *Harbiye*.

Keywords: *Harbiye*, military painters, realism, landscape, still life, functionality, knowledge production

Mütefennin Zabit Olarak Ondokuzuncu Yüzyıl Asker Ressamları: Harbiye Mezunlarının Resimdeki Realist Tavrının Kökenleri Üzerine

Öz: Bu çalışmanın amacı, 1834'te açılan Harbiye Mektebi'nden mezun olan asker ressamların eğitimsel ve entelektüel arka planlarının resme yönelik yaklaşımlarını nasıl şekillendirdiğini incelemektir. On dokuzuncu yüzyılın zengin görsel kültürü içinde çok

[1] This article bases on my master's thesis entitled *An Intellectual History of Late Ottoman Painting: Mekteb-i Harbiye and the Development of Realism* completed at Koç University in September 2021.

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büyük oranda manzara ve natürmort resmeden ve sanat tarihi kapsamında ağırlıklı olarak bu yönleriyle ele alınan asker ressamlar grubunun, tercihlerinde etkili olan unsurları sorgulayarak resim derslerinin rolünü, beslendiği kaynakları ve Harbiye'nin resme bakışını açıklamaya çalışıyorum. 1845'ten 1877'ye kadar ele aldığım ders programlarından modern resimle alakalı olan dersleri, Tanzimat sonrası ağır basan bilimsellik ve fonksiyonellik kapsamında değerlendiriyorum. Bu bağlamda çalışma, taraftan modern resmin ve realist tavrın Osmanlı Müslüman nüfusu içinde hangi dinamiklerle içselleştirildiğini açıklamaya girişirken, diğer taraftan modern resmin Harbiye'de sanatsal bir etkinlikten ziyade modernleşme politikası içinde bir araç olarak görüldüğünü yeniden vurgulama gayretindedir.

Anahtar kelimeler: Harbiye, asker ressamlar, realizm, manzara, natürmort, fonksiyonellik, bilgi üretimi

Introduction

For the Muslim population, students at military schools were the first group to introduce European-style canvas painting in the late eighteenth and nineteenth centuries. Naturally, painting and drawing classes were following military modernization. Even though this context, some of the painters who graduated from military schools, continued to paint and attempted to construct an artistic language, became inspirational characters for younger generations, even for students at *Sanayi-i Nefise Mektebi* (the Imperial Academy of Fine Arts, 1883). However, these characters became the sources to create a narrative (of a pioneer artist typology, of a romanticist military painter acquainted with European technique and producing in Ottoman mind) in the hands of art historians. This study -based on the argument that nineteenth-century Ottoman military painters' works were realist- examines the dynamics of this particular realist attitude. The research aims to analyze the development process of realism dominance in the Ottoman painting by indicating that military painters were not artists but technocrats who could paint. Realism entered a multi-layered intellectual structure in the hands of the Ottoman military staff, who tried to understand nature technically to fulfill military and socio-economic needs. Upon this, a study on painting alone cannot be enough to grasp the essence of Ottoman realism.

I focus on the group of painters trained at *Mekteb-i Harbiye* (Imperial Military Academy) from the 1850s to the 1880s. The starting point of studies on military painters is that they are pioneer artists in modern Ottoman/Turkish art history, although they did not try to be artists. In this argument, the artist is an attributed/retrofitted adjective. This scholarly narrative of the twentieth century created an art-oriented profile and transformed military training's purposes and motivations into biographical details. Indexing all changes in modern schools' curricula to art historical context misrepresented the motivation behind technical adaptations such as perspective and topographical depiction. However, this one-dimensional approach doesn't reflect the multifaceted – technocratic profile of

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military painters; that were trained as *mütefennin zabit* (officers of the sciences) at modern schools during the *Tanzimat* Period (Reorganization, 1839-1876).[2]

Since Turkish art historiography has mostly focused on artworks and considered military painters of the time as if they were nothing but artists, it is inappropriate to follow the intellectual foundation process of the realistic approach. The main problem was that literature neglects the comprehensive emphasis of Ottoman intellectuals in science and reason. By looking in detail at the curricular framework that the *Mekteb-i Harbiye* offered, I aim to demonstrate that realism had a function in the education of *mütefennin zabit*s. Painting, like many other fields, took on a function in modernization policies, responded to certain demands, and gained instrumentality. It was interdependent with the military developments in physics, cartography, topography, and bastion in Europe since the 1770s. Realism in the Ottoman context emerged as a necessity after the adaptation of recent military techniques in these fields to the Ottoman military during the nineteenth century. In other words, realism egressed with military logic. In addition, this functionality provided a legitimate basis for the development of realism.

The outcomes of this study would also give an alternative answer to why these nineteenth-century painters directed themselves to landscape and still life genres, although they had the opportunity and talent to develop their pictorial repertoire when the elements of visual culture were so enriched. The painting studio became a practice field for the Ottoman military painter. What I mean here is that theoretical knowledge gained in classes, as well as practices in the land, were visualized in the painting studio without artistic concerns. In the context of military painters, I would argue that art was a matter of the painter's individual history, not of the state or its institutions.

While evaluating the education at *Harbiye* and the intellectual/educational background of military painters, I employ the approaches of Alper Yalçınkaya, Ercüment Asil, and Olivier Bouquet. Yalçınkaya emphasizes that the character of the Ottoman approach to science was usefulness which prioritized the practical and material benefit to evaluate the worth of activity (Yalçınkaya, 2015: 131). Again, Ercüment Asil, on a parallel ground, argues that modern Ottoman education aimed to train specialized professionals. Therefore, as he points out, it was technical and instrumental which glorified efficiency, production, rationality, objectivity, and accessibility (Asil, 2017: 36). This emphasis on professionalization, scientification, and functionality is also valid for *Harbiye*, which aims to train *mütefennin zabit* (officers of sciences). Because, as mentioned, *Harbiye* represents the military wing of Ottoman modernization, but military teachers taught also at many civil schools. This context increases the importance

[2] Darina Martykánová discusses in her article whether technocracy or technocratic logic should be used for the Ottoman intellectual/expert groups. Darina Martykánová, "Science and Technology in the Ottoman Language of Power (1790s-1910s)" *European Journal of Turkish Studies* 31, (2020): 1-29.

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of the school in the spread of the understanding emphasized by Yalçınkaya and Asil. While analyzing this background, I focus as much as possible on how the graduates of *Harbiye* reflect the status they received from here and how they played out their professional roles. Olivier Bouquet offers to shift the analysis towards sociogenesis, in his own words, "the individual mechanisms of modernity". According to him, assigned and acquired statuses of individuals, and their roles and relationships should be observed (Bouquet, 2015: 61).

Realism in the late Ottoman Conceptual Framework

The Ottoman painting evolved into realism throughout the nineteenth century. *Tabiat ve hakikatin haricinde olmamak* (not being out of nature and truth) (Namık Kemal, 1889: 17) was the motto that determined the aesthetic frame of Ottoman realism. This realistic approach flourished in the hands of the post-1840 generation. This generation received education in modern schools offering natural and social sciences along with painting/drawing classes in their curricula. Due to the rise of positivism, materialism, and useful knowledge in Ottoman schools, the members of the generation integrated themselves into a European intellectual milieu; and scientific thinking constituted the common ground of this integration for Ottomans.

