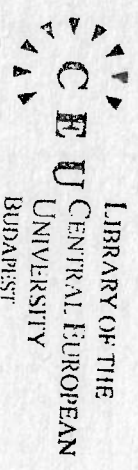


Learned Patriots

*Debating Science, State, and Society in
the Nineteenth-Century Ottoman Empire*

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TWO

Speakers, Institutions, Discourses of Science in a New Regime

Introduction

The “new sciences of the Europeans” had few devoted spokespeople in the Ottoman Empire at the turn of the nineteenth century. Institutions and experiences that produced individuals who made enthusiastic cases for these new sciences—and, as an inevitable implication, for those who were aware of the new types of knowledge—were rare. Note, for instance, that the Ottoman Embassy in London where Mahmud Raif worked was established in 1793 as the first permanent Ottoman Embassy. Similarly, the schools where the new sciences were taught to some degree were products of the late eighteenth and early nineteenth centuries. But especially after the 1830s, not only the number but also the political power of such individuals increased significantly. As the new diplomats, bureaucrats, and graduates of the European-style schools played an ever-growing role in Ottoman politics and culture, their characterizations of knowledge and ignorance gradually shaped what we can call an official discourse on science—a discourse that established certain interpretations of science as “matters of fact” by constantly repeating them in official texts and reproducing them in educational institutions.¹ And the way these individuals described science was tightly connected to how they perceived themselves vis-à-vis other elites and “commoners.”

In this chapter, I analyze this connection and focus in more detail on both the key components of the emerging official discourse on science and on the characteristics of the social actors who constructed it. Even though what follows touches on the biographies of specific individuals, the personalities themselves are less important for our purposes than the types of social groups and dispositions that they represent. Similarly, while I refer to several developments particularly in education policy, what matters more is the representations of knowledge (“old,” “new,” “useful,” “useless,” etc.) in the texts that accompanied them, as it is these representations that enable us to identify the links between specific portrayals and the groups that produced them. What such an analysis reveals, as I will show below, is that, especially after the 1830s, science was discussed not simply as a matter of knowledge or in relation to the question of “saving the empire,” but as a matter of personal and civic virtue and vice. In other words, it was the characteristics, merits, and demerits of the person who was or was not familiar with the new types of knowledge that formed the core of the official discourse on science in the Ottoman Empire. And this was due primarily to the fact that an alleged awareness of the “unique” properties of scientific knowledge constituted a marker of distinction for the members of a new social group.

What follows first is an exploration into the context within which this new type of social actor acquired increasing authority and into the qualities of these actors. Then I will focus on the official discourse on science that they constructed after the 1830s.

A. The Speakers of Science

1. *Men of the Tanzimat*

While the early nineteenth century witnessed the slow but steady production of military bureaucrats at the new schools of the empire, many other influential elites of the period were primarily autodidacts, usually possessing those skills still rarely found within the empire, especially among the Muslim community: literacy and some familiarity with a European language. Typically after elementary religious education, the teenager would start working as an apprentice secretary in one of the government offices. He would continue learning on the job and hope to grab the attention of a higher-ranking bureaucrat who could become his patron.

Wishing to create a more reliable, efficient, and loyal cadre, Mahmud II attempted to standardize the training of bureaucrats as well. An official

document from 1838 complains that those secretaries employed in government offices so far tended to have only some training on the Qur'an, and "perhaps have never heard even the names of the mathematical sciences and geography, the instruction of which is most important and most needed for clerks to be employed both at home and abroad."² Hence, the school founded the same year to produce Mahmud II's civil servants (*Mekteb-i Maarif-i Adliyye*, The School for Learning), had a curriculum that included, in addition to courses on grammar, Arabic, and Persian, courses on mathematics, French, and geography.

However, the setting that produced the most prominent bureaucrats of the Ottoman Empire around the mid-nineteenth century was another institution founded by Mahmud II: the Translation Bureau (*Tercime Odası*) where clerks (both Muslim and non-Muslim, along with the occasionally employed foreigners) not only translated European documents into Ottoman Turkish but also received basic training on subjects similar to those at the school for public servants. Most crucial, however, was the teaching of French. Opened in 1821 but a full-fledged department only after 1833, the Translation Bureau raised not only many of the leading statesmen of the Tanzimat (Reorganization) Era but also their critics.³ Many "graduates" of the bureau also had the opportunity to work in Europe, typically in Ottoman embassies, where some of them followed courses in universities and occasionally made the acquaintance of European intellectuals and scholars.

It is the accomplishment of these bureaucrats—who gained significant power at the expense of the ulama as well as the sultan himself—that specific representations of knowledge, ignorance, and their virtues and vices gradually became official after the 1830s. These are, after all, the men who penned many of the key legislative and administrative texts in this period. Among the basic features of the representations that these texts contained were the identification of the sciences of the Europeans with "needed" and "true" knowledge, and the possessors of this type of knowledge as *the* knowledgeable group within the empire. At the same time, the representation of this new type of knowledge was based on the way the new bureaucrats related to it: this was a type of knowledge that was to be "possessioned," "known," not produced.

But, once again, we should note that the emergence and consolidation of this discourse did not take place within a vacuum. In fact, the years 1838 and 1839 witnessed two events that defined the context within which the Ottoman Empire would experience the rest of the nineteenth century: the Ottoman-English trade agreement of 1838, and the Imperial Decree of Gülhane in 1839 marking the official beginning of the Reorgan-

ization Era. The former was an economic turning point in that it turned the empire into a free-trade zone for English merchants.⁴ The agreement was signed by the Ottomans in return for much-needed English aid in the Ottoman military campaign against the rebellion of the governor of Egypt, Mehmed Ali Pasha; but similar agreements would have to be signed with the other Great Powers soon afterward. The result was an Ottoman market filled with cheap European imports that dealt a blow to Ottoman manufactures, the effects of which lasted until the 1870s.⁵ Added to the resultant social disruption were the apparent associations between class and ethnonreligious community membership: numerous members of the non-Muslim communities (Greek, Armenian, and, to a lesser extent, Jewish) were able to seize the role of middleman between Ottoman products and European merchants, thus assuming the shape of a commercial bourgeoisie.⁶ While there was no rigid split between Muslims and non-Muslims particularly in the lower echelons of society, the lifestyles and consumption patterns of this new class were alienating to some members of the Muslim community. More specifically, the growing differences among Ottoman bureaucrats themselves resembled a bifurcation within the Muslim middle class of Istanbul.

The 1839 Imperial Decree of Gülhane, on the other hand, involved the declaration that the Ottoman state would undertake a series of administrative reforms and that rights to life and property were guaranteed by the state, tax farming would be abolished, the system of conscription would be made fair, and, crucially, the new laws would apply to all communities within the empire, regardless of their ethnic or religious identity.⁷ This so-called Tanzimat Decree, which gave its name to the period of reform that it initiated, was not necessarily entirely welcome by the non-Muslim communities at first, but one of its most conspicuous impacts was the disillusionment of members of the Muslim community, which saw themselves as losing their privileged position within the Ottoman Empire.⁸ The new bureaucrats' attempts to construct a common Ottoman identity that would transcend all religious identities and ideally help keep the empire intact (commonly referred to as the policy of Ottomanism) were not particularly harmonious with the Islamic-Ottoman conceptions of social order.

