UNIVERSITY OF CALIFORNIA, SAN DIEGO

"Their Science, Our Values":
Science, State, and Society in the 19th Century Ottoman Empire

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by

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The dissertation of Mehmet Alper Yalcinkaya has been approved and it is acceptable in quality and form for publication on microfilm.

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ABSTRACT OF THE DISSERTATION

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This study uses approaches from science studies and the sociology of culture to examine discourses on science in the 19th century Ottoman Empire. Analyzing official documents, literature, textbooks, and the press, it reconstructs the often heated Ottoman debates regarding science and traces their transformations. I argue that Muslim Ottomans' discussions on the sciences that were being imported from Europe were inseparable from concerns regarding social order. The Ottoman debate was less about the meaning of science than about how a proper man of science should be at a time of

increasing European influence perceived by many Muslim Ottomans as detrimental to their status.

To make this argument, I examine the cultural transformations that set the boundaries of "boundary work" about the category of "science," with particular attention to the impact of "official cultural maps" that were promoted and the challenges they received. I show that the initial promoters of the new sciences were predominantly bureaucrats who had been educated and/or employed in Europe. To legitimate their authority, they defined themselves as the "knowing class," and identified scientific knowledge with knowledge as such. Due to the traditional moral connotations of "knowledgeability" and "ignorance," this portrayal formed a connection between scientific knowledge and virtue. The new elites also argued that scientific knowledge would lead subjects to appreciate their state, rendering them obedient.

The alternative discourse was developed by reformists who introduced religious references, and argued that the prestige of traditional Islamic sciences should be restored. But their arguments were always about moral values as well. They challenged the association between the new knowledge and virtue, and portrayed the new elite as fops who parroted Europeans. That new knowledge alone could not make one virtuous became the official viewpoint in the 1880s when students familiar with science were defined as confused men whose ignorance of Islam led them to be disobedient.

Thus, science and morality could never be discussed separately and the idea of the autonomy of science remained insignificant. The ideal man of science was defined as one who constantly proved that he was loyal to the state and the people.

CHAPTER 1

INTRODUCTION

Addressing a group of students who were awarded government scholarships for graduate studies abroad, R. Tayyip Erdoğan, the prime minister of Turkey, made the following remark on 23 January, 2008: "We did not import the sciences and arts of the West. Unfortunately, we imported its immoralities that contradict our values. We should have raced to import its arts and sciences [instead]." While this is an interesting statement coming from a politician who has been defining Turkey's membership in the European Union as his government's principal aim, it is essentially a reference to a discourse concerning the "good" and the "bad" aspects of "the West" that is very well-established in Turkey. Indeed, Erdoğan also cited in his speech verses from a poem written in 1912 by the poet Mehmet Akif Ersoy making the same point. Furthermore, far from being just a "conservative reaction," this is an attitude that can also be observed in many literary works written *after* the establishment of the Turkish Republic, by authors who were supporters of the new, staunchly secularist regime. The admiration of science and technology combined with a fear of "rootless cosmopolitanism" is a constituent of "Turkish Republican secularist Jacobinism" itself, as Mardin (2006, 253) argues.

I contend that "their science, but not their values" can be regarded as an essential component of the founding discourse of the Turkish Republic. In this discourse, the sciences of "the West" are defined as inherently desirable. In addition, they are also implied to be either value-neutral, or, at least potentially, in harmony with "our

values." But what is even more essential to this discourse is that an argument about the merits of Western science is always accompanied by an argument about the choice between "Western values" and "our" values. In other words, this is a discourse within which it is impossible to talk about science without referring also to the other member of the duo, i.e. "values." Ultimately, as the context of Erdoğan's speech itself accentuates, it is the definition of the ideal Turkish citizen that is at stake here: loyalty to "our values" always needs to complement the acquisition of "Western" arts and sciences for one to qualify as the truly good Turkish citizen.

This dissertation is an analysis of the emergence and early development of this discourse. In particular, I ask why and how science and values became an apparently inseparable couple in Ottoman Turkish discourses about the merits and importation of European science. Going back two hundred years from Erdoğan's speech, I focus on the changing and expanding Ottoman views on science and values throughout the 19th century, as well as their implications.

Ottoman debates on science, as I try to show, were about much more than science alone. Certainly the essential question was how the Empire could be saved from the threat of collapse and how European science and technology could be utilized for this purpose. But the debates were also, and maybe more fundamentally, about what "the West" meant, who "the Ottomans" were, what made one a good or a bad subject/citizen, and whose job it was, ultimately, to "save the state." Defining "their science" was closely connected to describing "them" and "their values" which, inevitably, entailed defining "us" and "our values." The debates were as much about

the benefits of scientific knowledge for the nation as about the identity and virtues of those individuals who engaged in science. It was the ideas articulated within these debates that helped shape the educational policies of both the late Ottoman Empire and the Turkish Republic, which, in turn, played a key role in the formation of countless new generations that experienced the decline and fall of the Empire and participated in the construction of the Republic. It is in these respects, then, that Ottoman arguments on science constituted such a fundamental and persisting aspect of Turkish discourses on westernization, modernization as well as national identity and citizenship.

I. Science and Ottoman Muslims in the 19th century

Studying science among the Muslim population in 19th century Ottoman Empire is a complicated and somewhat confusing enterprise. The spaces where science resided in Europe in this century were either non-existent in the Ottoman Empire, or desperately small and underfunded. The number of Ottoman authors who published in the scientific journals of the period is very small and there is not a single name from the Empire in the *Biographical Encyclopedia of Scientists* (Daintith, 2009). Ottoman industry was rather underdeveloped and markets were dominated by European manufactures. There were no observatories, academies of science, research institutes and laboratories, libraries, botanical gardens or zoos in the Ottoman Empire that could be compared in terms of size or resources to European examples. Indeed, several failed attempts aside, there was not even a functioning university within the Ottoman Empire before 1900.

The meager quality and quantity of scientific accomplishment was the dominant theme that was unequivocally emphasized in discussions on intellectual life within the Ottoman Empire until recently (Adıvar 1943; Berkes 1964). These detailed studies were written with secularist and teleological agendas that regarded the decline of the Ottoman Empire as partly caused by the lack of interest in the sciences that had developed in Europe, and the obstacles set against any progressive agenda by reactionary fanatics. Their many virtues notwithstanding, these works took as their guide a particular and quite limited definition of science that was contested in the 19th century even in Europe, and were disappointed when they failed to find respectable equivalents in the Ottoman Empire. What the Ottomans themselves considered to be the true meaning and uses of science was not the main concern of these earlier studies. The economic, social and political contexts within which the European and the Ottoman cases evolved were similarly not discussed in sufficient detail.

This well-established approach was challenged in recent decades by authors who uncovered the names and works of a myriad of scientific texts written before as well as during the 19th century (Ihsanoğlu et al. 1997, 1999, 2000, 2004, 2006). There is also a number of monographs and essays on the lives and works of prominent "Ottoman scientists" that has steadily been growing since the 1960s (Fındıkoğlu 1963, Ihsanoğlu 1989, Anastassiadou-Dumont 2003; see also the collections of the journal *Osmanlı Bilimi Araştırmaları* / *Studies in Ottoman Science*). Ostensibly a break with the tradition, these studies are in reality a mirror image of the tradition itself, which amounts to a continuation, rather than a break. In these works, the scientists in

question are presented either as individual heroes whose contributions to Ottoman modernization should not be ignored, or as proof that the Ottomans were not as backward as claimed, using the same criteria as earlier works in defining who the scientist was and without taking into consideration Ottoman conceptions of science and scientist themselves. At times sounding apologetic or, at their worst, blatantly nationalistic, such studies do provide hints about the Ottoman encounter with European ideas on science, but fail to adequately contextualize and explain it.

Furthermore, without a genuinely comparative approach, isolated resemblances such as the almost universal interest of central governments in scientific developments, or the similar dates for the establishment of ministries of education in the Ottoman Empire and European countries, are presented as proof that the Ottomans and the Europeans were not "that different." The contemporaneousness of certain developments and understandings does matter of course, and Ottoman historiography suffered for decades from approaches that analyzed the Ottoman Empire as an isolated, entirely unique entity. But when studying an issue such as the Ottoman views on science, revisionism should not lead to the neglect of such significant facts as the incomparably low rates of literacy or the abysmal state of industry within the Ottoman Empire.

It is also worth noting that works on Ottoman science in the 19th century focus to a great extent on *texts* on science, and textbooks in particular, which is an indication of the inability to spot *institutionalized* science anywhere other than the school. The man of science in the Ottoman Empire in the 19th century was a teacher of science, or a

man of letters who also wrote on science, and, very commonly, a civil servant. It was in the new institutions of higher education and new publications that "European science" resided, just as the "old" science was cultivated at the *medrese*s, the paramount educational institution of the Islamic tradition, and remained located in manuscripts.

However, it was not only in textbooks that science was defined and described. In all kinds of Ottoman texts produced within the 19th century, we come across references to science: official documents, the press as well as literature contributed to the construction of new conceptions of science and the scientist. Science is a frequently addressed issue in these texts, but the main reason why they have been studied so far is their alleged impact on the political movements of the 20th century. The revolutionary groups who would forcibly establish the constitutional monarchy in 1908 ("the Young Turks") as well as those who would found the Turkish Republic in 1923 (Kemal Atatürk and his comrades) were strong admirers of what they regarded as science.[1] Analyses focusing on the views of these groups (which were labeled variously as "positivist," "materialist" or "scientistic" by students of the periods in question) generated interest in the intellectual legacy they had inherited, i.e. 19th century Ottoman views on science.

These studies, however, tend to be inspired by presentist agendas. Implicitly or explicitly, they blame the predicaments and failures of the contemporary Turkish Republic, such as those regarding the freedom of religious expression, on these groups

[1] See Appendix 1 for a chronology of 19th and early 20th century Ottoman history.

due to their infatuation with such "detrimental" philosophies (Akgün 1988, Korlaelçi 1986, Bolay 1967). Even an eminent scholar like Şükrü Hanioğlu, whose well-known works (2005, 1995, 1981) remain the paramount analyses of the history of the Young Turks as an intellectual and political movement and to whose findings any study of the Ottoman views on science is indebted to, tends to analyze the love affair between 19th century Ottoman authors and European science somewhat partially. The same could be said about the otherwise brilliant analysis of Burçak (2005).

The problem stems from a selective reading which, while rightly identifying the scientism that many of these authors' works display, neglects the broader "cultural cartography" within which they wished to locate science.[2] Science is hardly an autonomous field in the imaginaries of these "scientistic" authors, and the scientist is rarely anything other than a servant of the state, with no room for individuality. In short, contra Max Weber (1946), science is not imagined as a vocation by late 19th century Ottoman authors.

A key task of this dissertation is to show how the praise of science as an idea that can be observed in these texts was accompanied by views that involved the restrictions to be put on the scientist as a person. One example in this context speaks volumes: A chapter on the virtues of science written by the Ottoman statesman Sadık Rifat Pasha, which Hanioğlu (1995, 12) quotes from as evidence for the admiration of science by

[2] My emphasis on "cultural cartography" is inspired by Gieryn (1999). This approach suggests looking at cultural categories spatially, as locations on a map. Categories do not have essential or universal characteristics. What they include and exclude, and how they are located with respect to other categories are matters of social negotiation and struggle. Approaching disputes about cultural categories such as science, art or religion with the cartographic metaphor suggests an emphasis on the boundary work that different groups engage in to establish specific boundaries around categories, and the stakes involved in such struggles. I discuss the implications of this approach in more detail in the next section.

this new generation of bureaucrats, is from Rifat Pasha's book on *ethics* – essentially a treatise on what a good civil servant should know and how he should act, with an emphasis on obedience and the preservation of social order.

We should also note that while "scientism" as a very general concept can be used to describe the attitudes of many an Ottoman author in the 19th century, the basic fact is that there are many scientisms (Olson 2008). Why Ottoman devotees of science were interested mostly in the positivism of Comte and the materialism of Büchner rather than, say, the positivism of J.S. Mill and the materialism of Marx is an interesting question that is overlooked when the emphasis is on scientism *per se*. It is hardly a trivial observation that the particular "scientism" that appealed to Ottoman authors was the one that emphasized social order as well as the missions and duties of scientists.

Two key points must be taken into consideration in order to better understand how such an outlook dominated Ottoman debates on science: First, Ottoman authors wrote on science in a period of intensive cultural transformation, and their purpose was to delineate the location of science, among other categories, in the new cultural maps they proposed. And second, the process under discussion involved significant changes in Ottoman social and political order as well. Debates on science tended to address the more fundamental question regarding how the importation of a new type of knowledge related to the problem of social order.[3] The definition of "true knowledge" was a question that had significant implications for the rights and duties of the holders of

[3] On the connections between knowledge and social order see Shapin and Schaffer (1985).

such knowledge and those who lacked it. For these reasons, an analysis of Ottoman conceptions of science would benefit greatly from theoretical approaches concerning science, culture, and social order developed within the sociology of culture and science studies. In the following sections I discuss the contributions of the authors that I draw on, and put the Ottoman case in clearer perspective.