The consolidation of realism in the depiction went hand in hand with scientific thinking. Reliance on empirical data resulting from the dominant positive sciences in the educational background of painters reflected on their painterly tendencies as objective reality. Since the erection of modern Ottoman painting's pillars on the same ground with scientific concerns, painters developed a gaze seeking truth in nature. Because, until the inauguration of *Sanayi-i Nefise Mektebi*, Ottoman painters learned painting at military or civil schools opened to train officers and bureaucrats such as *Mühendishane-i Bahrî-i Hümayun* (Imperial Naval School, 1775), *Mühendishane-i Berrî-i Hümayun* (Imperial School of Engineering, 1795), *Mekteb-i Tıbiyye* (Imperial Medical School, 1827), *Mekteb-i Harbiye*, *Galata Sarai Lycée* (1868), and *Darüşşafaka* High School (1873). In these schools, the Ottoman youth got educated to follow contemporary scientific developments. While attending classes on current sciences, they learned the backbones of nineteenth-century Ottoman painting such as optics, light, architecture, and perspective in these classes. In this framework, an in-depth discussion of the position of science in the Ottoman mindset can illuminate the intellectual and artistic milieu of nineteenth-century Istanbul.

Here, what barred the accidental admission of realism into painting were the determinative role of the Ottoman context and education goals reasons at *Harbiye*. Subordinately, the school provided a ground for Muslims to be involved in the production of an already familiarized practice of painting. Those who learned perspective, architectural proportions, topography, and laws of light - although they didn't learn this in art- formed a field where they could progress

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through transitioning towards artistic experience. The names such as Sami Yetik (d.1945), who pursued an education at *Sanayi-i Nefise* after leaving *Harbiye*, can be significant examples in this context.

Realism for military purposes demonstrates that Ottoman painting was under different conditions. As it resulted from a technical gaze, emerged as formal realism in the hands of military painters. In terms of content, Ottoman visual practice was already documentary; manuscript illustrations are the historian's sources today. What makes the Ottomans different is not that it imbues the intellectual foundations around which realism was formed, but the application of realism as a requirement of transforming scientific thought. The common ground of the definitions gives cues about the idea of realism in the Ottoman mindset. The first one belongs to a former military officer, then art historian and painter Celal Esad (1875-1971) and *Istılahat-ı İlmiye Encümeni* (Committee of Scientific Terminology, 1913) published it. Another one is from the dictionary prepared by Vahid Bey (1873-1931), again a former military officer, later an art historian and translator:

> *Istılahat-ı İlmiye Encümeni*: Realism, which is a movement that expresses things as they are seen, is against the mind's seeking beauty in the object to develop its beauty or to make it more beautiful in form by adding an imaginary beauty. The opposite of idealism (Celal Esad, 1914: 94).[3]
>
> Vahid Bey: It is to seek only the truth without an imaginary aim of beauty or perfection, to imitate nature simply. We can call it realism or the truth-loving style (Vahid, 1915: 20).[4]

Realism covered naturalism's meaning in Ottoman Turkish. This point, which draws attention especially to art criticism and art history writings, suggests that the realist attitude may be accepted in a way to include naturalism since it came out of an understanding that would contribute to scientific and technical production. İbnülemin Mahmud Esad (1856-1918), a statesman and legist, also defined realism in this manner, in his *Tarih-i Sanayi* (History of Arts & Crafts) as depicting things as they are following the truth, never paying attention to their beauty. (Mahmud Esad, 1891: 464).

[3] Réalisme (hakikiyye): Eşyayı görüldüğü gibi ifade etmekten ibaret bir meslek olub o eşyada zihnin güzellik arayarak o güzelliği inkişaf ettirmesine veyahut hayali güzellikler ilavesiyle şeklen güzelleştirilmesine muhaliftir. Hayaliyye mesleğinin aksi.

[4] Réalisme: Bir bedia-ı hayaliyye, bir gaye-i kemaliyye mevcud olmaksızın yalnız hakikati aramak, tabiatı sade ve doğru bir suretde taklid etmektir. Buna (meslek-i hakikiyyun) veya (tarz-ı hakikatperestî) diyebiliriz.

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Mütefennin Zabit

Throughout the nineteenth century, science constituted the base of the complex Ottoman mindset. Debates on Tanzimat policies, particularly education, had developed to disseminate modern scientific thinking among young generations. Science was the foundational stone of modern Europe; the Ottoman Empire had to adapt modern scientific methods to integrate itself better into European civilization. During this period, Ottoman intellectuals discussed *usul-i atikanın bütün bütün tağyir ve tecdidi* (a complete renovation and alteration in ancient usages) and *ihtiyacat-ı zamaniye and icab-ı asr ü zaman* (following needs and requirements of the time) (Yıldız, 2012: 126-177). Modern science was the most significant desideratum for the Ottoman intellectual; it was not illegitimate to adapt from "the Infidel" as they were members of the same civilization enlightened by reason and science (Çetinsaya, 2009: 56).

Scientific development in the nineteenth-century Ottoman Empire mostly played its role as "useful knowledge" (Yalçınkaya, 2015: 16). Science made up a significant apparatus as systematic knowledge based on facts and constituted the ground for modernizing the Empire. During the century, diplomats, graduates of the modern schools, elites educated in Europe introduced useful knowledge. The concept of usefulness was the foremost concern of these Ottoman elites glorifying science and scientists. They kept addressing the practical purposefulness of scientific knowledge as the remedy for military, social, and economic problems (Burçak, 2005). As I will try to detail, painting also transformed into an application field as useful knowledge for scientifically operating minds of new generations. It is not far-fetched to argue that Ottomans approached scientific knowledge pragmatically rather than intellectually and crystallized this attitude in their works by supporting it morally.

In this framework, scientific thinking became the pillar of the curricula of modern Ottoman schools to cultivate generations. At the end of their education process, modern science became part of the new Ottoman mindset. It was embroidered into its moral codes and reflected on every field of intellectual production. Art, particularly modern painting, was one of the best instances in the period. Although the regulations began to be conducted by a small group of elites at the end of the eighteenth century, scientific knowledge consolidated its place in Ottoman education after the 1850s (Adıvar, 1939).