In sum, a significant portion of the Muslim population perceived the Tanzimat as an era of submission to European powers—an era in which non-Muslim Ottomans were favored at their expense by the estranged bureaucrats of Istanbul. Further proof was provided by the everyday lives of the new bureaucrats themselves: the lifestyles of top-level bureaucrats increasingly resembled that of the non-Muslim bourgeoisie and the Europeans.

How did these bureaucrats perceive and represent themselves? How were these representations perceived by the discontented groups? Focusing on several specific examples can help to explore these questions.

Muṣṭafa Reṣid Pasha (1800–1858), the chief architect of the Tanzimat Decree of 1839, was a diplomat who had been the Ottoman ambassador to France in 1835 and then to England in 1836. On his return to Istanbul in late 1837, he became foreign minister. The report he presented to Mahmud II on his return can give the reader an idea about the way in which new diplomats like Reṣid operated. In this text, which is primarily a list of European expectations from the Ottoman Empire, Reṣid mentions, for instance, that the completion of the new building of the Military School would not only bring about numerous benefits but also “attract the attention of the Europeans.” He recommends the termination of the farming “to which all Europeans object,” as well as the adoption of the quarantine system, the absence of which causes many problems in transportation and commerce about which “all Frenchmen complain.”⁹

This indeed was the basis of the prestige of the new top bureaucrats of the empire who had been in Europe: being able to transmit and evaluate the opinions of the Great Powers at a time when the Ottoman Empire could no longer survive by its own means. As Carter Findley puts it:

Where Mahmud’s diplomats really produced their impact was not so much as representatives of the Ottoman Empire in the states of Europe as in their unprecedented ability to absorb and respond to their experiences abroad, and in their role in mediating the demands of the major powers to their own people. Thus, in representing the West to the Ottomans, more than the other way around, they quickly acquired an influence that extended in Ottoman official circles far beyond the field of foreign affairs as narrowly defined.¹⁰

The bureaucrats not only deliberated on the expectations of the Europeans, but as long as they remained in their posts, they were able to act on those expectations in ways they saw fit. Indeed, all the suggestions in Reṣid’s memorandum would be realized within the period of reform that started with the Imperial Decree of 1839.¹¹

Security of life and property in addition to the growing centralization of political power transformed the new bureaucracy into an entirely new class that no longer resembled the scribes of past centuries. Making the most of their skills, knowledge, and relations, the higher-ranking members of this new class exhibited an unprecedented degree of self-confidence. For instance, Reṣid Pasha was able to tell the British foreign secretary Lord Palmerston that Sultan Mahmud II “had no knowledge

whatsoever of the skills needed in administering the affairs.”¹² A contemporary observer argued that the sultan’s power was more than balanced by that of the “Machavellian” new bureaucrats who, thanks to their relatively superior erudition and practical experience, had usurped the state, turning imperial authority into “but a phantom.”¹³

As Ottoman statesmen faced the reality that the survival of the empire depended on navigating and exploiting the balances of power in Europe, the foreign ministry became a most prestigious post and, ultimately, a stepping-stone to the prime ministry. The bureaucrats who occupied these posts in the Tanzimat Era—most importantly Reṣid, Āli, and Fuad Pashas—had diplomatic experience, and they frequently interacted with European diplomats and visitors in Istanbul in European fashion, impressing them immensely. The American author Edwin de Leon “praised” Reṣid Pasha, stating that “both in intellect and character [he] looked less like an Oriental than any Eastern man I have ever seen. . . . No more prepossessing man, no more subtle statesman, no more accomplished diplomat could be found in the ranks of the *corps diplomatique* than this representative Turk.”¹⁴ In the obituary published for Fuad Pasha on February 16, 1869, the *London Times* made a similar comment: “People could hardly believe that the elegant and cultivated person who spoke so well, who told such good stories and uttered witticisms that Talleyrand would not have disowned, and whose manners were so polished, could be a Turk.”¹⁵

Safvet Pasha, another top bureaucrat who had worked at the Translation Bureau and occupied several ministries during his long career, was praised by the American Oriental Society, of which he was an honorary member, as “an enlightened and scholarly Turkish gentleman.”¹⁶ At a later age, Safvet stated in a letter to his son that even the most awful city in Europe was superior to Istanbul and it would take centuries to turn the Ottoman capital into a Vienna. He wrote: “I am utterly regretful that I wasn’t able to spend some twenty years of my life . . . in Europe. If I had been able to do that, now I would at least be cherishing the memories of the things I would have been able to see during that time.”¹⁷

Another example is Halil Şerif Pasha (1822–1879), who was also educated in Paris. He was let down when he was appointed Ottoman ambassador to Athens, rather than Paris, as he had expected. Āli Pasha wrote him a letter teasingly comparing Athens to Paris where he stated he could not “believe that there could be on earth a more moving and more seductive song than the *Marsellaise*.”¹⁸ The allure of Paris for young Ottoman bureaucrats is clarified by another letter Āli sent to Halil Şerif, this time when he was appointed to St. Petersburg: “It is better that you go there [Paris] later, because you will then be less young and you will arouse . . . less envy

among those who remain here to labor far from the charms with which you would be surrounded in that fairy capital."¹⁹ While in St. Petersburg, Hahî Şerif would become one of the founders of the Ottoman Society of Science, which I will focus on in chapter 3.

These high-ranking bureaucrats relied on the rather high salaries paid by the state, instead of fluctuating land revenues like the officials of the past. Their consumption patterns, too, differed widely from their predecessors, as well as that of the other lower-class, particularly Muslim, groups within the empire.²⁰ They represented new tastes: they were increasingly more interested in European goods, particularly those that had a strong symbolic value in terms of "Europeanness," such as pianos, and they liked to frequent the quarters of Istanbul where non-Muslims and Europeans lived.²¹

Therefore, the builders of the official discourse on science can be seen as members of a group who appeared increasingly more alien to significant portions of the Muslim community of Istanbul. Yet it is also important to avoid making hasty generalizations at this point. First, we should underline that this group was a small minority who not only lacked legitimacy in the eyes of the public but also embodied significant competition within it, making patronage relations highly consequential. As a result, reversals of fortune were rather common for the members. Second, while the divergence between the ruling elite and the public certainly led to the popular view that the new bureaucrats were irreligious admirers of the infidels, the official discourse on science, knowledge, and ignorance was much more complex than what this view would imply. The "men of the Tanzimat" did construct a discourse that praised the sciences of the Europeans, but at the same time they linked the possession of scientific knowledge to moral duties and responsibilities. Science was not simply related to economic and military might; it was a moral issue.