II. "Science", "Scientist" and "Boundary Work": The Basic Questions

A central characteristic of Ottoman discourses on science, as indicated above, is the portrayal of the scientist as a person who is, or has to be made into, a person who possesses "our values," a "moral" individual. Hence it may be useful to start with the notion of "scientist" and let it lead the discussion into a broader one on "science."

While the defining move of the sociology of science in the last three decades has been to make scientific knowledge itself the object of sociological scrutiny, we also observe a revived interest in what kind of a figure "the scientist" itself is supposed or represented to be (Shapin 1994, 2008; Thorpe 2006). The construction of scientific authority can hardly be analyzed without focusing on the construction of "the scientist" as a person, and as Steven Shapin's work has shown, the idea that the scientist should be a reliable, trustworthy individual was, and remains, a basic principle for modern science. Yet we should also consider that it is not only the most widespread views on the "ideal scientist" that matter. The *range* of the imagined modes of being a scientist is particularly useful for analysis, as it is the variety of

possible ways of acting and thinking while still being considered a scientist that indicates the meaning of the category "scientist" within a society.

In order to clarify this point, it would be helpful to refer to the extensive studies of Haynes (1994, 2003) who, like Frayling (2005), focuses on the variety of ways in which "the scientist" has been imagined in Europe and the US. She identifies seven stereotypes of "the scientist" in Western literature: "the noble scientist" "the evil alchemist," "the foolish scientist," "the inhuman researcher," "the scientist as adventurer," "the mad, bad, dangerous scientist," and "the helpless scientist." Even though most of these representations are not brought forth as "model citizens," as they may be dangerous, confused, reclusive, or arrogant figures, they are *still* scientists. This variety may be said to enable scientists to re-negotiate their identity in different contexts. Even though the "evil alchemist" is, obviously, "evil," for instance, the possibility that this stereotype entails of being secretive and aloof, yet remaining a scientist, is frequently exploited by scientists.

How is the scientist represented in Ottoman texts, then? As I will show, it is only one of these stereotypes, the "noble scientist" as the model individual, that we observe in Ottoman literature. We do see different characters such as "the fop" or "the confused materialist" in Ottoman discussions on science, yet these characters are not even referred to as "true" scientists. They are cautionary figures: portrayals of what a man of science cannot be. This, I contend, is an indication that Ottoman authors who glorified science did not necessarily imagine the individual scientist as a potentially unconventional figure interested primarily in science itself. The true scientist could

hardly be envisioned as a "creative soul" potentially indifferent to moral judgments according to Ottoman authors, so much so that discussions on science were almost inseparable from discussions on virtue throughout the 19th century.

This quite carefully restricted representation of the scientist certainly carries with it hints about what kind of an enterprise science was imagined to be by the "scientistic" Ottoman authors. What kinds of processes led to the emergence of such a close association between science and moral virtue, then?

Using the terminology suggested by Gieryn (1999), we can consider this question as involving the history that rendered the cultural category "science" inseparable from the category "morality" in the cultural maps that Ottoman authors were proposing. Gieryn's work on science as a cultural terrain perceives science as surrounded by other such terrains, underscores the indeterminacy of what constitutes science and examines how the borders of science get to be redefined each time the credibility of a claim or the claim maker is contested. Importantly, Gieryn notes that the stakes in these contests are extremely high, as they are about what will count as truth and who will be anointed as its speakers. Epstein's (1996) emphasis on credibility struggles is also useful in directing our attention towards how certain groups come to define themselves as credible and legitimate representatives of truth. In the contemporary world, science is the category most closely associated with truth, as a result of which the struggles in question involve the boundaries of this category.

But as these works focus mostly on contests and struggles taking place in contexts where the authority of science is taken as a given, they do not focus on how the

cultural space associated with the truth got to be assigned to "science" in the first place. The label "science" already possesses a unique authority and prestige in these examples and the struggle is about which objects, practices, individuals or institutions deserve the title "scientific." The Ottoman case that this dissertation focuses on, however, is one in which the authority and prestige of the label itself cannot be taken as given.

Similarly, while these works rightly indicate how high the stakes are in scientific debates, their focus is on the field of science alone. Epstein (1996, 3) makes the undisputable statement that "debates within science are simultaneously debates about science and how it should be done – or who should be doing it." Naturally, arguments made within these debates have implications and consequences beyond the field of science. Gieryn (1999, 29), on the other hand, points out that in episodes of boundary work, "disputes over nature are settled in and through disputes about culture," as it is ultimately the ingredients of the cultural space assigned to science that is the question in credibility contests; each time the credibility of a claim or claim-maker is disputed, the interested parties come up with provisional and context-dependent definitions of "science", "the scientific" or "the scientist." A logical consequence of these arguments is that debates about science can never be about science alone. Precisely as Gieryn notes, they are about *culture*. Struggles that entail the definition and re-definition of a particular cultural space are bound to involve – at least implicitly – definitions of other spaces as well.

This does not mean that cultures are coherent entities with one underlying logic connecting all cultural objects, categories or concepts. The basic idea is that definitions are always relational, and as Gieryn's own examples suggest, defining science entails distinguishing it from other categories and their ingredients. Just as science cannot be distinguished from religion without implicitly defining religion itself, so the attributes of a scientist cannot be elevated above those of, say, an artist unless the latter are also described. Indeed, all these definitions and the construction of distinctions ultimately rely on implicit understandings of what is "good" – for an individual, a particular institution or society, if not as a fundamental moral category. The potential consequence of focusing exclusively on what is said about science within debates about science, as Gieryn does, is ignoring these connections and the deeper debates they are parts of.

Attention to the entirety of culture is definitely essential to understand the Ottoman case, as this is the only way to make sense, for instance, of a lecture on science that transforms into a lecture on language, an article on science that focuses on the differences between Arabs and Turks, or an essay on theater that first turns into an essay on science, then becomes a treatise on ethics – some examples from the Ottoman texts that this dissertation analyzes. And this is why the basic question this study asks is not "How were the boundaries of science defined in the Ottoman Empire?", but the more naïve-sounding "What were the Ottomans talking about when they talked about science?"

The 19th century, a period of rapid change and constant crisis referred to as "the longest century" of the Ottoman Empire (Ortaylı 1983), witnessed the emergence of a variety of arguments on every category and concept in the Ottoman lexicon. This explosion characterized by the publication of particularly multi-faceted, confusing, and at times apparently incoherent texts can be loosely likened to moments of "discursive breakdown" as defined by Wagner-Pacifici (1994, 143): the "proliferation, repetition, exaggeration, extremism of terms" that is observed when an existing discourse reaches its limits in what it can articulate. Cultural sociologists have referred to such periods of intense cultural transformation characterized by the construction of new meaning systems as "unsettled times" (Swidler 2001), or periods of "disturbance in the moral order" (Wuthnow 1989). If science is to be seen as a space with fuzzy borders within a cultural map, then we need also to study episodes of boundary work in relation to broader cultural transformations, rather than with an exclusive focus on science.[4]

A. Science and Culture

Gieryn's perspective on science is indeed reminiscent of approaches in cultural sociology for which incoherence and polysemy, rather than coherence, homogeneity and commonality, are the defining characteristics of culture. Culture provides actors with a variety of meanings, narratives, schemas, representations and images, and it is these materials that individuals use to develop lines of action (Swidler 1986, 2001;

[4] This suggestion is in line with recent observations on the intersections between studies of culture and science studies (Epstein 2008, Lamont and Volnar 2002, de Laet 2001, Rouse 1999).

DiMaggio 1997). The emphasis on the abundance and flexibility of meanings also encourages the analysis of how symbolic and social boundaries that differentiate concepts and social groups from one another are constructed (Somers and Gibson 1994; Abbott 1995; Tilly 1998; Lamont 2000). It is in their caution against treating categories as pre-given, fixed entities, and insistence on the dynamism and creativity that processes of meaning making and boundary construction embody that these studies inform this dissertation.

It is also possible to observe resemblances between the basic framework of such approaches and Bakhtin's (1981) portrayal of the individual as existing in a dialogic relation to multiple discourses. But what was also crucial for Bakhtin was what he called "authoritative discourse," or a centripetal force toward conformism and uniformity. In a similar vein, Sewell (1999) emphasizes how powerful institutions, the "most spectacular" of which is the state, strive to impose order upon the plasticity of cultural meanings. The purpose of these attempts is not necessarily to destroy all competing discourses or to fix categories once and for all; it is "to organize difference." They "hierarchize, encapsulate, exclude, criminalize, hegemonize, or marginalize" in order to manage the incoherence of cultural meanings and practices.[5] Using a cartographic metaphor like Gieryn, Sewell (1999, 56) directs our attention to "*official* cultural maps." (my italics)

[5] Parallels can be drawn with this approach and Foucault's (1980, 159) notion of "author-function": the name of the author is used to impose unity and coherence upon a set of texts, and the author is what "allows a limitation of the cancerous and dangerous proliferation of significations." It is also telling that in a recent work Gieryn (2008) borrows Swidler's terms "settled" and "unsettled times," and argues that boundaries, too, can be settled or unsettled. He focuses in this work on how institutions in the most concrete sense, and particularly, buildings themselves stabilize boundaries between science and other enterprises.

The establishment of the boundaries of symbolic categories and social groups is clearly a quintessential state issue. As Bourdieu (1990) indicates in his famous characterization, the state claims the legitimate use of not only physical but symbolic violence within a territory. This entails the proclamation of social divisions, distribution of privileges and titles as well as the transformation of cultural arbitraries into universal truths in the form of official categories, labels and definitions which are inculcated in schools and diffused by the media (Bourdieu and Passeron 1977; Bourdieu 1990, 1996, 1999). Struggles for state construction (and we can add, maintenance) involve the struggles of holders of capital (economic, cultural, symbolic) for acquiring a different sort of capital that is specific to the state, "statist capital" – the ability to "exercise power over the different fields and over the different particular species of capital" themselves (Bourdieu 1999, 58). Furthermore, the state, through policy, is able to impact the relations between fields by tinkering with the "exchange rates" of specific types of capital. For instance, a particular kind of educational capital, say, the diploma of a certain type of school, can be rendered more valuable for access to the state field and to statist capital. This capital, in turn, would enable its holders to have a higher influence in the outcomes of the struggles concerning the definition of cultural categories. After all, "legitimate national culture" itself, comprising the categories people use to perceive and make sense of the world, gets defined and delineated within the official institutions of the schooling system.

In this respect, Bourdieu's approach allows us to ask why particular materials are included in the – using the terminology of Swidler (2001) – "toolkits" of certain

individuals living in a certain territory at a certain time, and why other items are not. Toolkits, repertoires, narratives are not coherent and uniform; but they do include and exclude, as well as differentiate and hierarchize, and all these are the outcomes of particular histories. An approach to the dynamics behind the formation and transformation of cultural categories certainly does not involve treating "national cultures" as given, monolithic and homogeneous entities that continuously get reproduced via formal education. The purpose is to analyze the emergence, modification and impact of authoritative discourses regarding how the world *should* and *should not* be perceived and what the contents of categories *should* and *should not* be. In Sewell's words, the task would be to investigate the history of struggles to construct "official cultural maps."

Such a strategy would also enable us to observe the transformation of arbitrary definitions into tacit knowledge – precisely what makes "settled" times so "settled." While no category, definition or hierarchy remains unchallenged and stable throughout history, there are elements that tend to get taken for granted within debates about these cultural arbitraries. In other words, despite the history behind them, certain understandings get harder to challenge than others, as they become unspoken, simply assumed truths – in short, common sense. This is in line with the way Gramsci (1971) describes the construction of hegemony, and is very similar to what Bourdieu (1977) refers to as *doxa*: that which is simply assumed, and it is this tacit acceptance that enables the struggles within fields to take place. We see in Gieryn (1999) many different and conflicting views on the boundaries of science, for instance, but the

distinctiveness of and the need for science remain unchallenged. Likewise, as mentioned above, the scientist is always required be a virtuous person to be called a scientist in the Ottoman case. We should ask, then, what the boundaries of boundary work itself are. In a similar vein, many rhetorical strategies could be used in the case of a credibility struggle, but the more interesting question concerns which are the truly feasible ones that make sense to and resonate with an audience at a particular moment in history and why.

The answer to these questions lies in a more comprehensive look at debates on science, as it is the broader debates that debates on science are part of that set the limits for flexibility and imagination. Such an approach should also, naturally, involve attention to struggles about the "official definitions" as well. Simply put, debates about science can be analyzed in more illuminating ways if they are truly seen as debates about culture, conducted by groups with unequal power. Based on this understanding, the purpose of this dissertation can be rephrased as an examination of the cultural transformation of the Ottoman Empire in the 19th century that set the boundaries of boundary work about "science", with particular attention to the impact of "official cultural maps" that were promoted and the challenges they received.

B. Science, State and Social Order

Sociologists and historians of science have discussed the relations between states and science in a variety of ways. Mukerji (1989) portrayed scientists as a reserve labor force whose authoritative voice is used by the state when needed. States maintain this

labor force in order to dress policies in the garb of objectivity. This relationship between science and state leads us to take into account how the authority of science itself is connected to its embracing by the state. It is certainly true that state sponsorship continues to enhance scientific authority in the contemporary world. But in a case like 19th century Ottoman Empire, where the state was the sole patron of European science, the picture is even more stark. Particularly because it was being imported from "the infidels," the legitimation of science depended almost entirely on state support as well. Consequently, the authority of science was even more closely integrated with the authority of the state in the case this dissertation focuses on.