Along with the other fields, which are the elements of progress, creating a modern army required education. In the modernizing empire, the trained man showed up as the prototype of the new profile. Science equated to the sword (Ölmez, 2017: 141). Accordingly, "a new sense of rationality, utility, and technicalism" was programmed to educate mütefennin zabits to fulfill the requirements of the army (Asil, 2017: 35). This concept dates to the late eighteenth century. The first attempts with the contributions of Claude Alexandre Comte de Bonneval (1675-1747) between 1731-1738 and of Baron de Tott

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(1733-1793) between 1771-1776 advanced technical education in newly established schools. As part of this continuum, *Mühendishane-i Bahrî-i Hümayun* in 1775 and *Mühendishane-i Berrî-i Hümayun* in 1795 were opened with intensity on mathematics and geometry in their curricula (Ölmez, 2017: 112-114). Especially, *Mühendishane-i Berrî-i Hümayun* (from here, *mühendishane*) had almost a monopoly as the source of *mütefennin zabit* until inaugurating *Harbiye*. Upon the observations of Ebubekir Ratıb Efendi (?-1799) in Vienna, the *mühendishane* amalgamated Austrian military and engineering academies in theoretical and French education model in practical classes (Beydilli, 1995). To fulfill the needs mainly in artillery and fortification, the school attached importance to technical drawing, map construction, building plans, and geography. As expressed in *kanunname* (code) of 1795, the main purpose of the institution was *mühendishanelere fünun-i berriye ve bahriyeden hendese, hesap ve coğrafya fenlerinin intişarı ve Devlet-i Aliyye'ye ehemm ve elzem olan sanayi-i harbiyenin talim ve teallümu ve kuvveden fiile ihracı* (the diffusion of geometry, arithmetic, and geography, which belong to land and naval techniques; and for training and teaching of military sciences, and putting them into action, that is significant and required for the Ottoman Empire.) (İhsanoğlu, 2004: 34). Berrak Burçak describes the new profile of the Ottoman engineer as follows:

> Thanks to their scientific and technical education, these engineers constituted not only the new cadres for the army but also shared a new mentality with a modern conception of science as a medium of power. These new intellectuals regarded science as a new and useful category of knowledge and the very symbol of the new age (Burçak, 2005: 28).

Indeed, *mühendishane* graduates demonstrated the crucial role of modern sciences and techniques in the empire during the nineteenth century. They were always the principal actors of the army in constructions, fortifications, mapping, and cadaster. In other words, new professionals well-equipped with useful knowledge of time, played their roles determined by their new statuses. This new profile continued also in the *Harbiye*. For instance, a document dated July 24, 1827, written to *Serasker* (commander in chief) Hüsrev Paşa stresses:

> If military officers are acquainted with military sciences, soldiers rely upon them, and knowledge of these sciences makes officers capable of escaping each danger. Without having officers of sciences and skillful staff, soldiers cannot be commanded. Therefore, we should establish Europeanized military schools to educate knowledgeable officers (Ölmez, 2017: 118).

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Harbiye and the Curricula

In 1834, the *Mekteb-i Harbiye* was established under the supervision of Namık Bey, who was a polyglot officer and had been in several European capitals (Esad, 1894: 3), to fulfill the gap of qualified military staff for modernizing the Ottoman army. Beyond this first reason for inaugurating the school, *Harbiye* became an open door to disseminate modern sciences and be integrated into the European intellectual network. Together with two *Mühendishane*s and civil schools opened after the 1850s, *Harbiye* constituted the intellectual derivation of the Ottoman Empire. The school calibrated students as versatile soldiers, mathematicians, thinkers, painters, etc. These people served the empire both as practitioners and theoreticians of modernization. The initial group of modern Ottoman painters was among these intellectuals.

To grasp the dynamics of the transformation in Ottoman painting, examining the educational background of painters keeps a crucial position. Since these painters didn't receive education to be artists, it is not adequate to focus only on drawing and painting classes. To figure out the position of modern painting (and the beginning of its journey in the Ottoman Empire), the links between the paintings and painters' mindset should be re-established. The report voices the stimulus behind opening the school. In these sentences, *Harbiye* expresses the motivation as providing education to train multifaceted soldiers acquainted with modern sciences, techniques, and foreign languages:

> …. It is extremely significant to study foreign scripts and languages, which is the key to learning assorted military sciences, and then these sciences and techniques themselves for Glorious Soldiers of Mohammed, which is the exigence of the Imperial state. Therefore, to substitute and educate skilled and talented students, it is required to inaugurate a Military School, called école militaire.
>
> If God lets, thanks to the imperial excellency, his servants will improve by favor of education and learn foreign scripts and languages and then be moved to schools for mathematical sciences and assorted industries, which are called école mathématique and école Polytechnique. Then they will pass to an applied school, named école d'application and their knowledge will be examined practically (Arşiv, 2014: 29-30).[5]

[5] kuvvet-i tâli'-i ferhunde-i metâli'-i hümâyûnları muktezâsı Devlet-i Aliyye-i ebediyyü'd-devamlarına mahzâ atiyye-i ilâhiyye olan Asâkir-i Mansûre-i Muhammediye'nin nizâmı teferruâtından olup tahsili derece-i nihayede elzem olan ulûm-ı mütenevvi'a-i harbiye istihsâline miftah olan hatt ve lisan-ı ecnebiyeyi ve ba'dehû ulûm ve fünûn-i mütenevvi'a-i harbiyyeyi öğrenmek için kabiliyetli ve müsta'id şâkirdân ikame ve talim ve ta'allümlerine ekol militer tabir olunan Mekteb-i Askeriye inşa ve ihdâsı lâzımeden olduğundan ……... letâfet-i havanın talim ve ta'allüme memur olan müsta'iddân kullarının teşhîz-i ezhânlarına medâr-ı kaviyye olduğu âşikâr

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The *mühendishane* was the first attempt to integrate painting into education. Therefore, *Mekteb-i Harbiye* was not a pioneer but a bearer and distributor of an idea. In the *mühendishane*, students began to learn technical drawing, emulating nature, and the significance of accurate topographical draughting for plans. *Harbiye* began to graduate its students (1847-8) and its *mütefennin zabit*s started to play the dominant role (Ölmez, 2017: 149). In the second half of the nineteenth century, *Harbiye* was disproportionately significant as the dissemination source of modern science and technique. *Harbiye* became a model for later military and civilian schools, and those who graduated from *Harbiye* taught even in civilian schools for half a century (Ergin, 1977: 357). Besides, some Harbiye graduates were subjected to outrage. They were inexperienced officers because of getting their education at the school, not on the war front; skillful in theory, but not in practice. Then, some of them decided to work at different institutions, not pursue the military career (Ölmez, 2017: 160). This situation led that *Harbiye* graduates played roles in many fields, and the motivation behind realist painting disseminated mainly in their hands. Another point, artists of later generations received dominantly *Harbiye*-graduate military painters as pioneers. This means that rather than the other military painters, *Harbiye* consolidated modern painting in their minds. Even, honorary president of *Osmanlı Ressamlar Cemiyeti* was Hoca Ali Rıza (1858-1930).