2. *A Manifesto for Science: Mustafa Sami*

The first of the caveats above is best illustrated by a Tanzimat bureaucrat who is the author of one of the most passionate Ottoman paens to the sciences of the Europeans. Mustafa Sami, the author of the famous *Avrupa Risalesi* (A Treatise on Europe), worked as a scribe in various civil offices and became a senior clerk in 1833.²² After gaining some initial familiarity with European affairs during his employment as the secretary of the Ottoman embassy in Vienna, he was sent to Paris as the chief secretary of the ambassador in 1838.²³ On his return in 1839, he became the minister of postal services and soon afterward published his treatise.

The treatise starts with Sami's statement of purpose: serving the nation by making it aware of things of which it is ignorant. Cognizant of his own "inadequacy" and "insignificance," yet aspiring to be of service to his nation, Sami shares his observations and opinions in order to encourage "greater scholars" to express their own views, thus enabling hitherto unshared knowledges to be revealed.²⁴ The author's expression of humility is a well-established convention in Ottoman texts, but the emphasis on "serving the nation by spreading knowledge" is significant, as this was an approach used commonly by the members of the new "knowing class."²⁵ The "true patriots" of the new era would be the ones who possessed useful knowledge and shared it, almost as a *mission civilisatrice*. Indeed, this emphasis on "sharing" is typical of the writings of the new elite (as we also observed in the case of Mahmud Raif in chapter 1). This rhetorical strategy presents the new bureaucrats as selfless enlighteners, in contrast to the representatives of "old knowledge" who are associated with esotericism. In a sense, the new elite attempt to turn the tables on their critics by portraying them as the truly arrogant ones who have neglected the people.

Sami describes Parisians as epicures but also as morally upright and patriotic individuals—a view that was not necessarily congruent with established wisdom in the early nineteenth-century Ottoman Empire. Yet what is most impressive about the people of Paris is their interest in learning, which Sami swiftly generalizes to all Europeans: everyone in Europe, even an ordinary porter or a shepherd, is literate; even the blind and the handicapped can study and make a living on their own.²⁶ "Thanks to learning and accomplishment," Europeans discovered the true nature of all things, which enables them to organize their lives well and maintain their health. Literacy allows them to keep their accounts in order, their knowledge of mathematics and chemistry helps them to improve their crafts.²⁷ They publish books on all sciences and even on subjects like pest management, as a result of which they benefit and assist even the people of other lands. Their expertise in geometry and mechanics enables them to build wide, smooth roads and to plan their cities better.²⁸

What, then, is the reason behind all this order and might? Sami's answer is simple: science. "Europeans realized and admitted that the greatest embarrassment and disgrace in the world is ignorance," and made spreading education their primary goal.²⁹ As a result,

just as in our lands poetry became the basis of *belles lettres*,³⁰ in theirs . . . the progress of geometry enabled the improvement of algebra, making possible the invention of steam engines, thanks to which goods that would take one year to produce are

manufactured in one day; similarly, due to the progress of the science of chemistry, the science of lithography was discovered. . . . No country in the continent of Europe, save Italy, has an agreeable climate or fertile soil. They have stepped forward thanks only to science and knowledge.³¹

Note that the opposite of ignorance is defined as the spread of scientific knowledge in this section—an approach that we will observe in other texts as well. It is also worth underlining that Sami does not simply link science to material progress; his rather daring praises that extend to the character of Europeans in general are also related to the spread of science. Acquiring scientific knowledge, Sami suggests, made Europeans more productive, self-reliant, caring, patriotic, and, in sum, “better” people.

But is science a European invention? In other words, are the sciences of the Europeans “European sciences”? Mustafa Sami’s answer is a resolute no. Far from being related to European customs or Christianity, the contemporary sciences of the Europeans are based on the sciences developed by Muslim Arabs. So science is one, and it is part and parcel of the Islamic heritage.

This approach was not uncommon in Sami’s time. Societies experiencing similar challenges and going through similar social and cultural transformations as the Ottoman Empire in the Europe-dominated world of the nineteenth century produced discourses that characterized the new in terms of the existing: they praised the new sciences and tradition (which they redefined in the meantime) simultaneously. In his travelogue published in 1834 after his visit to Paris, the Egyptian polymath Rifāʾ al-Taḥawī had made one of the earliest and strongest cases regarding the impact of early Islamic scholars on early modern European natural philosophers—a vibrant theme in the orientalist works of the period.³² Similarly, Chinese scholars and bureaucrats commonly emphasized that the classical branches of Chinese learning were the sources of Western science during most of the nineteenth century.³³

To Sami, once science was disseminated throughout Muslim lands as in the past, there would be no more need for European products. Yet, and very significantly, this is not all: thanks to the revival of science in the Ottoman Empire, the people will “learn to appreciate the value of their fatherland and nation,” Sami asserted.³⁴ As a result, the poor will be protected, hospitals for the needy will be opened, *medreses* and dervish lodges will be built, and ruined mosques and bridges will be repaired, thus serving the afterlife as well.

All this may be seen simplistically as the coming to grips of an Ottoman bureaucrat with the realities of the new world. Yet how exactly did

Sami reach these conclusions about science? How did he make these observations? Strikingly, as he confesses at the end of his work, Mustafa Sami did not speak any European languages. His impressions appear to be based on what he had been told during his time in Europe, not on rigorous personal investigation. But this fact makes his arguments even more representative: Sami’s descriptions of science as knowledge that enables one to appreciate one’s own allegiances, as built on the legacy of early Muslim scholars, and as the sole reason behind European supremacy are ultimately the clichés of the emerging official Ottoman discourse on science. Seeing them as but truisms also explains the flaws in Sami’s reasoning, such as the supposed link between the progress of algebra and the invention of the steam engine, the highly exaggerated descriptions of the level of education of commoners in Europe, and the absence of any sound explanation regarding the reasons behind the progress of science. Mustafa Sami, as a member of the new class of bureaucrats who remained unsure of their legitimacy, “markets” science and its benefits, and this assumes the form of a mystification, not an analysis. And this mystification often involves presumptions about the impact of science not only on the economy and the military but also on the qualities of individuals; science is not simply a matter of knowledge and practical benefits, it is a matter of personal and civic virtue.

Their effort to transform their practical know-how into prestigious cultural capital led bureaucrats like Sami to present science as the knowledge that the empire needed more than anything. That these new, aspiring Ottoman elites possessed, or at least appreciated, this knowledge was then used to portray these men as true patriots and *useful* subjects. Sami’s brief digression after his discussion on the invention of lithography is telling in this context: praising European states for rewarding and respecting authors who publish books thanks to which nobody’s effort goes wasted, Mustafa Sami implies what he deserves after his useful treatise.³⁵

Finally, we should remember that while Sami has nothing but flattery for Europeans (which comes very close to implying that they are *morally* superior to Ottomans), at the end of his treatise he attempts to make his arguments more palatable: science does not belong to Europeans, it is the true legacy of Muslims. Furthermore, as science produces both good people and generates wealth, religious buildings will be maintained better—note, however, that Sami mentions this along with the saving of the poor and the building of hospitals for the needy, which adds a hint of condescension to his remarks.