But another crucial point is that "the state" does not exist as a stable, solid entity that influences, guides or uses science. Bourdieu (1999) portrays the state as a site of constant struggle. Sociologists of science underline that scientific legitimation is needed by states in the modern world, and processes of scientific knowledge production influence how states operate themselves, rendering the distinction between science and state less apparent (Jasanoff 2004; Latour 1987). Carroll (2006) discusses what he calls the "science-state plexus" – the many and highly complex intersections between state and science as cultural entities. Most importantly, he reminds us that culture comprises discursive, practical and material elements and science, the state and the intersections of the two can be analyzed with respect to these three aspects. Materially, for instance, science and state formation intersect at the built environment, such as roads and sewage systems, and the appropriation and use of land. Practical intersections include engineering practices as well as cartography and censuses.

Finally, it is the discourses on development and "scientific statecraft" that exemplify the relationship between science and state formation.

While analyzing the practical and material aspects of culture (with respect to both the state and science) are crucial for constructing a comprehensive picture of the connection between state formation and science, I focus on the discursive aspect which, I contend, was more significant in the Ottoman case. Indeed, as Carroll (2006) argues, mismatches among the three aspects of culture are likely: what is expressed within discourse may not be reflected in practice or material culture. This is a particularly important issue for analyses of 19th century Ottoman discourses on science, as the strong support for science that can be observed in the texts from this period is not paralleled by a comparable flow of resources into the efforts for the materialization of science. The establishment of a university, the institution the Ottomans most associated with science, for instance, remained a priority for decades according to the texts that I analyze in the following chapters, but it was not until 1900 that the institution truly came into existence. Likewise, the physiologist Şakir Pasha, a student of Claude Bernard, and one of the most respected Ottoman "men of science" in the last decades of the 19th century, was, despite his numerous petitions, never able to receive financial support from the state in order to renovate the laboratories of the Imperial School of Medicine. Macarlı Abdullah Efendi's bug and plant collection that he donated to the state after winning awards at the Paris and Vienna World's Fairs decayed in storage, and the Imperial Museum of Natural History he was supposed to curate never materialized. Similarly, we read in the memoirs of the graduates of the

most prestigious "scientific" schools of the Empire how deficient their training was (Akçura 2005; Sağlam 1991; Nur 1991; see also Kurdoğlu 1967, 284-286 for Hüseyinzade Ali Turan's poem "Eski Tıbbiye" ("The Old Medical Academy")).

Taking into consideration the non-discursive aspects of the relations between science and the state encourages us to ask why the discursive element was so dominant in the Ottoman case. In other words, why was it deemed so uniquely important to construct an "official discourse" on science? Along with Faroqhi (2000, 251) we can argue that the many wars against the superior military powers of Europe encouraged reform in the Ottoman Empire, but at the same time made them difficult to realize: the resources simply were not there and European intentions always remained a cause of concern. But to these indisputable arguments, we should add an insight from Shapin and Schaffer (1985): solutions to problems of knowledge are embedded within solutions to problems of social order. In his dispute with Boyle, Hobbes posited, for instance, that experimental science was inseparable from a more liberal politics, hence unacceptable. Similarly, Ezrahi (1992) argues that the proponents of modern science challenged the notion of a privileged observer and insisted on the universality and impersonality of their enterprise; the reflection of these transformations in the field of politics was the ascendance of such norms as public accountability and objectivity. Hence, conceptualizations of science are tightly connected to imaginations of how social order is to be achieved, and the relationship between the state and science is a mutual, rather than a one-directional one.

For the new Ottoman elite that obtained significant power thanks to their knowledge of European languages and experience as ambassadors and bureaucrats in Europe after the 1840s, the rhetorical functions of a specific understanding of science were as important as the benefits of materialized science, if not more. As the new elite came to dominate not only the highest ranking posts within the state mechanism but also the press itself, an official discourse on science gradually emerged in the second half of the 19th century – a discourse that connected science tightly to the state as well as morality, as the maintenance of social order in this particularly turbulent period was a pressing issue.

Defining science in a particular way, Ottoman elites imagined it to be a wealth of knowledge the possession of which made an individual appreciate, and thus be a "good subject/citizen" of, his state, grateful for being enabled to learn science.[6] Even when science was described as a way to enhance industry and increase production, the emphasis was on self-reliance that would prevent individuals from demanding too much from, and, in a sense, posing a threat to the state. Furthermore, science was rarely presented as involving a process of knowledge *production* characterized by trial and error. It was already produced knowledge that could be learned from books – books translated by the members of the new elite who were familiar with European languages. And this fixed, true knowledge was to be learned by all Ottomans, Muslim and non-Muslim, thus bringing about common perceptions, social cohesion and peace.

[6] The second half of the 19th century also witnessed the process of the emergence of "Ottoman citizenship" as opposed to "Ottoman subjecthood." In order to indicate the complexities of this process that I touch upon below and in the following chapters I use the term "subject/citizen."

The imagined fixity of scientific knowledge paralleled the desired stability of the Empire, thanks to its "good subjects/citizens." This was, in sum, one reason why Ottoman authors talked about the state and morality when they talked about science.

In this respect, the Ottoman case has parallels to the Mechanics' Institutes founded in early to mid-nineteenth century England. In an early article, Shapin and Barnes (1977) indicated that while the Institutes' stated aims involved providing basic scientific and technical knowledge to adult working class citizens, what motivated the leaders of the movement was their belief that a well-designed scientific education would render sections within the working class more obedient and accommodating – a much needed social transformation at the heyday of the industrial revolution. The central theme of the curricula they designed was the presentation of scientific knowledge always as a finished product, a matter of fact, rather than the tentative outcome of an ongoing inquiry. The indubitable and irreversible products of science were to be internalized by the workers, who would, hopefully, grasp the unchangeable laws of the world they lived in.

While not denying the objective of social control that the founders of the Institutes espoused, Olson (2008, 323) and Inkster (1976), on the other hand, highlighted the variation among the specifics of their views and Laurent (1984) indicated that the education that the workers received also empowered them and, in late 19th century, enabled at least some of them to develop philosophies of their own, based on evolutionary socialism.

The analogy between these interpretations of Mechanics' Institutes and the Ottoman case is twofold. The image of science presented by Ottoman elites who incessantly orated on the virtues of science in early and mid-19th century was rather similar to the one presented in the Institutes: an accumulation of facts that should be learned. The authoritative tone of their writings was not confined to the descriptions of science, however, as the shadow of the Sultan himself, or "the state" frequently crept into these texts. Science was not just a description of things the way they truly were; it was a gift from the Sultan. Appreciating and learning science was, in a sense, a duty of the Ottoman subject/citizen toward the sovereign. Yet their very possession of this valuable knowledge instilled in the young graduates of the new Ottoman schools a sense of entitlement, and the urge to challenge not only those that they deemed "ignorant" and "useless," such as the lower ranking members of the *ilmiyye* class (the class comprising the *ulema*, i.e. doctors of Islamic law) and romantic poets, but ultimately, the state that did not deliver to them all that they had deserved.

One final dimension of the transformation of the Ottoman Empire in the 19th century that cannot be ignored in this context is the uneven and erratic process through which the idea of Ottoman citizenship emerged. The notion of "Ottomanness" as an identity that would unite Muslim and non-Muslim subjects of the sultan gradually came into existence after the declaration of the Imperial Decree of 1839 and became the official characterization with the 1869 Citizenship Law. [7] "Ottomanism," in turn, was an ideology that involved the definition of all subjects of the sultan ultimately as

[7] Note, however, that the term "tebaa" that denoted subjecthood remained in use throughout the century, and even in the official title of this law.

Ottoman citizens, without any privileges based on religion. Yet the actual implementation of this notion was highly inconsistent and controversial (Salzmann 1999; Roudemetof 2001, 75-99), and, as I discuss in following chapters, was perceived as a loss of status by most Muslims. How did these transformations inform Ottoman debates about science?

As I discussed above, for Ottomanist top bureaucrats of the mid-19th century, science was precisely the realm within which Ottomans of all faiths could unite, as scientific knowledge was beyond all religious and national identities. I show in Chapter 2 how the contents and publishers of the pioneering Ottoman Journal of Science of the early 1860s were emblematic of this view.

But just as the authority and the "Europeanized" life styles of the top bureaucrats were condemned within this same period by authors using Islamic arguments, the idea of science as "beyond religion" was also challenged. The reformist intellectuals of the period, the Young Ottomans, infused Ottomanism with Islamic references, while at the same time highlighting the role of Muslims in the history of science, and the merits of Islamic sciences. The new sciences did produce universal knowledge, yet it was hardly possible to refer to it without also referring to the contributions of Muslims, and to specific Islamic sciences themselves. The Muslim "man of science," similarly, should know European sciences, but also learn Islamic sciences, and avoid a cosmopolitan life style. Furthermore, that non-Muslims within the Empire had more access to scientific knowledge, thanks to the aid of European powers, was deemed by these intellectuals as a significant problem: the supposed equality between non-Muslim and

Muslim Ottomans was jeopardized due to the rapid improvement in non-Muslim educational institutions. Finally, sultan Abdulhamid II (1876-1908), while remaining protective of the rights of non-Muslim groups, made Islam ever more central to the legitimation of his authority, and attempted to transform the educational system in order to insure the production of men of science who were respectful to the sultan and to Islam.

As a result, debates about science appear significantly similar to debates about citizenship: universality was the principle, but the fundamentality of Muslim identity could never be denied in actuality. Furthermore, within this context of both attempted unity of and perceived mistrust and competition among Muslims and non-Muslims, educated Muslims who were familiar with the new sciences found themselves increasingly obligated to underline their loyalty to the sultan and the nation. While for all Ottomans it was essential to remain faithful to the sultan, for the Muslim subject/citizen who knew European sciences, it was also crucial to refuse to be like a European and consistently demonstrate this.

III. Ottoman Cultural Cartography: Science, Morals and Identity

Coming full circle, we can thus see how in 19th century Ottoman Empire science and morality became so closely connected and the boundaries of the categories "science" and "scientist" so narrowly defined. Having some scientific education in the new schools of the Empire gradually became more and more important and official texts stated the virtues of science *ad nauseam*. The official discourse of mid-19th

century associated science with useful knowledge, and defined those who possessed it as virtuous, moral individuals. That science was beneficial had become *doxa* by the end of the century, and even those discontented groups – particularly *medrese* students and graduates – that challenged the authority of the holders of the diplomas of the new schools attempted to appropriate science, rather than confront it head-on, while continuing to defend the value of their own expertise as well. As a result, what we observe is the emergence of discourses emphasizing the Islamic sources of European science, the "scientificity" of Islam, the importance of traditional Islamic branches of knowledge, and – for authors who did not mind abandoning the epistemological field in its entirety to science – the Islam-based moral values that possessors of scientific knowledge should also observe.

What the latter did challenge was thus not science *per se*, but the association between science and morality. In their attacks directed at the behaviors of the new elite who had adopted European life-styles and spending patterns, they noted that "science" was not the problem, it was those "immoral fops" who spoke in the name of science. Ironically, these maneuvers not only led to the reinforcement of the association between morality and science, but endowed science – whose authority was already more or less a function of state authority – with a quasi-religious authority. In other words, what we can regard as alternative discourses on science fused with the authoritative discourse and gave birth to Erdoğan's remark that was referred to at the beginning.

But the debate had a rather peculiar offshoot as well. While the responsibility of "being useful to the state and nation" was proclaimed to be related to possessing and spreading "useful knowledge," the knowledge possessed by *medrese* graduates was condemned not simply because it was not "useful," but because it was written and taught in a language that few could understand. Indeed, while instruction in the new schools where the new sciences were taught was at first partially, and later entirely in Turkish, medrese education was based in Arabic. This led to an association of Turkish with the "new and beneficial," and Arabic with the "old and useless." As a result, medrese graduates found themselves in a position in which they had to defend not only the moral authority and knowledge they claimed, but the language they were identified with. This further complicated the debate about science that already involved issues regarding the religious affiliation of the man of science.

In sum, 19th century Ottoman debates on science were unequivocally about who the "good subject/citizen" was. Ottoman authors talked about the moral values, knowledge and identity that this ideal person was to possess when they talked about science. They constructed and challenged official and alternative discourses on science, and discussed what it meant to be Ottoman.

IV. Research Questions and Methods

This study analyzes the processes through which the coupling of the arguments on science and arguments on morality emerged in 19th century Ottoman discourse. As indicated above, the basic question I ask is: What were Ottoman authors talking about

when they talked about science? More specifically, I look at how different social groups in different periods contributed to the debate on science, what issues they raised, and which ideas and assumptions proved fundamental to the debate.

How did the Ottoman reformists of the early 19th century represent science? How did they map the boundaries of science, and what *social* boundaries did these maps entail? What were the alternative characterizations of science and men of science suggested by other groups such as the *ulema*? What were the other cultural categories that were referred to in arguments about the category of science? How did the official discourse about the nature of science and its practitioners transform over the decades? How can the findings be explained?