Students could not receive proper education during the first decade at *Harbiye*. In these years, pupils taught lessons sequentially. After finishing one book in a field, they began to read another book in a different field. The period of study and the curricula were uncertain. Students learned sciences ordered and permitted by the minister of the school (Esad, 1894: 29). During the 1840s, *Harbiye* became more dynamic. From its inauguration to 1838, twenty-six students were sent to London, Vienna, and Paris (Ergin, 1977: 363). The administration invited more European instructors to Istanbul to teach, and the school began to utilize new technical equipment brought from Europe. During this time, students sent to European cities turned back to the Empire; they immediately began to teach or were appointed to the administrative positions at *Harbiye*. In 1848, together with extensions, *Harbiye* comprised four sections as *Baytar* (Veterinary Staff), Piyade (Infantry), Süvari (Cavalry), and *Erkan-ı Harb* (Military Staff). From 1848 on, students got educated in more organized and stabilized programs. Although reorganizations, reformations, and additions, the curriculum of the *Mekteb-i Harbiye* remained mostly the same. This persistence in scientific and sophisticated education contributed to the rise of a new generation in a master-pupil relationship (Table 3). In this framework, the intellectual network in and around *Harbiye* can be a sample to understand developing

olmakla ve inşâallâhu'r-Rahmân sâye-i merâhim-vâye-i hazret-i şahanede memurîn kulları ber-vech-i matlûb gelişerek hatt velisan-ı ecnebiyeyi ve ba‘dehû isti‘dâdlarına göre ekol matematik ve ekol politeknik tabir olunan ulûm-ı riyâziye ve sanâyi‘-i mütenevvi‘a mekteb odalarına nakl ve ba‘dehû tahsil ile ekol de aplikasyon tabir olunan bi'l-fi‘l icra mektebine girip her kulları li-ecli'l-imtihan öğrendikleri fenlerini kendilerine icra etdirilmek lâzım geleceğine binâen ol vakit ……

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Ottoman realism. In October 1857, a school named *Mekteb-i Osmani* (the School of Ottomans, 1857-1864) was established in Paris, aiming to enable Ottoman students to reach the level that they can transfer to French schools while continuing their education. The document stating the establishment of the school explains its purpose as follows:

> To fulfill the education and manners of the students sent by the Ottoman state, an Ottoman school was established in France. The students registered to this school will be taught literature and sciences to fulfill their education in French schools. The school's program is based on three-years education; the first year, the students will learn the French language and terms and have a brief knowledge of history, geography, and arithmetic. Following two years, complex knowledge on history, geography, mathematical and natural sciences, and discussion sessions will be added to the lectures. The students will be separated into two parts as a military and administrative class, yet they can attend common lectures (Arşiv, 2014: 59).[6]

In 1864 *Mahrec-i Mekâtib-i Askeriye* (Priority to Military Schools) was inaugurated. In 1875, *Mahrec* was closed, and *rüşdiye* (middle school) was opened instead. *Rüşdiye*s prepared students for *idadi*s (high school) and aimed to raise the education level (table 1-2). In the same year, *Menşe-i Muallimin* (The School of Teachers) was opened to educate civil teachers for military schools and raise the number of military teachers (Ergin, 1977: 432).

[6] Fransa'da ikmâl-i tahsil ve terbiyeleri için taraf-ı Devlet-i Aliyye'den gönderilmekde olan şâkirdâna mahsus olmak üzere Paris'de bir Osmanlı Mektebi te'sis olunmuşdur. İşbu mektebe kabul olunacak olan şâkirdân Fransa Devleti mekteblerinin umum derslerinden istifadeye kesb-i liyakat edebilmelerine iktizâ eden edebiyat ve fünûn derslerini ikmâl eyleyeceklerdir. Mekteb-i mezkûrda müddet-i tahsil üç seneden ibaret olarak birinci senede şâkirdânın Fransız lisanıyla ıstılahatını ve tarih ve coğrafya ve hesaba dair bazı malumât-ı icmâliye ve kalan iki seneler dahi lisan-ı mezkûrun dekâyikıyla tarih ve coğrafya ve riyâziye ve ulûm-ı tabiiyye tahsiline mahsus olacak ve bu derslere, okunulan şeylere dair müzâkereler dahi zam ve ilâve kılınacakdır. Şâkirdân iki sınıfa münkasım olarak birincisi tarîk-i askeriyeye ve ikincisi tarîk-I kalemiyeye girecek şâkirdândan mürekkeb olacak ve fî hadd-i zâtihî birbirlerinden farklı olan işbu iki sınıf şâkirdânı müştereken bir derse dahil olabileceklerdir.

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Classes	Mahrec	1	2	3	4
COURSES	*Mantık ve Tatbikat-ı Kavaid-i Hesab* (Logic and Applied Arithmetic)	*Cebr-i Adi* (Elementary Algebra)	*Tarih-i Osmanî* (Ottoman History)	*Kurun-u Vusta Tarihi* (History of Middle Ages)	*Kozmografya* (Cosmography)
	Hendese-i Halliye (Analytic Geometry)	*Hendese-i Musattaha ve Tatbikatı* (Practicing Plane Geometry)	*Kurun-u Ulâ Tarihi* (History of Primeval Era)	*Mebaniü'l-İnsa* (Essentials of Construction)	*Mebaniü'l-İnsa* (Essentials of Construction)
	Coğrafyayı Umumi (Global Geography)	*Coğrafyayı Umumi* (Global Geography)	*Hendese-i Mücesseme* (Analytic Geometry)	*Müsellesat-ı Müsteviye ve Logaritma* (Plane Trigonometry)	*Hikmet-i Tabiiye* (Physics)
	Fransızca (French)	*Fransızca* (French)	*Fransızca* (French)	*Fransızca* (French)	*Fransızca* (French)
	Resim (Drawing and Painting)	*Resim* (Drawing and Painting)	*Resim* (Drawing and Painting)	*Resim* (Drawing and Painting)	*Hendese-i Resmiye ve Menazır ve Gölge* (Des. Geometry, Perspec., Shade)
	Hüsn-ü Hatt-ı Fransevi (Writing in French)		*Tarama* (Hatching)	*Tarama* (Hatching)	*Tarama* (Hatching)
	Mevâlid-i Selâse (Botanic,mining , and zoology)			*Cerr-i Eskal-ı Âdiye* (Bs. Mechanics)	*Hendese-i Resmiye Sekli* (Des. Geo Shapes)

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Class	Year	Courses

Table 1. A selection from the curriculum of *Mekteb-i İdadi* (High School) in 1875 (Mehmed Esad, 1894: 106-109).

Years	1 First Stage	1 Second Stage	2	3
Courses	*Esma-yı Türkiyye* (Turkish names?)	*Sarf-ı Arabi* (Arabic Morphology)	*Nahv-i Arabî* (Arabic Syntax)	*Mantık ve Tatbikat-ı Arabiye* (Logic and Practicing Arabic)
	Hikâyât-ı Müntehibe	*Kavâid-i Farisi* (Rules of Persian Language)	*Hesab* (Arithmetic)	*Hesab* (Arithmetic)
	Sarf-ı Türkî (Turkish Morphology)	*İlm-i Hal* (Ethics)	*Coğrafya* (Geography)	*Hendese-i Halliye* (Analytic Geometry)
	Hüsn-ü Hatt-ı Türki (Writing in Turkish)	*İmlayı Osmani* (Ottoman Orthography)	*İmlâyı Osmanî* (Ottoman Orthography)	*İmlâyı Osmanî* (Ottoman Orthography)
	İmlayı Türkî (Turkish Orthography)	*Kursunkalem Resim* (Pencilling)	*Farisî* (Persian)	*Mevalid-i Selase* (Botanic, mining, and zoology)
			Fransızca (French)	*Fransızca* (French)
			Hüsn-ü Hatt-ı Türkî (Writing in Turkish)	*Hüsn-ü Hatt-ı Türkî* (Writing in Turkish)
			Karakalem Resim (Charcoal Drawing)	*Coğrafyayı Umumî* Global Geography
				Kavâid-i Osmaniye (Rules of Ottoman Turkish)
				Resim (Drawing)

Table 2. A selection from the curriculum of *Mekteb-i Rüşdiye* (Military Middle School) in 1877 (Mehmed Esad, 1894: 103-104).