These arguments proved insufficient, however, as the fact remains that new elites like Mustafa Sami still lacked legitimacy, and their efforts to

convert their cultural capital into symbolic capital more often than not led to censure.³⁶ The late nineteenth-century court chronicler Ahmed Lütfi writes that Sami attracted “derision”; yet “derision” would still be too light a word to describe the reaction against Sami’s work if we examine the satirical poems written on him. The young poet Üsküdarlı Hakkı Bey (1822–1895) referred to Sami as the “Devil-faced dissolute;” “the leader of the confounded;” “the collaborator of the Zoroastrian and the Christian;” and “a gypsy in European clothes” who would face ruin in both this world and the afterlife.³⁷ Hakkı Bey’s poem was full of condemnations of Mustafa Sami that were rooted in the Islamic tradition, and he openly called him an infidel. Praise for Hakkı Bey’s attack came from older poets like Safvet (1794–1866) and Lebîb Efendis (1785–1867). While Safvet commended Hakkı for being so truthful (*hak-gül*, a play on the author’s name), Lebîb wrote: “You turned into hell all sides of the foe of the Prophet / Those fiery verses hit the enemy right in the heart.”³⁸

It is important to note here that Sami’s critics were not prominent ulama but other bureaucrats—a case exemplifying the divide within the bureaucratic middle class. An examination of the particular positions the protagonists of the story occupied at the time can shed some light on the roots of this antagonism. Lebîb Efendi had been appointed minister of quarantine in January 1840, but soon afterward his office was put under the control of the minister of commerce, who, at the time, was none other than Mustafa Sami’s patron, Ahmed Fethi Pasha.³⁹ Sami’s *Avrupa Risalesi* was published during this period, in July 1840. Safvet, on the other hand, had been Lebîb’s protégé since 1822.⁴⁰ In sum, then, Sami’s work appears to have been an excuse for the manifestation of the rivalry between two patrons and their protégés.

But it is also the fact that the two groups had a crucial difference: Lebîb had not been educated or employed in Europe, and bureaucrats like him, and their protégés, were less likely to occupy prestigious posts in this period. Granted, neither Ahmed Fethi nor Mustafa Sami spoke European languages, and they were not well educated in the new sciences.⁴¹ It appears that their past employment in Europe and their connections were the sole basis of their prestige on their return, and the feeling of injustice this may have caused among other bureaucrats can be considered as the foundation of the hostility. Sami’s treatise illustrates rather well the sense of distinction and entitlement he felt.

Of Sami’s other critics, the poet Ibrahim Hakkı was eighteen when he wrote his poem. He worked in the ministry of endowments most of his life, but without rising to higher ranks in the bureaucracy. He wrote several poems in which he complained about his poverty and disillusion-

ment, and he suffered a severe mental breakdown from which it would take him almost twenty years to recover.⁴² Similarly, Safvet’s most famous poem, *Beramer*, is based on a comparison between his absolute poverty and the esteem with which poets were regarded in France.⁴³

Their poetic imagery aside, the works of Lebîb, Safvet, and Hakkı appear to represent a common perception; they indicate that men like Sami still constituted a minority with limited influence. Sami’s patron, Ahmed Fethi Pasha, collaborated with the chief architect of the Tanzimat edict, Mustafa Regid Pasha, and Mustafa Sami was appointed director of the Imperial Press. Yet, according to the chronicler Ahmed Lütfi, Sami became the object of utter contempt during these years as he “denounced and deplored established ways and customs, and talked about European customs heart and soul to anybody he saw.”⁴⁴ This seems to have been quite costly for Mustafa Sami, as his career afterward is characterized by a series of posts he held rather briefly before he was removed from office, such as his ambassadorships in Berlin and Tehran. Like his critic Hakkı, Sami was suffering from severe mental disorders at the time of his death in 1855.⁴⁵ The fields of culture and state were changing rapidly in the Ottoman Empire, leaving behind many disillusioned casualties. And references to science and its implications constitute a unique indicator of these changes.

3. *Science and Morality: Sadık Rifat Pasha*

While Sami’s treatise is a brief but enthusiastic exposé by a lesser bureaucrat, the example of Sadık Rifat Pasha (1807–1856) enables us to see the approach of a more influential ideologue of the Tanzimat Era. A collaborator of Reşid, Rifat had become the Ottoman ambassador to Austria in 1837, and even though he also experienced a volatile career due to intra-elite competition, Rifat remained a high-ranking bureaucrat until his death.

Key among his published contributions are his observations about Europe and, in particular, European civil servants. Seeing a striking contrast between European bureaucrats, whose many rights were recognized and duties well-defined, and their Ottoman counterparts, who did not even enjoy the right to life in the traditional Ottoman system, Rifat wrote some of the most important texts expressing the aspirations and concerns of the new bureaucratic class.⁴⁶

In his discussions on knowledge and ignorance—discussions that had become central to any political treatise in this period—Rifat praised Austrian schools, the science classes in their curricula, and their combination of the theoretical and the practical.⁴⁷ In another text on education in the Ottoman Empire, however, he wrote the following:

It is necessary to strive for . . . the elimination of the ignorance of the people and their acquisition of the needed sciences.⁴⁸ . . . Ignorance is the true source of all evils and improprieties . . . [so it is] required to educate the people with respect to the science of ethics as much as possible. . . . Knowing everything, that is, some subtleties that do not concern them may, among common people, give rise to hazards like a certain licentiousness, and in the end, disobedience. Hence, those types do not need to know a lot of things, and it is sufficient if they are taught to read and write.⁴⁹

Nevertheless, it was crucial, according to Sadik Rifat, to provide a comprehensive education for those who would be in state service.

Sadik Rifat Pasha, an admirer of Metternich and his policies for retaining social order,⁵⁰ was not the only bureaucrat of the period concerned with the dangers of social upheaval and disobedience. Indeed, Ottoman bureaucrats were terrified by the social unrest in Europe that they had heard about or personally witnessed. Mustafa Sami, the author of the *Avrupa Risalesi*, for instance, wanted to resign from office at the Berlin Embassy due to the uprisings of 1848.⁵¹ During a conversation on slavery while he was in Paris, Ahmed Fethi Pasha (Mustafa Sami's patron) proclaimed, "It is better for the happiness of everyone that everyone stays in his place, this is the surest way not to die of hunger and not to arouse evil passions."⁵² Ali Pasha, too, is known to have said, "The Lord has entrusted the well-being of the state to five or six people. These should govern the fate of the state."⁵³

The new bureaucrats were enamored by the "civilization" they had observed in Europe.⁵⁴ The curiosities they witnessed (which they broadly labeled as the products of the new sciences) fascinated them, and they regarded the teaching of these new sciences essential in the Ottoman Empire. But it was precisely their experiences in and testaments about Europe and its marvels that their authority and distinction were founded on. The new bureaucrats knew how things worked in Europe, they were able to communicate with the Europeans and manage the transfer of European ideas and goods into the empire. Hence, the spread of the types of knowledge they monopolized was a double-edged sword for them: while, on the one hand, it could facilitate the implementation of the schemes of the central government, it would also help produce new competitors for the power they wielded and potentially disrupt social order in ways they had observed in Europe. The outcome was the representation of new knowledge but with an emphasis on its certainty, which was simply to be learned from books, just as religious sciences were learned in the *medreses*. The question of social order did not matter less for the new bureaucrats than for the *ulema*, which led to the emergence of the new synthesis:

sufficient amount of properly understood new knowledge, coupled with an understanding of one's place that should not be challenged, that is, the combination of science and morality.