As mentioned above, focusing only on arguments that are explicitly about the meaning and boundaries of science is a common problem of both Gieryn's work and studies regarding the Ottoman debate on science. Looking only at what Ottoman authors wrote directly about science results in impressive compilations of statements made in praise of science such as Burçak (2005), and highlights the very broadly defined "scientism" that these statements embody. While this aspect of the Ottoman debate on science cannot be overemphasized, studies that focus on it exclusively do not do justice to the multi-dimensionality of the debate and clarify what the debate involved, or explain the sociological meaning of the debate.

This dissertation defines the Ottoman debate on science as a debate on legitimate *culture* and good subjecthood/citizenship, and approaches it in a more holistic way, making use of a much wider variety of material than previous studies. It is based on

the qualitative and contextual analysis of Ottoman arguments regarding science. But the approach is contextual in two senses: the social and historical context of the arguments are regarded as crucial for making sense of them, but statements are also studied in reference to their textual context, i.e. the *entire* text they are located in. This approach makes it possible to see precisely in what context science was defined, and most commonly, glorified; it enables us to take into account the significance of contradictory remarks, inconsistencies, or implicit caveats within texts that seemingly praise science.

The material this study uses was collected from a variety of sources written within a 100-year period. This variety and heterogeneity of the material also makes it possible to have a more thorough understanding of the alternative cultural maps within which different social groups located science. While looking only at programmatic statements in journals, or at laws and regulations can give an idea about the outlines of the category "science" for the Ottoman elite, we come across much richer representations in polemics and letters published in newspapers, as well as in plays and novels. It is this type of material that enables us to treat "science" not simply as a category about which philosophical debates took place, but as a word with many connotations for the common Ottoman reader in a specific social and historical context.

The bulk of the data comes from the Ottoman press. In order to identify the texts to be used, I consulted Hasan Duman's (2000) three-volume catalogue of Ottoman/Turkish periodicals published between 1828 and 1928. This catalogue

provides brief information on the publication dates and publishers of newspapers and journals in Ottoman Turkish, and lists the libraries that have collections of each periodical. Most importantly, it reproduces the summary introduction Ottoman periodicals placed on their first page, usually under the title, where the aims and contents of the periodical would be summarized. A typical example from Duman's catalogue is the entry for the journal *Manzara* (The View) where the journal's definition of itself is reproduced as: "Illustrated Ottoman journal that serves to correct morals and expand knowledge. Discusses various topics like news about civilization, scientific and literary matters, hygiene, travel, biographies and novels."

Examining these brief introductions, I identified all periodicals published in Turkish in Istanbul, the capital of the Empire, that mentioned "science(s)" (*ilm, fen, ûlûm, fünûn*) and/or "learning" (*maarif*) as topics they would cover, and compiled a list of 58 periodicals. I then added to this list the influential newspapers of the period that the former criterion either did not apply to, or failed to detect (namely *Tasvir-i Efkâr*, *Tercümân-ı Ahvâl*, *Basiret*, *Sabah*, *Tercümân-ı Hakikat*, *Vakit*, *Saadet* and *Tarik*), based on studies on the history of the Ottoman press (Şapolyo 1969; Topuz 2003).

While my initial aim was to read only those articles with the word "science" in the title, I noted that the most characteristic aspect of the articles published in Ottoman journals was their multi-layered and convoluted nature that occasionally bordered on incoherence and inconsistency. In other words, the typical intellectual essay in an Ottoman journal is one that discusses a variety of topics at the same time, giving each

almost equal weight, no matter what the title, or the first paragraph might promise. Science and learning are very frequently a main topic in these essays, but they are always entangled with other topics, and it is precisely the characteristics and implications of this "entanglement" that this dissertation focuses on. As a result, I read all the argumentative articles in the journals I identified.[8]

In order to identify newspaper articles with intellectual content, I referred to subject and content indices when available – history and literature departments of some Turkish universities accept as M.A. theses these indices which also provide brief information on the essays published in the newspapers. In the analysis of newspapers without such indices, I identified the intellectual essays myself. In addition, I read the letters to the editor, and in particular, columns devoted to polemics and arguments which were quite popular in Ottoman newspapers, and which often touched upon issues regarding science. When available, I also used secondary sources such as Aksoy (2005) that discuss other aspects of some of these polemics in order to locate the relevant articles.

Based on a close reading of these intellectual essays, arguments and polemics, I determined the topics and themes that surrounded the Ottoman debate on science. In other words, rather than noting only what was said specifically about science or at how science was defined, I drew a "universe of discourse" within which the debate on science took place. I specified the themes that arguments on science tended to be made in reference to, and those arguments which, while not necessarily directly about

[8] See Bibliography for the periodicals examined.

science, were constantly brought up in essays that discussed science. The resultant finding was that arguments regarding science were very frequently coupled with arguments regarding the state and/or morality. Indeed, the topics of science, morality and the state appeared together in most cases, and formed the plexus that became the main object of analysis of this dissertation.

While I focus on ways of talking about science in 19th century Ottoman Empire, the representatives of these discourses are also key to the analysis. As a result, I also consulted the other works of the participants of the Ottoman debate on science in order to enrich the data. I thus referred to Namık Kemal's private letters, poems and criticisms in addition to his newspaper articles, for instance.

Additionally, I examined the textbooks used in Ottoman schools in the 19th century. I focused on the forewords and the introductory sections in order to observe the way science was referred to in these argumentative texts. I found in many instances that the connections between science, the state, and morality were emphasized in these texts as well. As I looked at *all* textbooks, I also studied reading anthologies for young students, and in particular, textbooks used in "Morality" courses which were an important component of the curricula of Ottoman schools especially after the 1870s. Their references to science further enhanced the portrayals of science that I present in the dissertation. I also studied the other works of textbook writers, which also made possible to uncover the variety of ways in which these "teachers of science" of the Ottoman Empire defined their mission and identity in different contexts.

In order to further strengthen the analysis, I also looked at official documents and Ottoman literature. As official documents are to the point and focused, I concentrated only on documents regarding education, along with the key documents of the period such as the Reorganization ("Tanzimat") Decree of 1839. I also used archival material to acquire information about some key figures the dissertation refers to.

I used compilations of Ottoman poetry such as Inal (1930-1942) and Akyüz (1970) to locate relevant poems. Additionally, I examined the major Ottoman novels and plays of the period in order to identify the representations of science and the "man of science" in Ottoman literature. I also consulted secondary sources like Akı (1974, 1989) during this process. These findings allowed me to construct a more concrete figure of the "man of science" as imagined by literate Ottomans in the late 19th century.

I conducted my research in the following institutions: the National Library and the Library of the Turkish Historical Association in Ankara, and the Beyazıt State Library, Atatürk Library, Süleymaniye Library, and the Library of the Islamic Research Center in Istanbul.

V. On Translation and Terminology

In a sense, the Ottoman debate on science was a debate on translation: Which category from the Ottoman cultural lexicon, which word from Ottoman Turkish vocabulary, was the equivalent of "*la science*"? It is an unmistakable fact that the Ottomans found this question difficult to answer, and the ambiguity of the Ottoman

counterpart to "*la science*" was indeed central to the development of the debate on science.

As I discuss in the dissertation, the word that Ottoman Turkish speakers used to refer to science in many instances was "ilm," (pl. "ulûm") an Arabic word that signifies "knowledge." In Islamic tradition, branches of learning like Qur'anic exegesis, jurisprudence, as well as mathematics and medicine were referred to as "ilm." A distinction Muslim scholars commonly drew between branches of knowledge was between "intellectual sciences" (*ilm-i aklî*) such as astronomy and medicine, and "transmitted sciences" (*ilm-i naklî*) which included sciences that were directly about the teachings, the prophet, and the holy book of Islam. What is important to emphasize, however, is that while the distinction appears as one between "secular" and "religious" sciences, the distinction itself is a religious distinction constructed within an Islamic perspective. Furthermore, the sciences, as a whole, indicate a unity, and are, ultimately, inseparable from the knowledge of God itself. Indeed, in Islamic philosophy, "ilm" in the singular, also denotes *the* knowledge: knowledge possessed by God.[9] The word "alim", derived from "ilm" means "one who knows," and is used to describe both a scholar, and once again, God himself. Religious scholars, or the doctors of Islamic law, are referred to as the "ulema," which is the plural form of "alim," and in the Ottoman Empire, the class comprising the "ulema" was referred to as "ilmiyye": the class of "knowers." Similarly, students of the medreses, institutions

[9] See "ʿIlm." *Encyclopaedia of Islam, Second Edition*. Edited by: P. Bearman , Th. Bianquis , C.E. Bosworth , E. van Donzel and W.P. Heinrichs. Brill, 2010, and Paul E. Walker, "Knowledge and Learning." *Encyclopaedia of the Qurʾān*. General Editor: Jane Dammen McAuliffe, Georgetown University, Washington DC. Brill, 2010.

which, in the Ottoman Empire of the 19th century, were devoted to religious education alone, were called "talebe-i ulum," students of "*ilm*s." Therefore, despite the use of the term also for what would be called "secular" sciences today, it is crucial to note the strong religious significance of the term "ilm." I take up the implications of the use of this very significant word for sciences imported from Europe in the following chapters.

Another word we come across in 19th century texts is "fen" (pl. "fünûn") – a word primarily meaning "branch" that in traditional Ottoman usage indicated those types of knowledge with a more overtly practical component. Hence, we see references to the expertise of scribes or civil servants as "fen"s. Similarly, surgery, military arts, and architecture were also referred to as "fen"s. In this sense, then, the connotations of "fen" are closer to that of "art" than "science." Yet, as we shall see, this word was also very frequently used in 19th century Ottoman texts on the sciences of the Europeans.

Finally, the word "maarif," the plural form of the word "marifet" – a word that indicates in traditional Islamic texts knowledge acquired by learning, hence not applicable to the way God himself knows[10] – was also used commonly in Ottoman texts to refer to all kinds of knowledge taught at schools. Furthermore, "maarif" was the word used in the title of the Ottoman Ministry of Education.

Now while these definitions may imply that these terms do have subtle, if not obvious, distinctions, an analysis of 19th century Ottoman texts reveals this to be

[10] It must be noted, however, that the *Encyclopedia of Islam* article on "ilm" emphasizes that this distinction between "ilm" and "marifet" was not consistently followed by Muslim scholars, hence making it difficult to refer to "marifet" as "secular" knowledge alone.

hardly the case in practice. Berkes (1964, 100) noted that the new sciences had been called "fen" in the Ottoman Empire in order not to attract the derision of religious scholars who monopolized the concept "ilm" for the knowledge they were experts of, and this argument has been repeated by other authors who cited Berkes. Yet a detailed analysis of Ottoman texts reveals that this was not the case. Ottoman speakers sometimes used these words interchangeably, sometimes as complementary to one another, but never consistently. It is very common to come across numerous references to the benefits of "ilm and fen," "maarif and fünun," and "ulum and maarif" within the same text as if these phrases denoted identical things. Similarly, "ilm" had very commonly been used to refer to the new sciences. Chemistry was called "ilm-i kimya" and geology, one of the newest sciences, was called "ilm-i tabakatü'l-arz" ("the *ilm* of the layers of the earth"), for instance.

Şemseddin Sami, the author of *Kamus-ı Türkî* (1901), the most comprehensive dictionary of Ottoman Turkish written by an Ottoman intellectual, defines "fen" as "a branch of *ulum* and *maarif*" and notes only as a lesser definition that a "fen" is an "ilm" based on reason, experiment and evidence. Indeed, while it appears to be the fact that "fen" was never used to refer to the traditional religious sciences, the general term "ilm" was used very commonly and indiscriminately, even when the subject was the new sciences alone.[11]

Contemporary students of Ottoman ideas on science have grappled with this issue as well. Kara (2003a) is a brilliant exposé on the variety of the ways in which the

[11] See Appendix 2 for an analysis of dictionary definitions of these terms.

terms were used. Hanioğlu (2005, 33) notes that the use of the word "ilm" for the "new sciences" made calls for their importation more palatable. But as Hanioğlu also implies, the way words were used had further, and even more significant implications than this. The unique religious and moral connotations of "ilm," or knowledge, as a virtue, the opposite of the vice of "ignorance" were particularly important for the "Europeanized" Ottoman elite, as these associations were key to forging links between the new sciences and morality. I demonstrate and explain this matter in the following chapters.

With these considerations, unless texts were very explicitly about the new sciences, I generally translated "ilm" as "knowledge," rather than as "science." I translated "ulum ve fünun," a very commonly used phrase in the texts I analyze, as "knowledge and science," as this translation conveys the ambiguity of the Ottoman phrase. Finally, even though "maarif" is also often used interchangeably with "ulum," I preferred to translate it as "learning," as the Ottoman dictionaries emphasize that it should be used only for knowledge one acquires, not the knowledge possessed by God.