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Erkan-ı Harbiye Imperial Military Staff	6	*Cerr-i Eskal ve Tatbikatı* (Mechanics and Its Practice), *İnşaat-ı Aliyeden Mimarî, Turuk ve Simendifer* (Architecture, Roads, and Railways) , *Taksını-i Arazi* (Division of Land), *Hey'et ve Taksim-i Arazi tatbikatı* (Practical Astronomy and Division of Land), *İlm-i Heyet* (Astronomy), *Fransızca* (French)
Erkan-ı Harbiye Imperial Military Staff	5	*Cerr-i Eskal* (Mechanics), *İnsaat-ı Alîye* (Advanced Construction), *Fransızca* (French), *Fenn-i Esliha* (Weaponry Technique), *Mimarî Müsekkeli* (Architectural Structures), *Köprücülük* (Bridging)
Erkan-ı Harbiye Imperial Staff	4	*Fransızca* (French), *Hesab-ı Tefazulî ve tamamı* (Differential and Integral), *Coğrafyayı Askeri* (Military Geography), *İstihkam Sekli* (Description of Fortifications)
Erkan-ı Harbiye Imperial Staff	3	*Topografya* (Topography), *Fransızca* (French), *Makine-i Adiye* (Basic Machines), *Cebr-i Ali ve Hendese-i Halliye* (High Algebra and Analytical Geometry), *Kimya-yı Askeri* (Military Chemistry), *Sath-ı Rakım ve Hendese-i Resmiye Tatbikatı* (Practicing Surface, Altitude and Geometrical Drawing), *Hikmet-i Tabiiye Tatbikatı* (Practical Physics)
Infantry	2	*Coğrafya-yı Askeri* (Military Geography),*Fransızca* (French) *Askeri Köprücülük* (Military Bridging), *Fenn-i Esliha* (Weaponry Technique), *Tarama* (Hatching)
Infantry	1	*Sath-ı Rakım* (Surface and Altitude), *Hikmet* (Physics), *Kimya-yı Askeri* (Military Chemistry), *Topografya* (Topography), *Fransızca* (French), *İnsaat-ı Askeriye ve Turuk* (Military Construction and Roads), *İstihkam Şekli* (Description of Fortifications), *Tarama* (Hatching)

Table 3: A selection from the curriculum of the Infantry class in 1877 (Mehmed Esad, 1894: 116-125).

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Sources of the Realist Attitude: Painting in Function

Mecmua-i Ulum-ı Riyaziye (Collected Works on Mathematical Sciences), written by Başhoca İshak Efendi (1774-1834) between 1831-1834, was the primary textbook for Ottoman students in many courses. This encyclopedic book compiled recent literature on mathematics, geometry, physics, chemistry, astronomy, biology, botanic, zoology, and mineralogy. İshak Efendi attempted to spread systematic and updated knowledge for desiring readers. İhsanoğlu reveals that the book contains a comparable level of information to similar publications in Europe at the beginning of the nineteenth century (İhsanoğlu, 1989: 36). İshak Efendi wrote one by one in the preface of his book, which discipline is important for each field of the military and the purpose of learning them:

> In our time, it is extremely necessary to learn applied sciences for jihad and holy war, primarily arithmetic and algebra for military setup and order, geometry for fortification, planar trigonometry and high geometry for measuring inaccessible places, and cone sections for tunnels…..(İshak, 1831: 3).[7]

The almost identical sentences meet the eye in the introduction of the geometry book written by Osman Nuri Paşa (1839-1906), who graduated from *Harbiye* in 1859 and taught painting during the second half of the nineteenth century. The importance attached to geometry at *Harbiye* is also clear in his sentences. This quotation also demonstrates the mindset instrumentalizing drawing classes as a part of the technical production for military concerns.

> … As it can be understood from this sentence, military sciences, one of the biggest causes of jihad, reached a very advanced level during the time of our supreme sultan. The progress of the sciences above should be sought in the development of geometry since everything is done and brought about by it, and even the combination of the things that make up the details of military sciences is done thanks to geometry. (Osman Nuri, 1874: 2)[8]

Osman Nuri Paşa was in a belief that not to paint is a fault for an officer, and not to be interested in painting was a lack of lore. According to memories of

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[7] Emr-i hâtır-ı cihad ve gaza fi zemanın-i haza ulum-i talimiyeyi marifete menût olub şöyle ki evvela askerin tertibat ve tanzimatı ilm-i hesab ve ilm-i cebr ve mukabeleye varid ve istihkamatı ilm-i hendeseye ve gayr-i mümkünü'l-vusûl olan mahallerin mesahası ilm-i müsellesat-ı müsteviyyeye ve ilm-i hendese-i a'lâya ve lağım hafri ilm-i kutu-i mahrutiyata…

[8] Bu cümle-i mecelleden bir numune-i ayân olmak üzere eazım-ı esbab-ı cihadiyeden olan fünun-ı harbiye saye-i şevketvâye-i hazret-i padişahide bir mertebe-i vasıl-ı ser-menzil-i kemâl olmuşdur ki her şeyin sûret-i va'z ve teşkîli âyine-i hendesede cilve-ger ve müncelî olub hususuyla dakayık-ı fünûn-ı harbiyenin ecza-i mürekkebesi dahi ilm-i mezkurdan ibaret olmak mülabesesiyle fenn-i mezkurun terakkiyatını mutlaka ilm-i hendesenin kemalinde aramak lazım geleceğinden…

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his students, Osman Nuri always conversed about the prestige of the officers good at handicrafts in the army; and emphasized the importance of an accurate sketch in the profession. (Yetik, 2016: 35). His pupils, such as painters Hüseyin Zekâi (1860-1919) and Hoca Ali Rıza (1858-1930), reflected this meticulousness in their paintings as the documentation of topographical and architectural elements.

Kimyager (the Chemist) Derviş Paşa contributed to the rising literature on physics and wrote a textbook to introduce the scope and methodology of physics to students in 1865. Leafing through the articles in *Usûl-i Hikmet-i Tabîiyye* points out that Derviş Paşa designed a very comprehensive book; he covered topics such as pendulums, force, liquid, solid and gases, elasticity, heat, electricity, magnets, and light in the book (Derviş Paşa, 1865: 2). The work has defined and explained almost all the subjects of today's physics discipline. Derviş Paşa kept the definition level so that the reader can learn the laws developed until that date. The work is a valuable textbook enriched with examples, its plain expression for "informing" and easy learning of scientific laws (Akgün, 2013: 143). İshak Efendi's and Derviş Paşa explained the reverberation of light, laws of seeing, and the formation of shadow. These topics were the essential parts of the nineteenth-century Ottoman painting. Painters, who graduated from *Mekteb-i Harbiye,* gained/consolidated the technical side of modern painting in physics lessons rather than painting courses. Ottoman painters found the answer to the question about the relationship between light and object in *İlm-i Hikmet-i Tabiiyye* classes by reading İshak Efendi and Derviş Paşa's books.