It is in this respect not surprising that Sadik Rifat, the devotee of *svill-zasyon*, was also the author of a textbook on morality, the *Risale-i Ahlak*, first published in 1847 and required in both Qur'an schools and the new elementary schools until 1876.⁵⁵ Written as a series of brief discussions on desirable and undesirable traits, the text does not cite the classics of Islamic ethics, and while God is referred to as the ultimate judge of actions, the book explains that virtuous acts are stipulated by both religion and reason.⁵⁶ The authority of the teachings is thus rendered undefeatable.

The very first topic discussed in this textbook on ethics is the acquisition of knowledge. Ignorance, the author contends, is lacking the knowledge that is essential for being human, and the ignorant are always derided by their peers. Yet knowledge should not be acquired in order to be able to call others ignorant; the learned should hope to educate and be useful to the people and, thus, to be properly respected.⁵⁷

Even in this elementary text, it is possible to trace the reasoning of the enlightened bureaucrat: he is to acquire knowledge, educate others, and earn their respect. Indeed, the book contains many examples about earning respect by acting properly. But Sadik Rifat was even clearer in the supplement he published in 1857. His *Zey'i Risale-i Ahlak* starts with a blunt proclamation that obedience to religious commands and the Sultan are the prerequisites of being considered a moral individual.⁵⁸ This volume also contains a section on knowledge where Rifat comments the new developments in the sciences and arts, and, as a consequence of these changes, the imposition of "beneficial laws and useful regulations."⁵⁹ The powerful steamboats, vast factories, and all the new inventions are further products of science, and science progresses more rapidly each day as it even has a language devoted to it: French. But ultimately the source of all science is the intelligence God bestowed on all men, and, as a result, science does not belong to a nation, it is the common property of humanity.⁶⁰ Hence, scientific knowledge should be respected and utilized by all; it *must* be imported by the Ottomans. Yet it appears that it is those who do speak French who truly understand the nature of science and its benefits, according to Sadik Rifat.

Rifat's use of the word *ilm* is of particular importance. In the section devoted to the sciences, Rifat states: "As '*ilm*' means 'to know' and to learn and know the better of everything is the most esteemed privilege of being human, everyone should strive to learn what he does not know."⁶¹ By identifying *ilm* with the sciences he discusses so enthusiastically, Rifat

simultaneously imagines ignorance essentially as the lack of knowledge pertaining to those sciences. Furthermore, when the concept associated with religiously significant knowledge is appropriated for science, the virtues associated with being knowledgeable can be ascribed to those who possess scientific knowledge.⁶²

Sadik Rifat also notes that sciences and arts enable individuals to make a living without demanding aid from the state.⁶³ Hence, "everyone should provide the education for their children that will allow them to be good subjects of their Sultan and subsist without being a burden on the state and the nation."⁶⁴ Not everybody should be a civil servant; one could earn his life as a locksmith as well. Indeed, since Rifat states at the outset that he wrote his book exclusively for those who would become civil servants,⁶⁵ it appears that those on state service should be allowed to know the intricacies of science, but the rest should get just the "right dose."

Hence, Sadik Rifat's writings illustrate the ambiguity that the new elites' characterizations of science embodied. On the one hand, for reasons discussed in the preceding sections, familiarity with the new types of knowledge was to be praised, and this could even take the form of equating them with religiously endorsed knowledge. It was implied that this familiarity was one key reason why the new elite constituted the new class of "knowers." But what about the impact of new knowledge on "common people"—people whose participation in government was not envisaged? In this case, scientific knowledge becomes knowledge that should teach individuals the proper order of things and provide them with skills that will render them hardworking and productive. Consequently, scientific knowledge makes the ruling elite fit to rule and transforms the ruled into disciplined and deferential servants. Particularly the latter part of this formula can be seen in a number of documents prepared by the Tanzimat bureaucrats, a significant one of which I analyze below.

B. Science: The Route to Patriotism?

Perhaps the most striking and consequential contribution of the 1830s to the Ottoman debate on science in this context is the emergence of a distinctive theme: familiarity with science as a prerequisite for being a good, patriotic Ottoman subject. This theme was introduced discreetly in a document that is also very significant in its portrayal of the new official meanings of knowledge and ignorance: a memorandum on the state of education within the empire prepared in 1838 by the newly founded Council of Public Works.⁶⁶

The memorandum stated at the outset that it was undeniable that "education and the sciences" (*marif ve ulum*) were the basis of power and glory, as well as all the arts and industries that generate wealth. Furthermore, just as religious sciences lead to salvation in the afterlife, the memorandum proclaimed, other sciences (*fünûn-ı sâine*) bring about the perfection of the conditions of mankind on earth. There was no ambiguity about what these other sciences were: astronomy, by facilitating maritime transport, helped stimulate trade; mathematical sciences both helped better organize military forces and enabled the emergence of "many useful and curious things that amazed the philosophers of the past, such as steam power."⁶⁷ These changes had made ignorance particularly detrimental, as it could lead to impediments to trade and decline in industry.

But this was not all, as the ultimate question in the nineteenth-century Ottoman Empire was not the characteristics and consequences of knowledge itself, but the characteristics and attitudes of the people who possessed or lacked knowledge. Hence, the memorandum made the remarkable statement that learning was essential, since the ignorant could not "[truly] know the state of whose auspices they exist under, and what love for the fatherland means." According to the memorandum, the Ottoman state had established many schools in the past to promote knowledge, and many remarkable books had been written by the early Ottoman scholars. "Certain affairs and disturbances" had stalled this process until the time of Mahmud II, and some problems persisted during his reign as well. These problems had to be eradicated, the memorandum stated, as ignorant individuals, due to their lack of appreciation for what their state provided them with, ended up being useless both to themselves as well as to their nation. Hence, learning was important in that it enabled one not only to understand and appreciate the state (that is, wielders of state power), but to become a good servant of it. It is worth remembering at this point that in its first issue the Ottoman official gazette also noted the need for the people to avoid attacking the state and to truly understand its actions. The "training" of the citizenry through tools like the press and education was clearly a priority for the new state elite who sought to establish legitimacy in the eyes of the Ottoman public.