As for the term "scientist," it is now well-known that the English term was a 19th century invention and did not gain currency until the early 20th century (Ross 1962). "Philosopher" and "man of science" were the terms most commonly used until then, and "savant" remained the way the French referred to their masters of science. Ottoman authors, on the other hand, did on many occasions use the religiously loaded

term "alim" (derived from "ilm," pl. "ulema") to refer to European men of science.[12] Another word that gradually gained popularity was "mütefennin," derived from "fen." I translated both of these terms as "man of science," in order both to follow the common English usage at the time, and to use a term that can to some extent convey the connotations of the terms Ottomans used: both "alim" and "mütefennin" are words that imply *possession*. They describe people who know, rather than do, "ilm" or "fen." While "alim" simply means "knower," Sami's *Kamus-ı Türkî* defines "mütefennin" as "familiar with the various *fen*s; someone who has studied and learned the *fen*s." Hence, the idea that these terms convey is the possession of a specific kind of knowledge, an idea the word "scientist" cannot adequately convey. As the following chapters will illustrate, the use of these particular words and ideas are emblematic of the Ottoman encounter with European science in the 19th century.

VI. Historical Background and Chapter Layout

The chapters of this dissertation are based on an unavoidably arbitrary division of the 19th century of the Ottoman Empire into three periods. In Chapter I, I focus on the first half of the century. This is a period that starts with the reigns of two reformist sultans, Selim III and Mahmud II, and is characterized by the opening of new elite schools based on European models, along with significant changes in the structure and organization of the Ottoman political and administrative system.

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[12] Again, despite the claim of Berkes (1964, 100). In his book on Benjamin Franklin, Ebuzziya Tevfik (1882, 23) refers to the "ulema" of Franklin's era who were trying to discover the secrets of electricity, for instance. Similarly, in the introduction to his textbook on zoology, Hüseyin Remzi (1873/4, ?) refers to the works of new European "ulema" who studied nature.

The Ottoman ruling class was traditionally composed of three sections: *seyfiyye* ("men of the sword," or the military elite), *ilmiyye* ("men of knowledge," or the doctors of Islamic law, the religious elite), and *kalemiyye* ("men of the pen," or the civil bureaucracy). The early 19th century witnessed crucial changes in this organization intended to centralize political authority. In 1826, Mahmud II had the Janissaries decimated in order to create a less autonomous and more faithful military class that would be composed of the graduates of the new Military Academy modeled after French academies. The financial and administrative autonomy of the *ilmiyye* was also restricted, and the abolition of the Janissaries deprived the *ulema* of the military force they had frequently allied with in previous centuries. It was the "men of the pen" who emerged as the greatest winners in the new order, as the role of the bureaucracy significantly increased in this era of centralization – an era where, in their affairs with the European states, the Ottomans could no longer rely on their military might. The remarkable rise in the prestige and financial situation of the bureaucracy was accompanied by the emergence of new discourses about what "knowledge" was all about. Indeed, the early 19th century can be described as one in which the "men of the pen" gradually appropriated the title "men of knowledge" as well.

I discuss the stages through which this transformation took place in Chapter II. I focus on key texts that illustrate the formation of the discourse that delineated the superior aspects of "new" knowledge, and associated "new" knowledge with "useful" knowledge. I discuss how the new bureaucrats who knew European languages and/or had been to Europe and/or had attended the new European-style schools of the Empire

started to describe themselves as the representatives of the truly useful knowledge of the times, and the rightful holders of political power. I show the ways in which science and the virtues of those who possess scientific knowledge were portrayed in official texts and delineate the key features of this new official discourse regarding science. In this analysis, it also becomes apparent how knowledgeability in this new sense slowly started to be associated by the new bureaucrats with being a "good" person, both as a subject/citizen and a ruler. Learning the new knowledges of the Europeans, according to the official texts of the period, would enable commoners to understand the actions of the state better, and render them "moral" (read loyal and obedient) subjects/citizens. Similarly, this knowledge was also essential for statesmen who wanted to truly understand how the world worked, and thus become the rulers that could indeed save the state. Most importantly, the more "ignorance," a concept with strong moral connotations in the Islamic tradition, was associated with the absence of knowledge of European sciences, the more overt the implied links between the possession of this knowledge and moral superiority became. I highlight the early stages of this process in Chapter II, but it is in the following decades that these ideas were stated more explicitly.

In Chapter III, I focus on the period between 1850 and 1878. This is the period in which the Muslim Ottoman press came into existence, and in which both the official discourse found new means of dissemination, and alternative discourses started to emerge. The press enabled the top bureaucrats to bring forth their versions of science and elaborate on its connections with morality. I focus particularly on the pioneering

Ottoman periodical, the Journal of Science ("Mecmua-i Fünûn"), and show how in the texts the journal published the Islamic connotations of the idea of knowledge were associated with European science itself. Science, in this journal, became knowledge as such, and the possessors of scientific knowledge became truly moral individuals.

On the other hand, it was also in this period that the reaction to the transformations of the previous decade materialized. Disillusioned young members of the bureaucracy as well as the lower *ulema* used the press to voice their concerns with the way the Empire was headed, and expressed their disapproval of the life styles and "arrogant" attitudes of the top-ranking new bureaucrats. I show in Chapter III how these criticisms (the leading representatives of which formed the so-called "Young Ottoman" movement) were expressed in reference to alternative understandings of knowledge and morality. The new scientific knowledge of the Europeans was not commonly repudiated, but the significance of the traditional knowledge of the *ulema* was also emphasized by the disenfranchised groups. I demonstrate how the latter, by proposing more comprehensive definitions of science, reasserted their own rights to prestige and power. Further, they challenged the alleged connections between possessing European knowledge and moral superiority. By also focusing on the contributions of early Muslim scholars, they constructed a discourse in which Islam and science could not be separated, and portrayed Islam as the only religion that truly encouraged scientific progress.

Finally, in Chapter IV, I focus on the period between 1878 and 1900. This period is characterized by the rule of Abdülhamid II, a sultan whose efforts to further

centralize the administration of the Empire involved a significant rise in the power of the sultan himself at the expense of high ranking bureaucrats. Aiming to use the new educational system more effectively to construct an educated but obedient population, Abdülhamid and his cadres synthesized the main components of the discourses formed in the previous periods. The official discourse was now one that defined European sciences as essential, but made morality (i.e. obedience to the sultan and to religion) the absolute prerequisite for being a "good subject/citizen." It could not be assumed that the possession of scientific knowledge made one a moral individual. Indeed, the interest of young Ottoman students in European philosophical trends was increasingly perceived as Western encroachment paralleling missionary activity, and the loyalty of the young "men of science" to the throne was doubted. We observe, as a result, in this period a remarkable proliferation in arguments against "materialist" men of science. The figure of the "fop" created by Ottoman authors in previous decades to ridicule the "Frenchified" young bureaucrats who uttered scientific gibberish as a mark of their distinction was now accompanied by another figure, the confused, "materialist" student. Those who talked incessantly about the merits of European science had commonly been portrayed as suspicious figures in 19th century Ottoman press, due to their familiarity with European manners and interest in European commodities. But in the final decades of the century, they were much forcefully, and *officially*, defined as potential threats to the well-being of the Empire. I show in Chapter IV how it became virtually impossible to talk about science without affirming at the same time the superiority of Islam, and the importance of moral values along with loyalty to the

state. The state, personified by the sultan, was the patron of both science and religion, and a man of science could not prove his loyalty to the sultan unless he also made clear his devotion to moral values defined in reference to Islam. I also note, however, that, while we may observe that this emphasis was unprecedented, the connections between scientific knowledge and morality and the indisputable priority of loyalty and obedience to the state had always been central to Ottoman discourses on science.

CHAPTER 2

1800-1850: NEW TYPES, NEW DEFINITIONS

> *[A] logical distinction is necessary when reproaching the ignorance of the Turks, in order not to overlook their true intellectual state. Judged from the standpoint of our most basic instruction, it is true ... they are foreign to the notions of general history, geography and natural sciences, but they do not cease to have their own instruction, which requires time and sustained application of mind…*
> *So do not look with contempt, from the heights of our uncertain science, which, after several generations, will be discarded as inadequate, upon these people confined to the knowledge of what they believe to be the sole and essential truth.* (Boré 1840, 269)

I. Introduction

Helmuth van Moltke, the military strategist and legendary chief of staff of the Prussian army in the second half of the 19th century, had resided in the Ottoman Empire between 1835 and 1839 when he was a young captain, and had been employed as a military adviser to Sultan Mahmud II (reigned 1808-1839). In one of the letters he wrote during this period, he recounts an incident that he witnessed while he was a consultant to Hafız Ahmed Pasha, the general in command of the Ottoman troops fighting against the forces of the rebellious governor of Egypt, Mehmed Ali Pasha. During a council, a religious dignitary who often advised the Ottoman general asked why ten thousand Ottoman soldiers should not get on horseback and "trusting in Allah and in the strength of their sabres" enter Moscow. "Why not?" an officer replied, "if their passports have been properly visaed at the Russian Embassy." The ironic

comment of the young officer Reşid Bey, a man educated in Paris, was incomprehensible to the audience, however, as it had been made in French (Moltke 1960, 324).[1]

Moltke's perception may have been colored by the affinity he probably felt toward the European-trained Ottoman officer, and the story strikes one in terms of its blatant presentation of what would be a key antagonism in 20th century Turkish political discourse: the educated, "civilized" officer vs. the ignorant religious demagogue. Yet, as further examples below will demonstrate, this is not an isolated anecdote, and while it would be quite simplistic to interpret it as an example of the inevitable clash between religion and modern knowledge, the incident is certainly indicative of the attitudes of a new group of individuals in early 19th century Ottoman Empire: those who claimed to possess a superior knowledge of how things *actually* worked in the contemporary world. That the comment had been made in French is very significant as well, as French can be seen as the "official language" of this new group. The young officer undoubtedly knew that his comments would not be comprehensible, and the language that he was able to speak was a mark of his distinction from the rest of the council.

Reşid Bey, known as Reşid "the spectacled," was a product of an early Ottoman initiative to send students to European schools. The man behind the initiative was a vizier of Mahmud II, Hüsrev Pasha (? – 1854), a champion of military reform, and

[1] Translation based on Moltke's observations as discussed in "Moltke's Campaign Against the Egyptians" *Macmillan's Magazine* 46:276 October 1882, pp.473-481. Abdurrahman Şeref (1921, 84) mistakenly recounts the story as one about Mehmed Emin Ali Pasha, one of the most prominent statesmen of the reform era. The mistake itself is significant as a hint about the members of the new group of elites that emerged in the period this chapter focuses on.

commander-in-chief of the new model Ottoman army created after the decimation of the Janissaries in 1826. Most significantly, Hüsrev Pasha was "the last great exemplar of the practice of training large numbers of slaves for placement in official positions" (Findley 1980, 78). Many of his protégés occupied key positions within the Ottoman state machinery and these networks enabled him to maintain his influence up till the early years of the *Tanzimat* (Reorganization) era.

What makes Hüsrev particularly interesting is that while he was strictly against reform outside the military, in 1830 he was able to have four young members of his household be the first group of Ottoman students sent abroad, to the preparatory school of Jean-François Barbet in Paris to receive a European-style education.[2] This apparent paradox pointed at by Mardin (1962, 212) is probably due to Hüsrev's attempt to preserve his own position by making sure some top-level officials of the Empire in the future would be "his men" as well – a strategic move within a state mechanism where, absent legal-rational procedures, personal networks and loyalties mattered more than anything. Hüsrev's move demonstrates his foresight, as he must have predicted that the future would belong to those educated in the European way. Indeed, in a letter he sent to his protégés in 1832, he wrote:

> When I picked you to be educated in France out of all the youths I raised before my eyes, I effectively entrusted with you all the hopes regarding the education of Muslim youth. Our state dignitaries will look at you and decide whether to follow my example and entrust the future of their children to the knowledge (*ilm*) of Europe. (Quoted in Eldem 2006, 52)

[2] This, incidentally, was the school Louis Pasteur would attend eight years later.

His protégés would not fail him: of the first four students sent to Paris, one later became a Grand Vizier[3], another an artillery general, and one a colonel (Şişman 2004); and it was this generation that would help redefine what knowledge and ignorance meant for Ottoman Muslims, precisely in the way Reşid Bey's comments indicated.[4]

II. Defining "New Knowledge", Determining "The Ignorant"

The word "ignorance" is probably one of the most frequently used words in Ottoman texts on the state of the Empire throughout the 19th century. Appearing first in the official documents of the early 1800s, "our ignorance" became one of the leitmotifs of official discourse particularly in the second half of the 19th century. But as Reşid Bey's remark exemplifies, not only do references to ignorance involve direct or indirect attributions of ignorance and knowledgeability to different groups, but they are built on particular assumptions about what constitutes knowledge itself. As knowledge (and what is expected of those who possess it) come to be defined differently, ignorance (and the characteristics of the ignorant) are also described in varying manners. In early to mid-19th century, a new group emerged in the Ottoman Empire comprising individuals who had been to Europe, or who spoke a European language, or who had been educated in a European-style school abroad or in the

[3] This was the future Ibrahim Edhem Pasha (1818-1893) who attended the École des Mines after Barbet, and is considered as the founder of geology in Turkey. Incidentally, Reşid himself was not one of the first four - he was sent two years after them. He would become the marshal of the Imperial Arsenal and then the governor of Baghdad in 1851 (Mehmed Süreyya 1996 volume V, 1382).

[4] Note however that the transformation of these generations did not necessarily involve a complete enthusiasm for anything European. When he was the governor of Baghdad, Reşid Bey told a Persian traveler that the aim of the Ottomans was to imitate and later surpass the Europeans in military matters and recommended that the Persians do the same. Reşid's "desire at England's annihilation" was evident according to the traveler (Adib al Molk quoted in Pistor-Hatam 1995, 566).