Paintings signify the exact knowledge gained from architecture courses. Militarily concerns over these rigorous measures determined the content of classes. Students had theoretical and practical lessons in the curricula for weeks, and they learned to transfer land and constructions into papers without distorting proportions. Because of this process, they prioritized the exactitude and accuracy of proportions in paintings. Therefore, not far-fetched to assert that topography, architecture, and painting classes fed each other and contributed to developing a realistic attitude at *Mekteb-i Harbiye*, as figures in textbooks of courses give clues about education.

Fenn-i Mimari was translated by lecturer Mehmed Rıfat, who assisted the *taksim-i arazi* course and taught construction lessons, into Turkish from Monsieur Leclercq's book. Leclercq was registered as the *taksim-i arazi ve mimari* (geodesy and architecture) teacher at the beginning of the translation. The book, which was the first textbook of architecture written in Turkish, was published by the printing press of the *Mekteb-i Harbiye* in 1875/1876. According to the introduction part of the book, "architecture is not only an art branch but also a science because it is based on mathematics" (Leclercq, 1875: 2). In the military context, the book's content reflects almost completely the scientific side of architecture. After theoretical knowledge on architectural types (dwelling, naval or military) and set-up process (arrangement of maps, preparation of estimate book, and presentation of opinions), the book goes on with the practical part (construction). In these parts, Ottoman students found detailed information on

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materials used in architecture, components of buildings and their construction rules, soil types, arches and their thickness calculation, domes, pillars, and architectural styles (Doric, Ionic, Corinthian, Composite, Tuscany, Arab) (Günergun, 2005: 154-155).

Fenn-i İnşaat ve Mimari is another textbook for this period. Süleyman Paşa, the Minister of Military Schools, assigned the teacher of construction, Captain Ahmed Şükri, to translate from Leclercq, considering it to be a beneficial book. The dedication in the preface to Abdulhamid II suggests it was 1876 or later. Ahmed Şükri puts the "roads and bridges" part from the work of André, a chief engineer, as an appendix to his translation. Leclercq's work must have been considered incomplete on roads and bridges. (Günergun, 2005: 156). Except for this, the book's content is very similar to Mehmed Rifat's translation.

Figure 1 demonstrates that students of *Harbiye* not only focused on the proportions but also studied every detail of the architectural drawing. This elaborative approach in these courses was connected to developing a realistic approach to art. Students of *Mekteb-i Harbiye* exercised their accumulation of architecture in their landscape paintings. Their numerous landscapes and a smaller number of figurative paintings support this argument.

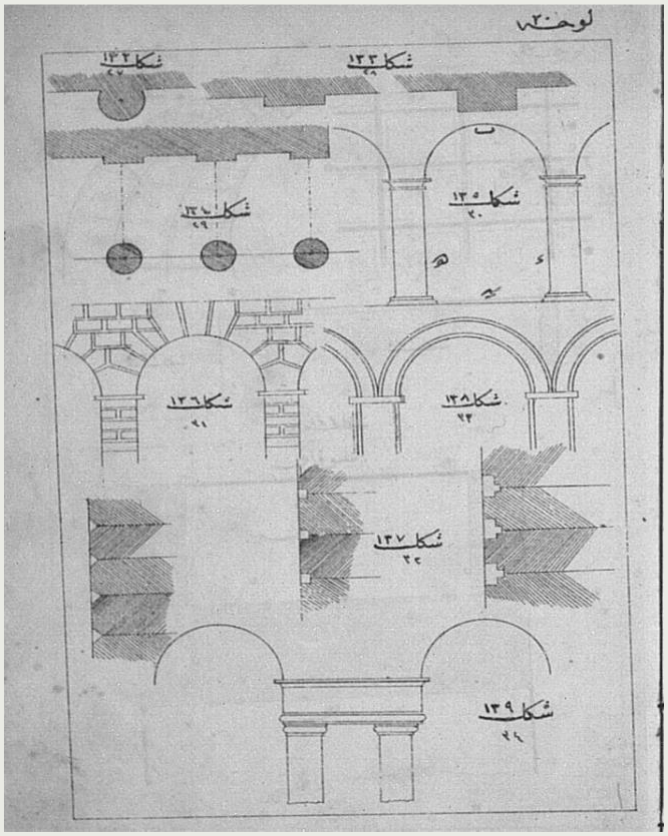

Figure 1. Drawings of arches, (Leclercq, 1875: plate 20).

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The Söğüt Expedition in 1886, conducted to document tribal roots and "genuine" ancestors of the Ottoman Empire and prepared albums at the end of the expedition. Mehmed Emin Bey (d.1925), *kurenâ* (chamberlain) and *kitâbî-i şehriyârî* (librarian to the sultan) was the head of the group, which was comprised of ten military officers. Two of them were photographers, and three were painters. These five members were Emin Efendi, a painting instructor at the *mühendishane*; Ahmed Şekûr Efendi (1856-?), teaching painting, etching, and fencing at *Harbiye*; Ahmed Bey, who was a painting and photography instructor at the *mühendishane*; Haydar Efendi associate instructor of painting and photography at the *mühendishane*; and (Hoca) Ali Rıza Efendi instructor of oil painting at the *Harbiye* (Ersoy, 2018: 38-39).

The format and structure of the Söğüt albums provided the universal norms of scientific photography. The formulaic and academic configuration of the album contributed to the political control and efficiency in the mapping of the empire and projected a globally acknowledged image of veracity and scientificness (Ersoy, 2018: 38). Interestingly, the sultan not only commissioned photographs but also wished to see "other pictures", which mean paintings. As this situation demonstrates, photography and painting were in an equal position in terms of accurate documentation of the visual world for the sultan (Gölönü, 2018: 109).

There are two major representatives of paintings produced during and after this expedition. Ahmed Şekûr's landscape painting depicting a village (Gölönü, 2018: 111), with its rigorously treated details, proves the role of painters in the production of knowledge and documentation. It is feasible to esteem this paintwork as a technical drawing that augmented the visual data recorded by the photograph (Gölönü, 2018: 116). Ahmed Şekûr's educational background as a pupil of (Hoca) Ali Rıza and the emphasis on hatching, map-making, and topography classes at the *Harbiye* seem to reflect the details of this landscape. The painting focuses on the Sakarya River and shows the buildings of Lefke nestled into the bend. Almost every detail that can provide objective knowledge about the village is visible in the painting. The river at low tide, the countability of the roofs, and the readability of the topography on the depiction give a panorama of water supply, population, and economic significance of the region (Gölönü, 2018: 116). In the same manner with Ahmet Şekûr, paintings of Ertuğrul Gazi's tomb by Hüseyin Zekâi Paşa were indicators of a documentative and objective approach. Zekâi Paşa depicted the tomb to highlight details that cannot be seen in the photograph (fig. 2-3). examined the tomb's physical appearance and reflected its disrepair situation realistically.