Now all this does not mean that ignorance is defined only as the lack of scientific knowledge in this and similar documents. Indeed, some of the most powerful sections of the text are about the need for ameliorating elementary, that is, primarily religious, education.⁶⁸ The proposals do not extend so far as to encourage teaching the sciences (which the memorandum praises passionately) in elementary schools, either. Hence, the document can be read as an initial attempt to combine the authorities of the

emerging new knowledge and religion in order to create the desired type of subject. The two aspects of the report can be seen as the components of an unarticulated dual structure, one (pro-science) demonstrating the will for modernization, the other (religious) indicating the intent of "social disciplining."⁶⁹ Yet the way the memorandum discusses the benefits of the "other sciences" demonstrates forcefully that the praise for science is also closely related to its effect on the subject vis-à-vis the state: learning the knowledge produced by the new sciences not only enables the individual subject to generate more wealth for himself and his state, but also allows him to appreciate what his state provides for him, making him more patriotic. Science is no less essential than religion for generating productive and deferential subjects.

We should also note that the official discourse that emerged in this period did not simply link scientific knowledge to patriotism by emphasizing that learning enabled one to appreciate one's state. As Seyyid Mustafa's *Diatribé* had already demonstrated in 1803, and as the tone of this and similar other reports on education, as well as the forewords of many if not all books on science published throughout the nineteenth century suggest, Ottoman sultans were increasingly keen to assume the title "patron of education and science." In this characterization, learning science becomes one's duty toward the sultan, the fulfillment of which would make one a good subject: after all, the sultan (and the state elite) demanded reciprocity for the "gift of knowledge" they gave the subjects. We will see in the following chapters further examples of the popularity of this portrayal and of the ways it would be challenged.

C. New Institutions for New Knowledges

1. Schools, Students, Virtues

In a period where ignorance and knowledge were redefined by an emerging status group, it is not surprising that the question of institutionalization also came to the fore. The new sciences were taught in a small number of prestigious schools in the Ottoman Empire of the 1840s, yet due to the absence of a well-designed educational ladder, these schools had to admit students who were hardly prepared for such studies. There also remained a shortage of qualified educators and teaching materials, primarily textbooks. Hence, and possibly with the encouragement of top bureaucrats, in January 1845 Sultan Abdülmecid issued an edict complaining that despite his strongest will, the condition of his subjects and his hands had not been

substantially ameliorated save for the improvement of the military.⁷⁰ Expressing his disappointment, he described the most urgent problem of the empire as the "elimination of the ignorance of the subjects in all issues, religious and worldly." His edict then asserted that new schools should be established—schools that were "the origin of knowledge and science, and the source of arts based on learning."⁷¹

Abdülmecid's blunt distinction between religious and worldly knowledge is striking. It appears that the principal tenets of the 1838 report of the Council of Public Works were now taken for granted: religious and worldly knowledges were different. The emphasis on knowledge-based arts also indicates that instruction in the schools he envisaged would not have to do with religion. It would be reasonable to conjecture that Abdülmecid also recommended a sequence based on elementary religious training to later be followed by "worldly knowledge" and vocational education. The Provisional Council of Education that was formed to deliberate on the issue of education soon after this edict comprised one chair, six members, and one secretary. Four members, including the chair, were from the *ulema*, three were bureaucrats, and one was a military officer: Mehmed Emin Pasha, an engineer educated in Paris. In addition to Fuad Pasha and the secretary, Recai Efendi, two other civil servants with extensive bureaucratic experience constituted the "men of the pen" contingent. The representatives of the *ulema*, significantly, were some of the best-educated religious dignitaries of the time.⁷²

In an 1846 report based on the council's recommendations, we observe a similar logic to the one indicated by Abdülmecid: Schools of elementary levels should be devoted to the religious sciences that are essential for everybody. Second, a *Darülfünun* (House of Sciences) should be opened in Istanbul for "those who desire to learn and acquire all the sciences and knowledges in order to achieve human perfection and those who wish to be employed in an office of the Sultan." No science would be neglected by this institution, and its students would "strive to achieve maturity under the enlightening auspices of [the sultan]."⁷³ These measures were of utter importance as education was defined as the basis of prosperity. Moreover, and very importantly for our purposes, the ignorant were *dangers*: "Those who are devoid of sciences and knowledges know neither patriotism, nor divine or human law and remain in the state of animals, and their natures, due to ignorance, would be inclined to pick up all kinds of evils."⁷⁴

What is conspicuously absent from this document is the status of the *medreses*, even though it does address the issue of higher education. As it was specifically mentioned that the proposed *Darülfünun* would be the

path to follow for those pursuing government jobs, it was implied that *medrese* graduates would likely not be able to get offices outside of the strictly religious realm. Additionally, the document refers to the future students of this new institution as the *talebe-i ulûm*, literally, students of knowledge (*ilm*), which was the term traditionally used for *medrese* students. And very significantly, the document presents another example of the crucial formula of the official discourse: learning the sciences makes one virtuous. Ignorant people not only are unaware of the meaning of patriotism—a phrase that had obviously turned into a truism by then—but they are prone to vices. In a sense, they betray the qualities instilled in them by God, and in their animal state, they constitute a danger to the nation. What this characterization of the ignorant implies about the moral virtues of those who do possess the “sciences and knowledges” does not need elaboration. Indeed, students of the future House of Sciences are described as those who would thus achieve *kemâlât*: a concept that entails both knowledgeable and morality.⁷⁵

Once again, what we observe is the transfer of a concept more commonly related to the acquisition of religiously significant knowledge to “all sciences” that the document promises will be taught at this new establishment. It is true that the report does not specifically exclude religious sciences, but it is precisely this generality of the way “knowledges and sciences” are referred to that, in a sense, disenchants the idea of *kemâlât*. Virtuosity, or human perfection, is very tightly linked to knowledge and science in general, rather than to a particular type of knowledge, and those who acquire knowledge and good morals within the *Darülfünûn* are portrayed as those who would be appreciated both by God and the state.

2. The Academy

One of the main obstacles before the establishment of an institution of higher education as the *Darülfünûn* was the lack of textbooks. Hence, the Council of Education concluded that an academy of sciences should be established in order to prepare the textbooks. In yet another memorandum of great significance, the council asserted on February 11, 1851 (9 Rebiülahir 1267), that the attainment of prosperity and civilization was founded exclusively on the spread and growth of the various sciences, and this depended entirely on the support of the state.⁷⁶ Indeed, according to the report, history proved that those states that strove for the spread of knowledge had always provided their subjects with prosperity and dominated other states. In other words, science had to be under state patronage and protection, as it, in turn, rendered the state more powerful. The Ottoman

past was an illustration of this fact: the advent of the Ottoman state had enabled the “sun of sciences and arts to shed its light over eastern lands,” and many books on the “needed sciences of the day” had been written by Ottoman authors.⁷⁷ However, the authors had ignored Turkish and preferred to compose their works in Arabic or Persian, “in order to demonstrate their brilliance.” Furthermore, they had devoted most of their effort to poetry and belles lettres and ignored other disciplines.