Ottoman Empire, or some combination of the above. These experiences and skills were deemed crucial for the new generation of Ottoman bureaucrats whose role was much more vital at a time when the military might of the Empire proved incomparably less effective against European powers than in the previous centuries. Using Bourdieu's terminology, we can argue that this new type of cultural capital enabled these individuals to acquire significant amounts of "statist capital" as well, and using their newly acquired status within the state mechanism, the new bureaucrats propagated new definitions of knowledge and ignorance that advanced their own interests. Defining the knowledge they possessed as useful and true knowledge, they sought to legitimize their power. Moreover, they appropriated the religious and moral connotations of the Islamic notion of "true knowledge," i.e. knowledge of God, to the new knowledge they possessed. In other words, they reinforced their knowledge with the significations of religious knowledge, and thus characterized themselves as the truly "good" subjects of God as well.

A. Early Characterizations

A rather early example of the way in which knowledge and ignorance came to be redefined under the impact of European-style education is the treatise of Seyyid Mustafa, one of the first graduates of, and later a teacher at, the *Mühendishane-i Berri-i Hümayun* – the School of Military Engineering opened in 1795, during the reign of Selim III. Written in French and published in Istanbul in 1803 under the title *Diatribe de l'Ingénieur Séid Moustapha sur l'état actuel de l'art militaire, du génie et des*

sciences à Constantinople, this is a work that contains in a nutshell the key themes of the future debates regarding science.[5]

In his autobiographical introduction, Mustafa argues that although he was tremendously interested in scientific knowledge even as a child, he was not satisfied by what Turkish masters could teach him (Seyyid Mustafa 1803, 16). He learned French, the most universal language,[6] and read at a young age those works of European scientists that he was able to get a hold of. He was particularly impressed with the impact mathematics had had on the development of military tactics and architecture in Europe. Luckily for him, it was Selim III's reign in the Ottoman Empire – a sultan who was convinced that welcoming the sciences and the arts would be the most intelligent deed for a ruler, and would bring the most benefits for his people (18). Hence, the European-style school of engineering was opened in Istanbul, and he became one of its first students.

Seyyid Mustafa's experiences as a student in this new institution, evidently, heightened his sense of distinction from those who were unaware of the sciences he held so dear. When doing fieldwork in public, he and his fellow students found themselves surrounded by "the voice of incompetence and ignorance" coming from every corner. They were "molested, almost persecuted" by the people around them, who were screaming "Why do you draw these lines on these papers? What is their use? Warfare cannot be conducted with a compass and a ruler" (20). The actions of the

[5] For a more detailed discussion with a similar approach on Mustafa's *Diatribe*, see Burçak (2008). In their uncritical readings, Adıvar (1943, 187) and Berkes (1964, 78-80) regard *Diatribe* as evidence of the enthusiasm of Ottoman youth for modern science.
[6] A comment that the editor of the French publication emphasizes with a footnote. Cf. n.17.

people disheartened the students, and they felt it impossible that the people could be disabused, but it was once again the benevolence of the sultan that helped them: he followed their progress carefully and gave them opportunities to demonstrate to people of all classes "the great benefits of mathematical sciences applied to the art of war and to fortification" (21). In other words, when the ignorant public disillusioned and disparaged them, their patron the sultan restored their hope and self-esteem. It is unclear how audiences were made able to perceive what Mustafa and his colleagues demonstrated, but the sultan's authority is without doubt what the students, lacking an authority of their own, sought refuge in.

But the sultan himself had faced similar problems. Old glories had led the Ottomans into lethargy, and "the class of the idiots and the superstitious" were fooling the simple-minded into believing that any innovation based on imitation was an offense (32-33). But with his zeal as well as composure, Selim III silenced the "cowardly reproach" (*remontrance pusillanime*), and "shut the mouth of ignorance and forced all classes of people to follow his example" (36-7). Hence, Mustafa states in conclusion, his country is now how he had always wanted it to be: "enlightened more each day by the torch of sciences and arts" (52).

With these comments, Seyyid Mustafa made clear what he regarded as ignorance: lack of *scientific* knowledge, or, even more fundamentally, knowledge about the uses and significance of science, especially those sciences that had been developed in Europe. In order to make a case for the new military school, he refers to the saying of the prophet that permits Muslims to use the weapons of the enemies of Islam when

fighting them – a justification that would be used throughout the period of Ottoman reform. But it is clearly not the military sciences alone that Mustafa endorses, as his constant emphasis on "sciences and arts" indicates.

Mustafa presents another image that would appear in a variety of forms in future works on science: the sultan as the protector of science and its possessors. The benign sovereign was in full support of these new students, both by seeing to their every need, and by "silencing the mouths of the ignorant" when necessary. Therefore, learning the sciences and applying them was, in a sense, the *duty* of the students toward their protector, the sultan. In a setting where discourses on science were for the most part produced within the new schools, the founder of such institutions emerged in these discourses as a Prometheus who had brought fire to the people. Science was a gift from the sultan to his subjects.

Ironically, both Seyyid Mustafa and Selim III would be killed during the Janissary revolts of 1807-8. The alliance of the Janissaries with factions within the *ulema* (doctors of Islamic law), the groups that the emergent possessors of new knowledge declared as ignorant, had one final victory.

Seyyid Mustafa is a representative of a group of key importance for the purposes of this study, as the new generations trained in European-style schools were the major contributors to the debate on the meanings of knowledge and ignorance throughout the 19th century, despite their small numbers particularly in its earlier decades. More examples from the members of this group will be provided throughout the dissertation, but it should also be noted at the outset that these schools came in many different

types and varying levels of sophistication, so it would be erroneous to assume that the students of all these schools received high quality training on the "new sciences." Indeed, due to the absence of a comprehensive educational system, many schools intended to provide higher education ended up having to teach literacy first. Nevertheless, it is the very fact that they did receive some training on fields that were not taught in traditional Ottoman institutions such as the *medrese*s that matters, rather than how competent in these fields the students actually were, as the perception of distinction is not a function of actual competence and experience.

Another key group was composed of those who had actually visited or been employed in Europe and had a chance to personally observe the new curiosities of the Europeans. A member of this group who was a contemporary of Seyyid Mustafa was Mahmud Raif Efendi – a man known as "Mahmud the English" due to the post he had occupied as the secretary to the first Ottoman ambassador to London in 1793. In his brief, plainly descriptive account of his experiences in England that he also wrote in French, he at times praised England and its capital rather enthusiastically: London is full of beautiful buildings, great schools and hospitals, commerce in England is "très considérable," lands "extrêmment bien cultivé," products "bien bonnes." The people of England are ordinary, like the people of all countries, but they are better instructed than other nations – a comment that obviously applies to the people of the Ottoman Empire as well. Indeed, for Mahmud, there is "beaucoup de science et d'instruction" in England (Mahmud Raif 1793-4, Reproduced in Engin 1999, 157).

While in London, Mahmud also composed a geographical treatise in French that was later translated into Ottoman Turkish by Yakovaki Efendi and published in Istanbul in 1804.[7] Similar to Mustafa, Raif started his work by praising Selim III who had revived the "mathematical sciences [that] had been abandoned and neglected in the Islamic countries simply due to love of idleness and indolence." The celebrated works of the old masters were written "in the way of the ancients" and because they were so detailed, they appealed only to the elite. Furthermore, unlike earlier works that were manuscripts, Raif's book was printed, thanks to which it could be easily accessible for "enthusiasts of science and knowledge" (Strauss 1995, 198-9).[8]

Mahmud the English then wrote another book in French on the reform movement of Selim III, possibly sponsored by the Sultan as a publicity move.[9] Later the superintendent of a division of the new army, he would also be murdered by troops revolting against military reform.

B. Mahmud II: Ignorance as a state issue

The reform would continue, however, under Sultan Mahmud II who ascended to the throne fourteen months after the death of Selim III. After strengthening his power base via an initial alliance with the local notables (*ayan*) and taking advantage of the

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[7] Yakovaki Efendi (Iakovos Argyropoulos) was a Greek subject of the sultan who was at the time the Ottoman envoy in Vienna would later become the Dragoman of the Fleet.

[8] (*memalik-i İslamiyede mücerred hubb-ı batâlet ve kesel ile fünûn-ı riyâziye metrûk ü mühmel olup*), (*meslek-i müteakddimîn üzere*), (*heveskârân-ı ilm ü maarif*)

[9] Mahmud Raif (1798). The book contains an illustration depicting one of the new military schools, referring to it as "Académie Royale des Sciences." No school with such name existed in the Ottoman Empire, so the caption may be read as a hint of the models Ottoman reformers had in mind, and how they wished to publicize the fruits of their efforts to European audiences. Seyyid Mustafa's book may also be a work of publicity to assure European support for the sultan.

acquiescent attitudes of the higher *ulema*, Mahmud II carried out a number of reforms intended to re-centralize the government and reorganize it along European lines. The chief objective was the elimination of alternative centers of power and the construction of an obedient and reliable administrative cadre. Cognizant of the central government's desperate need of cash and threatened by the political power of the local notables who had emerged as a result of tax farming introduced in the 18th century, Mahmud II eliminated many of the notables and strived to centralize the administration of taxation by "[c]ombining negotiations, ruse and force" (Barkey 2008, 274). Related to the same aim of centralizing and increasing state income, the revenues of all endowments, including religious ones (*vakıf*s), were taken under the roof of the newly established Imperial Ministry of Endowments in 1826, which had the crucial consequence of turning the *ulema* into paid officials who were economically dependent on the central government. Chief of the *ulema*, the Şeyhülislam himself, was now a minister in the newly established cabinet, rather than the head of a relatively autonomous class. What is more, the Janissaries were literally exterminated in the same year, thus destroying one of the oldest Ottoman institutions and a chief obstacle against military reform.

Efforts for centralization were accompanied by cultural innovations. Clearly linked with his political objectives, Mahmud II ordered his portrait to be hung in government offices, invited the Italian composer Giuseppe Donizetti to train the new, European-style military band that would replace the Janissary band, and introduced European-

style clothing as well as the *fez* to replace turbans among all sectors of society excluding the *ulema*.

Most significantly, he started in 1831 the publication of the official gazette, *Takvim-i Vekayi* (Calendar of Events) – the first Ottoman newspaper in the Turkish language. The leading article in the first issue argued that the newspaper was not necessarily based on an entirely new idea, as its mission was similar to that of the works of imperial historiographers. However, it was essential to keep the people aware of the *daily* actions of the government to avoid misunderstandings and unfair reactions, as "human nature is always inclined to attack and criticize everything, the character and truth of which he does not know." In other words, the government would now explain and legitimize its actions to its subjects, and, in a way, *educate* them about the "true nature" of things. In addition to governmental matters, the article stated, it would also be beneficial to convey information on "sciences, fine arts and trade."[10]

Indeed, while the bulk of the newspaper was devoted to sections entitled Internal Affairs, Military Affairs and Foreign Affairs, also included, albeit irregularly, was a section entitled Sciences (*Fünun*). This section was devoted mostly to the presentation of brief information on books of all types published at the Imperial Press, but it also occasionally included news about recent inventions and developments in agriculture and industry, as well as some statistics. The very fact that such a section was envisioned even at the outset, and then published within the Ottoman Official Gazette,

[10] *Takvim-i Vekayi* 1:1, 1 November 1831, p.1. Translations based on Emin [1914] (1968), p.30.

is a strong indication of what the government deemed beneficial knowledge during the reign of Mahmud II. It is also noteworthy that the Foreign Affairs section is dedicated almost exclusively to news about Europe, leading to a more Eurocentric appearance than a European newspaper (Koloğlu 1982, 131), and news about European inventions and manufactures sometimes appeared in this section as well. The idea of Europe as the "sole origin of science and industry" that was a common theme of 19th century debates was clearly conveyed by the gazette, and this fact is all the more striking as the director as well as the staff of the gazette came from the ranks of the *ulema*.[11]

Yet it should also be noted that the newspaper's intended audience was not the general public. Rather than seeking subscribers, "a list was made of all state officials, people of learning, and notables, both in the capital and in the provinces, as well as foreign ambassadors and ministers, and mostly all of the five thousand copies printed were distributed according to that list." (Lütfi 1984 vol III, 156) The low rates of literacy throughout the Empire and the underdeveloped state of the newly organized postal service can account for this decision, but the basic consequence was that it was the state elite and the notables that were exposed to this new knowledge regarding science, as well as politics.

In such a period of reform along European lines, the tone of the 1824 decree of Mahmud II on the importance of basic education may appear surprising. In this decree, the sultan complained that most parents tended to end their children's education at the age of five or six so that the children could start apprenticing and making money right

[11] This issue will be taken up in the next section, but for an analysis of the attitudes of the ulema see Heyd (1993).

away. Instead, the decree maintained that "it is necessary to prioritize the learning of the fundamentals of religion to all worldly affairs" (Mahmud Cevad 2001, 3).[12] Ignorance was becoming a serious problem, the decree stated, as these children lost interest in learning entirely. The consequence was that the majority of the people were ignorant about the basic tenets of their religion – a state that was the "sole reason behind the absence of divine aid" and would result in punishment both in this world and in the afterlife. Hence, the decree required that all children should remain in school until puberty and learn to read, particularly the Qur'an and catechism.