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Figure 2. Zekâi Kulları, *Mescit* [Masjid], undated, oil on canvas, collection MSGSÜ Istanbul Museum of Painting and Sculpture. (Gölönü, 2018: 112).

Figure 3. "Tomb of Ertuğrul Gazi in the environs of Söğüt." Library of Congress, Prints & Photographs Division, Abdul Hamid II Collection, LC-USZ62-81513. (Ersoy, 2018: 45).

Perspective lessons were one of the most notable subjects in the entire curriculum. As well as being an important component of the modern attitude in painting, it was indispensable for the technical knowledge in military education. Signifying geometrical drawings and perspective, *Harbiye* tried to teach its students all the possibilities of passing the three-dimensional image to the two-dimensional plane without distorting the proportions as much as possible. For

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this reason, perspective books attached great emphasis to the theoretical and practical aspects of geometry. For example, İshak Efendi's book, *Kavaid-i Ressamiye*, which remained as a manuscript, can shed light on the teaching technique of *Harbiye* and *Mühendishane*. Written in the 1820s or 1830s, the book constitutes a significant example of an attempt to realize the goals stated by İshak Efendi in *Mecmua-i Ulum-i Riyaziye*. The narrative, starting with geometry, refers to all types of technical drawing. Each lecture has been put into practice with the drill parts at the back of the book. Here, geometrical shapes, drawing on a plane table, and drawing plans were the main issues (fig. 4).

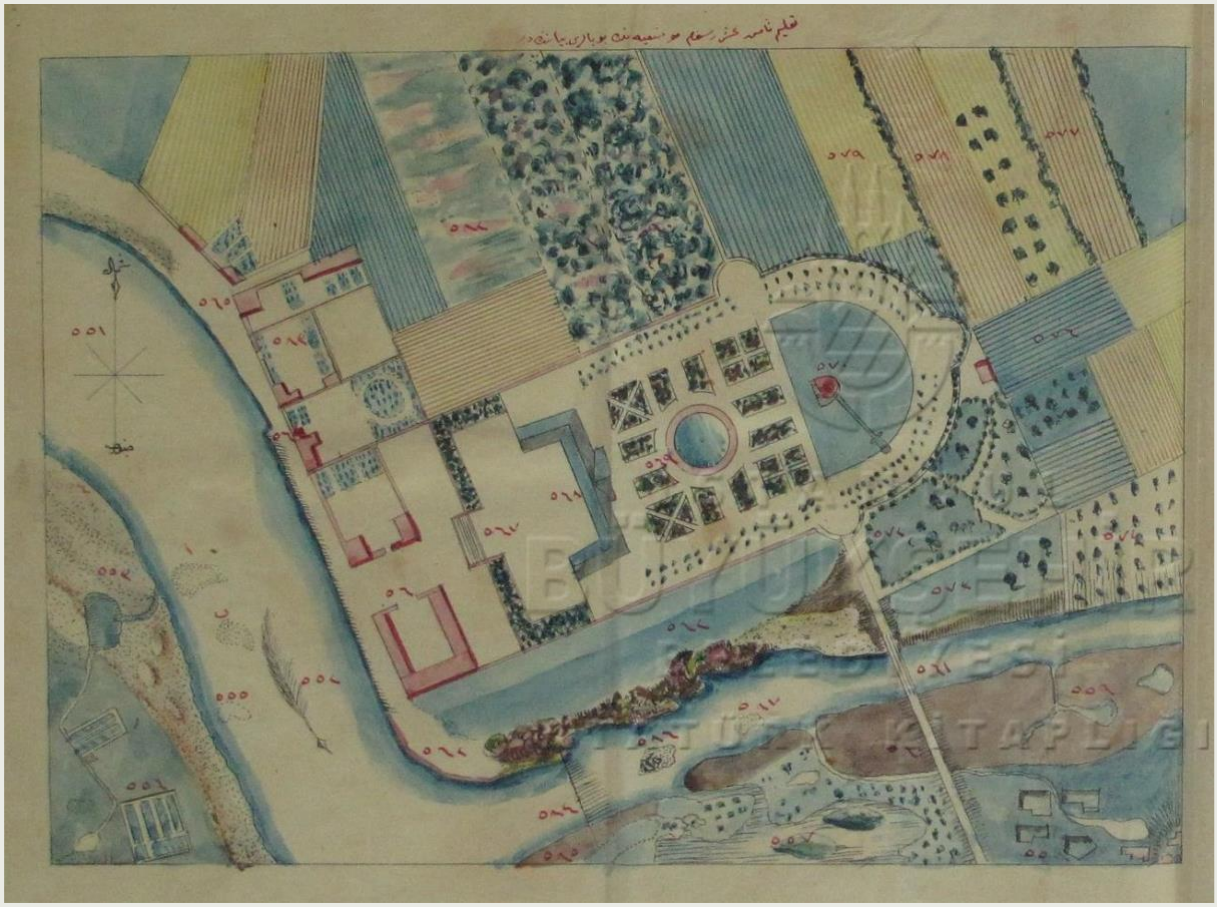

Figure 4. A plan from the section on paints (İshak Efendi, n.d: plate 15).

Osman Nuri Paşa published *Fenn-i Menazır ve Sulu Boya Tarifatı* (Perspectival Technique and Definitions of Watercolor) in 1895. In the prelude, Osman Nuri expresses that perspective is the essential part of the painting (fig. 5), and even if students know how to applicate this, they have problems in finding the right tones of colors:

> My decision to write this book is that my students had trouble finding the exact colors of the things they wanted to draw because there was no measure of how much dyes they would put in the mix and that the subject of perspective is the fundament of painting. Therefore, I wrote this book in two parts as colors and sorts of

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watercolor painting; and the essential parts of the perspectival technique (Osman Nuri, 1895: 2).[9]