Even though Muslims had always known that in each era different sciences and arts were current and treasured and, accordingly, written and translated works on those particular sciences, there had come a state of negligence after a while, “due to some reason.” In addition, people of authority were either deprived of knowledge and talent or of the disposition to work for the sake of the state and the fatherland. Thanks to the enthronement of Sultan Abdülmecid, however, the wave had turned, and unprecedented progress had been observed in the realm of education. Due to this speedy development, no time should be wasted until the opening of the *Darülfünûn*, and the production of the required textbooks should be the responsibility of a new Ottoman Learned Academy, the *Ençümen-i Dâniş*, in the meantime. The members of this academy were to be competent in at least one field of science and able to compose books or translate works from Arabic, Persian, or foreign languages.⁷⁸

We observe in this memorandum further very clear statements about the imagination of science as “state property.” Those who engaged in science would be under state protection, as their works would strengthen the state and help it improve the conditions of its subjects; state sponsorship was the sole alternative. Furthermore, the clearly articulated will to spread the sciences within the empire had made it obvious that books written in languages other than Turkish were, ultimately, of no use. Indeed, within one document we observe references both to the Muslim world in general and the Turkish-speaking people in particular as the audience of these comments and suggestions. In this respect, the council’s report serves as an invaluable indication of how the discussion on science inevitably faced the question of which of the sultan’s subjects were its true intended addressees.⁷⁹

While the memorandum refers to poetry and belles lettres along with other sciences, it also implies they are useless and outdated. The works of the old masters are praised, but it is also noted that they are not necessarily useful in the new era, as each period has its own sciences and arts. This of course indicates the internalization of a concept of linear progress by the bureaucrats who composed the report and their attempt to rewrite Ottoman history: the old is not necessarily valid or respectable anymore. The

empire needs, as it were, new masters, possessing new knowledges and new skills. It is also worth noting how the discussion uses the metaphor of the sun that enlightens the people—paving the way to the perception of the nation in terms of an antagonism between “the enlightened” and those “in the dark.” The issue is clearly not just about the material benefits of the new knowledges, it is about the characteristics of people that ultimately matter and, thus, talking about science is simultaneously talking about virtue.

Seyhülislam Arif Hikmet Efendi, a former member of the Provisional Council, declared his office’s positive opinion about the new institution, and the Ottoman Learned Academy was opened on July 18, 1851. In his brief opening speech, Mustafa Reşid Paşa expressed his gratitude to the sultan who had made so much effort to disseminate the sciences and knowledges that “teach men their humanity, and lead everyone toward happiness and well-being in both this world and the afterlife.”⁸⁰ Note once again the connection between knowledge, humanity, and virtuousness.

Cevdet Paşa, the author of the opening speech representing the members of the academy, was a *medrese* graduate who had also learned French and chosen to leave the ranks of the ulema class to join the “men of the pen.” In his speech, read by Hayrullah Efendi, the vice president of the academy, Cevdet stated that arts and sciences were the sole bases of prosperity, order, the well-being of both the elite and the commoner, safety, as well as all the curiosities that were witnessed all around. Cevdet also specified that the survival and the fulfillment of the physical needs of man, as well as his achievement of the civilization to which he is naturally inclined, depended on natural and mathematical sciences. His spiritual side, on the other hand, leaned toward metaphysics and found pleasure in poetry and belles lettres.

As he was speaking about an academy whose key task would be to produce new books on new types of knowledge, Cevdet also proclaimed that languages did not acquire distinction unless literary and scientific books were written in them.⁸¹ Hence, the importation of science was simultaneously a means through which the Ottoman language would be reconstructed. Indeed, its official regulations stated that the chief objective of the academy was to serve “the generation of the needed books on various sciences in the Turkish language and to serve the progress of the language.”⁸² The books to be published by the academy would be in *adi Türkçe*, or plain Turkish, so that everybody could understand them. In this respect, the new sciences were declared not only the useful ones but also the ones that common people would understand, as opposed to the old sciences that remained esoteric, as they were commonly in Arabic.

Now it is a fact that the dominant political ideology of the era was Ottomanism—an ideology that entailed the construction and dissemination of a supra-ethnic, supra-religious Ottoman identity. Yet as this early example suggests, an unintended consequence of the Ottoman debate on the new sciences would be the gradual emergence of an association between the Turkish language and the new sciences. This association would become more fully formed and explicit in the following decades, thus adding a new dimension to debates on science and making them at the same time debates on who the Ottomans were.

The composition of the academy indicates the Ottomanist agenda of the period and its aim to resemble a European-style learned academy in which the nationality or religion of the members would not matter. It is true that of the seventy-three academy members only sixteen belonged to the ulema, thus indicating the continuation of the trend to lessen the presence and influence of the ulema in institutions of knowledge production. But it is also important that, in addition to the twelve non-Muslim Ottomans, three Europeans were also among the founding members of the academy: the orientalist James Redhouse, Thomas Bianchi, and Joseph van Hammer. Later, the American orientalist Edward E. Salisbury and Charles Johnson joined as well, and the Smithsonian Institute, under the directorship of Joseph Henry, sent eleven books as a gift in return for a book on the church of Hagia Sophia donated by the Ottoman academy.⁸³ In 1850, one year before the establishment of the academy, moreover, the names of two of its most prominent members, Fuad and Safvet, had appeared among the honorary members of the American Oriental Society.⁸⁴

Despite the initial enthusiasm and its cosmopolitan attitude, the Ottoman Learned Academy was rather short-lived—its name disappeared from official almanacs after 1862.⁸⁵ The books that had been presented to the academy within this period included a number of translations and original works on European and general history, in addition to a translation of Buffon’s *Histoire naturelle*.⁸⁶ The more celebrated works associated with the academy, however, are Cevdet’s *History*, commissioned by the academy but completed only in 1892, and Cevdet and Fuad’s coauthored work on Ottoman grammar (*Kavvalid-i Osmaniyel*).⁸⁷

Another work that stands out among the products of the academy is the first book on geology in Turkish: *İlm-i Tabakati’l-Arz*, based on translations of sections from Elie de Beaumont’s works and published in 1853. The translator, Mehmed Ali Fethi, a member of the academy, was from the ulema, and he translated the work from an Arabic edition. As a clear demonstration of the backing behind this work, the first pages of the volume were dedicated to the appreciative comments of prominent state officials

and ulema who were also members of the academy. Âli Pasha, for instance, wrote that the "noble science"⁸⁸ this new book contained had not been discovered in the "land of Turkish language" as yet, resembling a gem left unnoticed under the earth. Hence, Fethi's translation was full of benefits.⁸⁹ Mehmed Pasha, the chief of staff, defined geology as a "grand science that brings many benefits" of which Turkish speakers had previously been deprived. But such a brilliant translation had finally been possible thanks to the sultan, the "protector of learning" whose kind attention to knowledge and the people involved with it was well known.⁹⁰ Fuad Pasha also congratulated Fethi for his contribution to the "gems and glories of learning" that had come out during the reign of the sultan—a time characterized by learning.⁹¹ Finally, the future minister of education Subhi Bey thanked the translator for introducing into Turkish language a new science with such abundant uses, and he expressed his hope that more "useful works" of this kind would be published thanks to the sultan.⁹²

The "stately" introduction of this volume on geology is illuminating in its symbolic meaning: this new, noble, beneficial science that speakers of Turkish had long been deprived of can now be accessed under the sponsorship of the sultan, the patron of science and knowledge, and his enlightened servants. Also note once again the association of the Turkish language with the new sciences.