Due to the decree's tone, it can be considered a maneuver on Mahmud II's part to appease the *ulema* before the extensive reforms of the following years. Somel (2001, 27), however, argues that the decree of 1824 can still be regarded as an antecedent of the educational reforms that would take place in the following decades. Not only does the decree encourage literacy – a skill that goes well beyond religious use – but it emphasizes the worldly punishments an ignorant people may be subjected to, thus implying that literacy (in the guise of "religious knowledge") is essential for the Ottoman Empire to recover from its weakened state.

In any event, while it is evident that the decree unequivocally emphasizes the importance of religious training, it certainly indicates an attempt to make education an issue of urgency that needs to be standardized and closely supervised by the central authority. Furthermore, even though the promotion of literacy *per se* is somewhat shadowed by the strong emphasis on religious education, the theme of ignorance as

[12] (*zaruriyat ı diniyeyi öğrenmekliği umur ı dünyeviyyenin cümlesine takdim eylemek lazım iken...*)

the reason behind the calamities striking the Empire (in the absence of "divine aid") is certainly established by the decree of Mahmud II. The ignorance in question was not similar to the one defined by Seyyid Mustafa, but Mustafa's conceptualization of ignorance ("lack of appreciation for / knowledge of science") would prevail in the following decades, taking the place of religion in the formulation brought forth by Mahmud II ("religious ignorance as the reason behind the Empire's decline").

C. Knowledge: Old and New

In the meantime, knowledge was starting to be categorized as consisting of two types, the old and the new, and the learning of "new knowledge" necessitated the learning of foreign languages.[13] In 1826 Mustafa Behçet Efendi (1774-1834), the chief physician of Mahmud II, commented on the need for a new school of military medicine to serve the new army that was replacing the Janissaries. He wrote that "most Muslim physicians' practice is founded on the methods of old medicine, and they are not equally familiar with the methods of new medicine." Importantly, for Behçet Efendi, a true physician needed to be able to utilize the methods of *both* the old and the new medicine as appropriate. But as it was obvious that "acquiring the art/science and specialization based on the new method absolutely requires and is dependent on learning foreign languages,"[14] the students had to learn medicine in the French language (quoted in Ergin 1977 v.1-2, 336-337). Yet they also needed to know

[13] In the field of medicine this distinction started to emerge in the 18th century, thanks to translated works but in particular non-Muslim Ottoman physicians educated in Europe. See Izgi (1997 vol.2, 40-1).

[14] (*usul-i cedide üzre tahsil-i fen ve hazakat ise bieyyi vechin kân lisan-ı ecnebi tahsiline mevkuf ve muhtac bulunduğu*)

the Arabic and Turkish names of plants, substances and diseases, in addition, of course, to the fundamentals of Islam. These had to be taught by a Muslim, but for the teaching of French and medicine, foreigners could be employed.

Mustafa Behçet Efendi, like his grandfather and father, was an *alim*. Coming from an aristocratic family, he was well-educated and in addition to his *medrese* training, he also learned European languages. He was specialized in medicine, but he also held many religious and legal appointments including the *Kazasker* (Chief Judge) of Anatolia and Rumelia. In the words of a contemporary observer, Behçet "embodie[d] in his single person the various attributes of law, physic (*sic*) and theology" (De Kay 1833, 419). In a sense, Behçet Efendi's expectations from the new school was based on his own upbringing: knowledgeability brought about by simultaneous expertise in both the old and the new, not only Arabic and Turkish but also French. Personifying the transformation the Empire was going through, Behçet translated the works of Buffon, yet he also compiled folk beliefs on medical cures that were published posthumously under the name *Hezar Esrar* (A Thousand Mysteries). The Behçet Efendi who, in *Hezar Esrar* would discuss examples that could hardly be regarded as scientific in his own time[15] would also discuss with an entirely different approach the symptoms and methods of treatment of cholera in a treatise he wrote in 1831, based on an Austrian manual.[16] However, Behçet's emphasis on synthesis or, perhaps, peaceful co-existence can also be seen as a step in the gradual identification

[15] Mystery number 61, for instance, is that having a convict eat the tongue of a quail would cause him to confess his crime, while number 295 is that the cure for hiccup is to hold a goose's beak close to the mouth (Adıvar 1943, 195).
[16] De Kay (1833, 518-20) provides a summary of the treatise. On Behçet's life and works also see Uzluk (1954).

of knowledge deemed Islamic, Arabic or "ours" with "the old," and that deemed European, or "theirs," with "the new."

Behçet Efendi's approach is also one of the numerous examples of *ulema* support, or at least acquiescence, in the face of rapid reform, including in the field of knowledge production. As Uriel Heyd's oft-cited essay (1993) [1961] demonstrated decades ago, the reforms of Selim III and Mahmud II found supporters especially among the upper echelons of the *ilmiyye* class. Indeed, Behçet's main rival, Şanizade Ataullah Efendi (1769?-1826) who was also a member of the *ulema* with medical training as well as vast, encyclopedic knowledge in many areas that he had studied on his own, was the author of the first medical work in the Turkish language that was based on European sources. His *Miratü'l-ebdan* was published in 1820, becoming the first book that included European-style engravings of body parts.[17] In addition, Şanizade had also studied at the *Mühendishane*, thus acquiring knowledge from all types of educational institution that existed in the Empire. It is known that, as a result, he was able to read, to some degree at least, in French, Italian and Greek as well as Arabic and Persian. In the *Miyârü'l-Etıbbâ* (1820), he indicates that he wanted to learn foreign languages "with the desire to speak the myriad languages of the mysterious curiosities of the sciences"[18] (Şanizade 1820, 3). He also indicates that practitioners of medicine who only have practical skills cannot be considered true physicians: it is the

[17] The French orientalist Thomas X. Bianchi published a passionate review of Şanizade's work in the *Revue Encyclopedique* in May 1821, where he argued that the French should be proud of Şanizade's use of French sources, as France was thus contributing to the well-being of the Ottoman people. But the publication of such a work in the Ottoman Empire should excite everyone who could thus watch the "progress of human spirit" within their own lifetime.

[18] (*hemzebân-ı elsine-i gûnâgân mahrem-râz-ı garâib-i fünûn olmak hevesiyle*)

medical knowledge that one possesses that makes one a "mature physician" (*tabib-i kâmil*) (7). Needless to note, the knowledge in question is "new" knowledge, presented to the community of practitioners by Şanizade.

But the participation of such members of the *ulema* in the glorification and dissemination of new sorts of knowledge should not be interpreted as an indication of a swift change. First, it is worth noting that the *ulema* who supported the changes in question were educated in medical sciences themselves, albeit in a different form. The *ulema* may have perceived the change as one within which they could still maintain their authority, as medicine had always been seen as a respectable practice related to theology in Islam. After all, while new sciences such as geology or zoology had never been part of the *medrese* curriculum, medicine had. Furthermore, it is also a fact that foreign or non-Muslim physicians had come to dominate the practice in the 19th century due to the shortage of *medrese*-trained physicians. Hence, the *ulema* may have regarded the opening of the new school and the publishing of new books as an opportunity to have Muslim physicians reclaim the field. Indeed, the new medical school was to admit Muslim students alone.

However, as a general trend, most of the support to Mahmud II's reforms came from the higher *ulema*. As Heyd (1993) indicates, nepotism and the competition for the few top positions within the *İlmiyye* body led the higher-ranking *ulema* to compete for the Sultan's approval, rather than pass judgment on his actions. Furthermore, aristocratic *ulema* families had started to emerge due to networks of patronage, and their duties within the government caused top-ranking members of the *ulema* to have a

closer experience of the workings of the government, which, in turn, led to a more nuanced outlook along with a primary consideration for the *raison d'état*. It is in that sense hardly surprising that Şanizade Ataullah was the son of the *kadi* (chief judge) of Mecca, whereas Mustafa Behçet's grandfather was a grand vizier and his father a chief clerk of the Imperial Council. The resultant submissive attitudes of these high-ranking members of the *ulema* aggravated the low ranking *ulema* as well as the students of the *medrese*s throughout the Empire, and it was these groups indeed that would voice the most serious criticisms of the changes they witnessed, including those concerning the definitions of knowledge and ignorance.[19] It should also be emphasized that the attitudes of the high *ulema* draw attention to the association between new knowledge and *the state*, rather than only the new bureaucrats who gradually became its most vocal advocates.

Concerns about low rates of attendance and success at the School of Military Engineering, on the other hand, enabled another interesting figure to come into prominence. In a memorandum he wrote to the sultan in 1830, chief of staff Hüsrev Pasha stated that the required courses could not be taught in an orderly and appropriate way due to the incompetence of the teachers. It would be advisable to appoint European engineers as well as a new Muslim principal who was "familiar with the needed sciences and arts" (Reproduced in İhsanoğlu 1989, 20-1).[20] This new classification of knowledge openly defines the sciences taught at the School of

[19] As Heyd (1993, 34-36) argues, however, the fact that they were of lower rank makes it rather difficult to study the opinions of these critics. It was almost impossible for them to get their views published even if they dared to do it.
[20] (*ulûm ve fünûn-ı lâzımeye âşina*)

Engineering as the ones that the Empire "needs," simultaneously defining the individuals educated in them – military engineers – as those truly needed by the Empire.

Hüsrev Pasha's recommendation for the post of the principal was Ishak Efendi (1774? – 1836), a Jewish convert from Ionnina, former chief translator to the Imperial Council and a graduate of the school himself. Ishak did become the principal, and during his tenure, he published his 4-volume magnum opus, the *Mecmua-i Ulûm-ı Riyaziye* (Compendium of Mathematical Sciences, published between 1830 and 1834) – a pioneering work in the Ottoman Empire that contained detailed information on mathematics, chemistry, physics, astronomy, biology, botany, zoology, and mineralogy. The text was a compilation from European sources, and was appreciated by Mahmud II who awarded Ishak with 250 gold pieces (Ihsanoğlu 1989, 51).

The short introduction to the *Mecmua* explains precisely what Hüsrev Pasha's comment briefly states: the sciences taught at the School of Military Engineering and included in the *Mecmua* are the "needed" sciences: The exalted order for holy war in these times depend on the learning of these sciences.[21] The organization of the soldiers was based on arithmetic and algebra, measurements depended on trigonometry, the manufacture of weapons and warships required knowledge of mechanics, the actual movement of ships depended on understanding astronomy and physics, and so on (Ishak 1831 vol.1, 2). Interestingly, Ishak states that "[p]ast masters have specific treatises on each of these, and some of these have Turkish translations" (2-3), yet as

[21] (*Emr-i hatir-ı cihad ve gaza fi zemanen-hezâ ulûm-ı talimiyyeyi marifete menût*)

they are all separate pieces on specific areas, he intended to compose an encompassing work that would make instruction easier. Yet the fact is that many sections in his work, such as the one on chemistry, are entirely novel for the Ottoman audience. Ishak appears to have understated their novelty, possibly in order not to be perceived too radical (Ihsanoglu 1989, 47), but his emphasis on the unique utility of the "mathematical sciences" for holy war "in these times" is a rather palpable insinuation of novelty. Still, it is important to note that İshak's presentation is on the *military* uses of the sciences alone, and in this respect is a rather cautious text employing the well-established justification for the importation of new knowledges from Europe: Holy War.

Another point worth mentioning is that reading Ishak's book more or less served as *the* instruction at the school of Military Engineering. According to De Kay's (1833, 138-42) observations, classes were essentially dedicated to dictation in its most basic sense, with inattentive students being asked to repeat the last sentence of the professor.[22] Furthermore, when asked what textbooks they used, the future military engineers of the Ottoman Empire replied "that when they had faithfully gone through [Ishak's] volumes, they would have acquired all the knowledge in the world" (De Kay 1833, 141). In this respect, the new schools appeared not fundamentally different than the traditional medreses: education was still regarded as learning by heart the contents

[22] The American zoologist and the composer of the Zoological Report of New York State (1842) James Ellsworth De Kay (1792-1851) visited the Ottoman Empire in 1831-2.

of a book, under the supervision of a "master." The new sciences were, essentially, a new set of information to be learned.

III. The context of reaction: New knowledge as *European* knowledge

Reform in the military field continued with the establishment of the School of Military Sciences (*Mekteb-i Ulum-i Harbiye*) in 1834. The chief responsibility in the founding of the new school was assigned to a young, but very experienced military bureaucrat, Mehmed Namık Pasha (1804-1892). A rather different kind of person than the likes of Ataullah and Behçet Efendis, Namık Pasha was a graduate of the School of Military Engineering. He had also studied at the Ecole Militaire in Paris and been sent as a military attaché to St. Petersburg[23] and as an ambassador plenipotentiary to London. Fluent in French and English, Namık had also visited military schools and factories in England, and he was particularly eager to acquire knowledge about steam power (Thomason 1845, 298).[24] Intending to establish a similar school to the French Military Academy of Saint-Cyr, Namık Pasha made sure the school had a large library, new maps and tools all brought from England, as well as its own printing press and hospital.