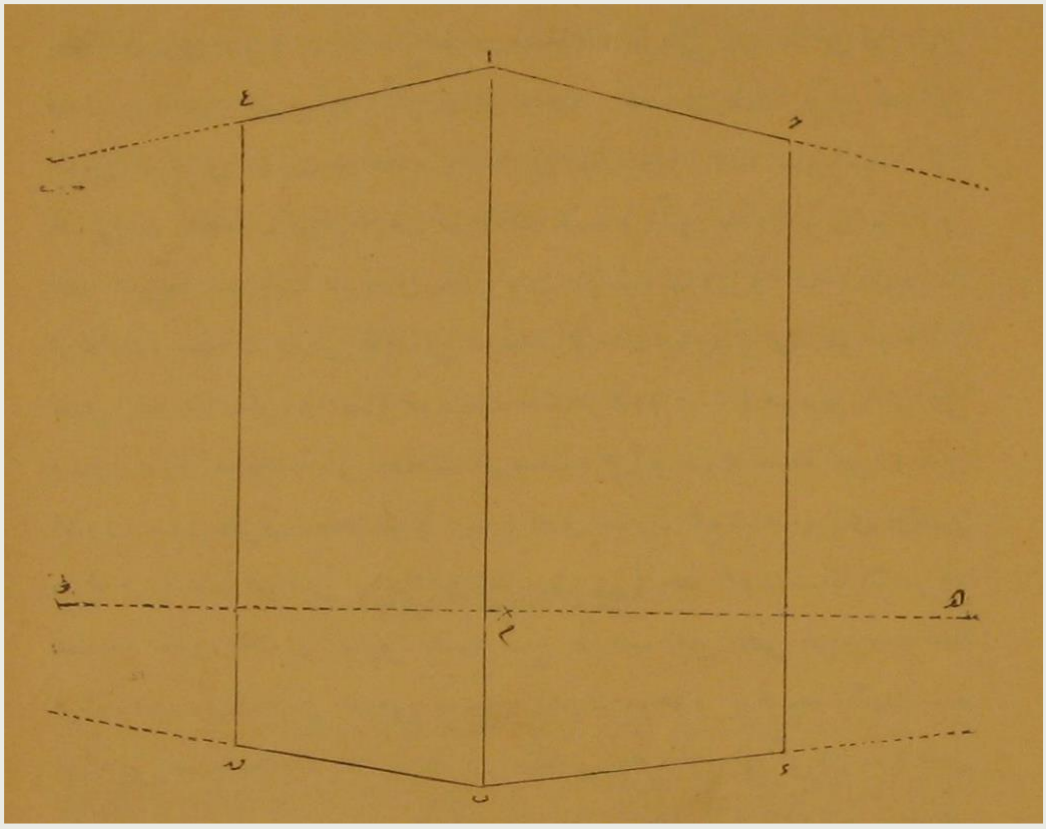

Figure 5. A perspectival drawing from Osman Nuri's book (Osman Nuri, 1895: 7).

These two sources show that the perspective lesson, separated from the painting class at *Harbiye*, supported technical and scientific development. As can be understood from the titles and contents of the books, the painting/drawing referred to the technical aspect more than an artistic one. After learning to draw on a plane table in *Kavaid-i Ressamiye*, a student had a chance to feed the theoretical and practical knowledge in architecture lessons.

In 1879, upon the demand by students, Ali Rıza and his friends such as Hüseyin Zekâi and Hasan Rıza, to the minister of schools Edhem Paşa, a painting studio at *Harbiye* was opened, and Osman Nuri Paşa became the head of it. Paintings produced within a year were presented to Sultan Abdulhamid II and appreciated by him. Next year, another famous painter graduated from *Harbiye*,

[9] Boyaların suret-i mezc ve terkibini ve katılan boya ve eczaların mikdarını irae eder surette elde bir mikyas olmamak hasebiyle talebe-i mumaileyhim tersimini arzu ettikleri şeylerin rengini bulmak hususunda düçar-ı müşkilat olmakta olduklarından ve fenn-i menazır ise ressamlığın mabeü'l tekmili idüğünden resimde kullanılacak sulu boyaların elvan ve envaıyla suret-i halet ve mezcini ve fenn-i menazırın en elzem olan mebahisini muarref ve meş'er olmak üzere iş bu risalenin iki kısmı havi tertibine ibtidar kılındı.

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Süleyman Seyyid (1842-1913), replaced Osman Nuri and forbade working from models. Then, he orientated students to paint landscapes (Shaw, 2011: 92). As known from the previous examples, Osman Nuri instrumentalized painting in his classes for drawing accurate geometrical shapes. Süleyman Seyyid's decision to teach painting landscapes seems to have the same motivation.

Figure 6. Hoca Ali Rıza, 1909, Anatolia Map, 69x102 cm, İ.B.B. Atatürk Kitaplığı. 912.561 ALİ 1321 H.k.1.

This understanding constituted the basis for the studio functioning as a practice field rather than an art production center. For example, Ali Rıza's drawing dated 1909 (fig. 7) demonstrates the skills he gained during his studentship years. Even though some military painters like him concentrated on art close to/after their retirement, the insistence on landscape and still-life seems to keep its central position. In artist, art historian, and architect Şahabeddin Uzluk (d.1989)'s article on Hoca Ali Rıza, the most praised technical features of him are *menazır-ı zihnî ve amelî (perspective d'observation), menazır-ı itibarî (perspective cavaliére), menazır-ı hattî (perspective linaire) and usul-i talim-i şeklî ve tatbikî (graphique).* Moreover, Şahabeddin labels Ali Rıza's style as a complete realism (Şahabeddin, 1921: 148). This is a clear indication of the importance attached to perspective lessons by *Harbiye*, where the practice of perspectival rules as the basis of technical drawing was more significant than the landscape (Germaner, 2011: 235). In addition to this, Ali Rıza's Anatolia map (fig. 6) completely visualizes his profile as a *mütefennin zabit*, reminds his educational background, and the role of painting/drawing classes.

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Figure 7. Hoca Ali Rıza, Namazgah'ta ikamet olunan hane (His own House in Namazgah), 1909, charcoal on paper, 35x23 cm, National Library Ankara. (Şerifoğlu, 2018: 167).

Conclusion

In this study, I tried to find an intersection point between art history, intellectual history, and military modernization of the Ottoman Empire in the nineteenth century.

There was a military motivation behind an "artistic" development. Like every other field, the painting was also functional in the military schools, in the scope of this study, *Harbiye.* Because of the instrumentality of art, the formation of an art market, the development of modern art, or the training of professional artists were not in the aims of this school's painting classes.

Still, this is not an argument that can be consistently valid at the individual level. The lack of artistic concern in military painters' production doesn't decrease the value of their works as art historical materials. Artistic concerns or artistic pursuits can be found in the works of some military painters, especially after graduation or retirement. Considering this point, the focal point of the study is limited to the role played by two genres (landscape-still life) and the effect on military painters' pictorial preferences. For this reason, the study's limit suggests that the starting point of the paintings transformed *Harbiye*'s painting workshop into the practice field.

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These painters were aware of the role of art to be a "modern" state. As the forerunners of modern painting, even if mostly from a distinct path and much less in number, they organized exhibitions, participated in them, and contributed to the development of the understanding, art for art's sake. Moreover, their emphasis on functionality legitimized flourishing realism's consolidation in the Ottoman artistic atmosphere and the ordinary people's eyes. Discussions revolved around realistic depictions helped the fusion of modernization and classical Ottoman codes.

In 1909, Hoca Ali Rıza opened his first personal exhibition and organized an event where his artistic concerns came to the fore (Şerifoğlu, 2018: 67). After his retirement in 1910, Hüseyin Zekâi Paşa focused much more on painting. Even his works, which are seen as the pioneers of impressionism in Ottoman painting, coincide with his retirement years. He participated in Galatasaray Exhibitions for three years in 1916, 1917, and 1919 (Erten, 2018: 67). As the available data show, works of military painters were predominated by artistic concern after leaving their posts, as seen especially in the examples of Hoca Ali Rıza and Hüseyin Zekâi Paşa. Moreover, some of them identified themselves with painting and art, as the famous self-portrait of Şeker Ahmed Paşa demonstrates. While this study strives to reveal the instrumental role attributed to painting by the painters trained at *Harbiye*, it does not deny the artistic concerns such as the search for a style in the paths they draw themselves, apart from their duties.

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