While this great authority proudly backed the new sciences, however, it prevented the academy from working effectively. In his discussion on the end of the academy, Cevdet notes that academy memberships, just like posts within the bureaucracy and the high *ihmiyye*, were based mostly on personal relations rather than merit, and resentful ministers and bureaucrats who were not allowed to be members interfered with the efforts of the academy.⁹³ Cevdet Pasha's remarks can be seen as potentially subjective, yet it is critical that since membership criteria involved competence in at least one language other than Turkish and one branch of science, a reasonable amount of education appears to have been the true common feature of all the Ottoman members. As the set of individuals within the empire who would satisfy this criterion included more or less only the bureaucrats and the high-ranking ulema, it was unavoidable for the academy, a body with no institutional autonomy whatsoever, to manifest the appearance of yet another high council of the state. This would certainly raise questions about the reasons why any top bureaucrat was *not* a member. Similarly, while the regulations of the academy stipulated that members who failed to attend the meetings regularly would be expelled, such sanctions could hardly be used against bureaucrats of high rank.⁹⁴

Problems of this kind remained inevitable as long as the Ottoman man of science and art was also, and primarily, an Ottoman statesman.

Another member of the academy, Derviş Pasha, published the first chemistry textbook in Turkish in 1848. Derviş Pasha (1817–1879) was a graduate of the *Milhendishane* and a student of İshak Efendi. Following his graduation, he was sent to London in 1834 to further his training in preparation for a professorship at the Imperial Military Academy. After London, he went to Paris and followed courses at the *École des mines*. Before his return, he was authorized to purchase materials for the Imperial Military Academy. In addition to numerous general volumes and dictionaries on physics, chemistry, and medicine, he bought collections of scientific journals, laboratory instruments, and fossils.⁹⁵ In the decades following his return, he assumed many different posts including professorships at the Imperial School of Medicine and the Imperial Military Academy, diplomatic envoyships on numerous occasions, the ambassadorship at St. Petersburg, and the Ministry of Education. In this respect, Derviş Pasha was a typical member of the new generation who was able to take up many different but always prestigious roles thanks to the new type of education he received. The later court historian Ahmed Lütfî, in his discussion of Derviş Pasha's appointment to St. Petersburg, was probably speaking on behalf of many other officials who were disgruntled with this new order:

The reason why [Derviş] was chosen to such a sensitive and important post as the ambassadorship to Petersburg must have been the fact that he had for a while been educated in Europe. But can one be appointed to such a post simply because of a superficial knowledge of French? The office of ambassadorship is founded on a grasp of the art of ambassadorship, which, in turn, depends on training within that profession itself.⁹⁶

Derviş's book on chemistry, the *Usûl-i Kimya*, is introduced by a preface with a strong Islamic tone. Following the classical Islamic model, Derviş classifies philosophy (*ilm-i hikmet*) into the theoretical and the practical branches of knowledge, with metaphysics/theology, a theoretical branch (*ilm-i hikmet-i ilahî*), as the noblest of all. Yet mathematical and natural sciences not only help the learning of metaphysics, but they are also essential for "bringing forth the desired novelties and discovering unknown arts." Chemistry, being one of these sciences, helps "the acquisition of the new industries and the attainment of numerous benefits."⁹⁷ Furthermore, all the weapons that are needed for the holy war ordered by Islam are made of substances discovered and utilized by this science, making it

indispensable for officers to study it. His own work is intended to be used for this purpose in the Imperial Military Academy, and is only possible thanks to the sultan, who demands everyone, but particularly the officers, to study the "absolute knowledges and the partial sciences, thus attaining religious and worldly bliss."⁹⁸

Derviş bases his defense of chemistry on an Islamic categorization, but he emphasizes the independent worth of mathematical and natural sciences for the production of "novelties," which is a novel approach itself. The distinction between the religious and the worldly is stated clearly, and, due to its inevitability for the production of new weapons for holy war, chemistry is presented almost as the true protector of Islam in the new era. In this respect, the new sciences and the new industries they bring about not only lead to happiness in this world but are required in order to obey the command of Islam and so to reach bliss in the afterlife as well. Whether Derviş's approach was but an attempt to appease skeptical readers is not a relevant question for our purposes, as the consequence either way is that his case for chemistry presented this science and those trained in it as indispensable for both the state and religion. It is also important to note Derviş's ability to express his view in a traditional Islamic tone, which shows that a member of the new generation trained in the new schools as well as in Europe was still conversant with the classic paradigms and terminology of Islam. But equally important is that their new skills were the essential bases for distinction for Derviş's generation. Tellingly, the copy of his *Usûl-i Kimyâ* that I examined was an autographed copy, signed by the author for Edhem Pasha, a former student of the *École des mines*, in French, rather than Turkish.⁹⁹

Conclusion

The first half of the nineteenth century witnessed the formation of a new elite group in the Ottoman Empire, with a new kind of cultural capital that they were gradually able to convert into statist capital. Some members of the higher-ranking ulama allied with the new group and contributed to the formation of a new discourse on knowledge and ignorance. This discourse represented the new sciences of Europe as a type of knowledge that was equivalent in worth to religious sciences: while the latter guaranteed bliss in the afterlife, the former would bring prosperity and well-being in this world. This was a type of knowledge that the new bureaucrats represented and the top ulama sanctioned. It was useful knowledge that rendered subjects productive and enabled them to understand and ap-

preciate the state that protected them. This characterization involved the portrayal of the new knowledge as simply facts to be learned, facts that showed the learner the true order of things.

But this period also entailed significant legal and economic changes that were disappointing to members of the Muslim community and, in particular, to low-ranking bureaucrats and ulama. This disappointment gradually led to the perception and representation of the new bureaucrats as snobs who adored and humbly obeyed European powers, rather than defending the dignity of the empire. In contrast to this representation, the official discourse appropriated established ideas about knowledge and virtue, and portrayed the possessors of the new knowledges as virtuous patriots; indeed, they were even defined as those who were "truly human." Many members of the new elite were well versed in Islamic literature as well, thanks to which they were able to construct a discourse using the Islamic idiom and exploiting the connotations of concepts such as *ilm*.

It was also in this period that the new types of knowledge started to be associated with the "language of the people," Turkish, and the old sciences with Arabic. While this was an outcome of the efforts to centralize education and bring it under state supervision, it also enabled the new elite to represent themselves as those who truly served the people, rather than an aloof elite group with an esoteric language. Yet an unintended consequence of this policy would be the transformation of the debate on science into simultaneously a debate on the identity of the community. Indeed, all these trends of the early nineteenth century would flourish and be more explicitly discussed in the following decades, when new outlets emerged for the articulation of alternative discourses.