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[23] The Ottoman ambassador to Russia at the time was Halil Rifat Pasha, yet another protégé of Hüsrev Pasha. Upon his return to Istanbul he would become chief commander of the Navy. He is best known for his warning to the sultan that "If we do not become like the Europeans, we will have to retreat to Asia." (Ege 1977, 4)

[24] In a letter dated 18 February 1835, Edward Thomason, inventor, businessman and vice-council of the Ottoman Empire in Birmingham defines him as a man "well-informed on arts and sciences" and "on subjects of mechanism." Upon his return to Istanbul, Namık Pasha presented to the sultan a manuscript on his observations. Recounting his visits to Cambridge University in detail, he argued that the Ottomans should establish similar schools throughout the Empire. As a gesture that epitomizes his dreams about the Empire, he drew pictures of the balloons that he had seen in England, attaching them Ottoman flags (Hanioğlu 1995, 9) Also see Sinaplı (1987, 85-90).

However, unsure of the prospects and worth of the new school, wealthy families failed to send their children there, as a result of which the government ended up recruiting stray children as the first students. Similarly, Namık Pasha's introduction of the desk system as in European schools to put an end to the tradition of sitting on the floor with the books placed on bookrests (*rahle*) raised concern (Sinaplı 1987, 67). According to a contemporary visitor, the exquisite mosque attached to the school had been opened and the students compelled to pray due to the concerns of the parents who believed that the school would interfere with the students' religious beliefs (Pardoe 1838, 188).

The concerns in question – concerns that accompanied the entire process of the importation of European sciences that this dissertation focuses on – make sense particularly if the European influence on the opening and organization of the school is taken into consideration, rendering it vulnerable to criticism. Indeed, the long comments of the English historian and traveler Julia Pardoe (1806-1862) on the new Military School are worthy of discussion because they illustrate how the introduction of European-style schools and "new knowledges" into the Ottoman Empire were issues directly connected to the dynamics of international politics. The "Great Powers" were in competition to become the educational and intellectual guide of the Ottoman Empire, which gave rise to rather patronizing remarks concerning the transfer of European science to the Ottoman Empire. Calling the military school "a body without a soul," Pardoe laments the apparent inadequacy of the teaching cadres in terms of experience and talent, rendering all the enthusiasm fruitless: "Could sentiment be

deepened into science, and inclination wrought into ability, the Military College would take high ground, ... but where the means are limited, the effects must be comparatively inconsequent" (Pardoe 1838, 193-4). Yet the real fault lay with the Europeans who praised these new Ottoman institutions beyond their real worth:

> And thus, flattered into a belief of their own sufficiency on the one hand, and misled by misstatements on the other, the influential individuals connected with the unhappy College have abandoned it to the ruin which must ultimately, and at no distant period, overtake it; from the hopeless incapacity of a set of men, who, familiar with the name of every science under Heaven, are most of them profoundly ignorant of all save the first rudiments of each; and who are, consequently, ill calculated to work that great moral change so ardently desired by all the true friends of Turkey. (Pardoe 1838, 197)

Turkey needed to acquire the intellectual level of Europe by "train[ing] up her youth to habits of reflection and scientific research," yet Russia, fearful of the possible effects of such schools, managed to have Ottoman reformers believe that the school needed no further development, and the Ottomans already had the knowledge they needed. Pardoe's conclusion was simple: "England must resolve [this] question" (199-200).

The French writer Alphonse Royer's comments (1837, 234) indicate a different approach. Describing Namık Pasha as a perfect statesman, Royer praised him as someone who "contributed by his own example to the spread of the desire to study *our* language and *our* sciences" among Ottoman youth (my italics). This understanding that the Ottoman interest in the new sciences, and their faith in the guidance of French sources in this endeavor should be seen as great achievements by France had earlier been promoted by Thomas Bianchi as well (see note 17). Reşid Pasha, the influential

statesman of the reform period, discussed in detail the disagreements among France, Britain and Russia about the employment of European experts and teachers by the Ottoman Empire in a report he presented to the Sultan in 1837 (Kaynar 1954, 91-92).

Thus, a central role of the new bureaucrats and the advocates of "new knowledge" involved negotiating with the Great Powers the terms under which "their knowledge" would be imported into the Ottoman Empire. In these negotiations where they were hardly able to set the terms, they strived to appease the various parties involved, and, within a broad process of drastic economic and legal transformation, these maneuvers contributed to their perception as imitators whose primary concern was not the interests of the Ottoman people. An example of the position of the "Europeanized" bureaucrats is a comment by Namık Pasha himself, who is reported to have said during his visit to Manchester: "Ours is not a manufacturing country, and we have no pretension to compete with the science and capital of England. But our fertile territory and happy climate enable us to furnish you with many of the materials which you require" (Anonymous 1837, 468-9).

IV. The new bureaucrats and the new official discourse

Namık Pasha belonged to a new generation of Ottoman bureaucrats: speaking European languages, interacting confidently with European politicians and notables both within the Ottoman Empire and abroad, and enthusiastic to some degree about reform, these bureaucrats, more than any other group or even the sultan himself, would influence the policies that the Empire would follow in what is known as the

Reorganization Era (1839-1876). Indeed, by destroying the Janissaries, pacifying the local notables and limiting the authorities of the *ulema* in order to strengthen central authority, Mahmud II had laid the groundwork for a regime in which Istanbul bureaucrats would hold the reins of government without significant checks and balances.

The new bureaucrats of early 19th century Ottoman Empire tended to be autodidacts, usually possessing that rarely found quality within the Empire: literacy. Typically after elementary religious education, the teenager would start working as an apprentice secretary in one of the government offices, and continue learning on the job as well as hope to grab the attention of a higher-ranking bureaucrat who could become his patron. Mahmud II attempted to standardize the training of bureaucrats as well, and a school for future civil servants was opened in 1838 (*Mekteb-i Maarif-i Adliyye*), with a curriculum that included, in addition to courses on grammar, Arabic and Persian, courses on mathematics, French, and geography. An official document from the same year complained 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."[25] (Document reproduced in Ergin 1977 vols.1-2, 397). As Ergin (405) notes, there also exists a letter from the private secretariat of the Palace stating that a new building for the school could be built in a location where a *medrese* was supposed to be built.

[25] (*umur-ı dahiliye ve hariciyede istihdam olunacak ketebeye göre talimi ehemm ve elzem olan ulum-ı riyaziye ve fenn-i coğrafyanın belki ismini bile işitmemiş*)

Hence, not only was the curriculum of the school intended to differentiate the future civil servants of the Empire from the graduates of other schools, including the *medrese*, but the school's prestige and the expectations from it surpassed that of the *medrese* even at its inception.

However, the setting that raised the most influential bureaucrats of the Ottoman Empire around mid-19th century was another institution founded by Mahmud II: the Translation Bureau (*Tercüme Odası*) where clerks (along with the occasionally employed foreigners) not only translated European documents into Ottoman Turkish, but also received basic training on subjects similar to what would be taught at the school for public servants. Most crucial, however, was the teaching of French. Opened in 1822 but a full-fledged department only after 1833, the Bureau raised not only many of the prominent statesmen of the Reorganization Era, but also their fierce critics, the Young Ottomans.[26] Many products of the Bureau also had the opportunity to work in Europe, in Ottoman consulates, 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 *ulema* as well as the sultan himself that specific representations of knowledge, ignorance and their virtues and vices became "official" after the 1830s. Particularly important in these representations were the identification of the sciences

[26] Before the Translation Bureau was fully established, it was rather hard to find Muslims who could speak European languages. The translator to the Imperial Council used to be a Greek subject of the sultan until 1820, after that people of non-Muslim origin such as the Bulgarian convert Yahya Efendi and the Jewish convert Ishak Efendi (of the School for Military Engineering) occupied the post. Interestingly, while the physician and historian Şanizade Ataullah Efendi knew French, he was not allowed to become a translator as he was a member of the *Ulema* (Findley 1980, 133).

of the Europeans with "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 is based on the way the new bureaucrats related to it: this was a type of knowledge that was to be "possessed," "known," not produced.

While the works of Seyyid Mustafa and Mahmud Raif from the beginning of the century remained isolated attempts, the number and impact of texts written with a similar perspective by the new bureaucrats continuously increased after the 1830s, consolidating the official discourse on knowledge and ignorance.

But 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 19th century: the Ottoman – English trade agreement of 1838, and the Imperial Decree of *Gülhane* in 1839 marking the official beginning of the Reorganization Era. The former was an economic turning point in that it basically turned the Empire into a free-trade zone for English merchants.[27] The agreement was signed by the Ottomans in return for much needed English aid in the Ottoman military campaign against the rebellious governor of Egypt, Mehmed Ali Pasha; but similar agreements would have to be signed with the other great powers soon afterwards. The result was an Ottoman market filled with cheap European imports dealing a huge blow to Ottoman manufactures. Added to the resultant social disruption was the emergence of a quite sharp social division of labor based on ethno-religious identity: non-Muslim communities within

[27] The text of the treaty may be found in Hertslet, ed. (1840 vol.5, 506-18).

the Empire (Greek, Armenian and to a lesser extent, Jewish) were able to seize the role of the middleman between Ottoman products and European merchants due to their religious and cultural affinities with the Europeans, thus assuming the shape of a bourgeoisie (Keyder 1987, 2008).[28] Imitating European bourgeoisie, they adopted life styles and consumption patterns that further alienated the already disenchanted Muslim community.

The Imperial Decree of 1839, on the other hand, involved the declaration that the Ottoman state would undertake a series of administrative reforms, the 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.[29] 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 the Muslim community that was losing its privileged position within the Ottoman Empire. The intention of the new bureaucrats to construct a common Ottoman identity that would transcend all religious identities and ideally help keep the Empire intact (commonly referred to as "Ottomanism") was considered an insult to the Islamic conception of order.[30]

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[28] It should be remembered that an Ottoman Muslim who spoke a European language was extremely hard to come by, even in the capital. Christian communities, however, had been in close contact with Europe for centuries. Wealthy Greek families in Istanbul, for instance, had started sending their children to Italian universities as early as the 17th century.

[29] The English translation of the decree may be found in Inalcık (1975).

[30] Probably the best-known example regarding the common Turkish perception of the new order is the words of a police captain to a Turk brought to the police station by a Christian whom he had called a

In sum, the Muslim population experienced the Tanzimat era as one in which non-Muslims were favored at their expense by the estranged bureaucrats of Istanbul. Further proof was provided by the everyday lives of the bureaucrats themselves: the life styles of top level bureaucrats increasingly resembled that of the non-Muslim bourgeoisie and the Europeans.

A. Science as the route to patriotism

It was in this context that a ground-breaking discussion on the "official" meanings of knowledge and ignorance was presented: a memorandum on the state of education within the Empire prepared in 1838 by the newly founded Council of Public Works the members of which were the new bureaucrats (Reproduced in Mahmud Cevad 2001, 7-11). The authors of the document stated at the outset that it was undeniable that "learning and knowledge" (*maarif ve ulûm*) was the basis of power and glory, as well as all the arts and industries (*sanayi ve hıref*) that generate wealth. Furthermore, just as religious sciences lead to salvation in the afterlife, the memorandum proclaimed, other sciences (*fünûn-ı sâire*) bring about the perfection of the conditions of mankind on earth (*muaşeret-i nev-i benî âdemin kemâline*). It was made absolutely clear 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

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"gâvu*r*" (infidel): "O my son, didn't we explain? Now there is the Tanzimat, a *gavur* is no longer to be called a *gavur*!" (Abdurrahman Şeref 1921, 73)

philosophers of the past, such as steam power."[31] These changes had made ignorance particularly detrimental: it would lead to impediments to trade, decline in industry, and, most crucially for the purposes of this dissertation, the ignorant could not "[truly] know the state they exist under the auspices of, and what love for the fatherland means."[32]

According to the memorandum, the Ottoman state had opened many schools and *medrese*s 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. Once again repeating the complaints mentioned in the sultan's decree of 1824 regarding the problem of parents preventing their children from getting a sufficient amount of elementary education, the memorandum stated that ignorant individuals, due to their lack of appreciation for what their state provided them with,[33] ended up useless both to themselves as well as to their nation.

The concluding section of the text is a scathing criticism of the state of elementary (religious) education, accompanied by the proposal that the teachers in elementary schools should to be inspected by public officials.[34] The established idea that elementary education should essentially be religious training was not challenged, but

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[31] (*hayret-dih-i hükema-yı eslaf olan vapur misillü bunca umûr-ı garîbe ve nâfia*)
That the report was clear about what it meant by "other sciences" (*fünun*) is important in that the words "fen" or "fünun" (pl.) continued in this period to refer also to "arts" in a broader sense. The school for public servants, for instance, was intended to teach, among others, "scribal arts" (*fünun-ı kalemiyye*). (Mahmud Cevad 2001, 23). This report, however, uses "fünun" in a more prestigious sense, treating them as equivalent to religious sciences.
[32] (*sâyesinde oldukları devletin ve hubb-ı vatan ne olduğunu bilemeyecekleri*)
[33] (*devletin ve ol suretle nail olduğu nimetin kadrini ... bilmeyerek*)
[34] (*mekteb hocalarının ahvâl ve derece-i malûmatları memurlar tayiniyle teftiş olunub*)

the aim appears to have been standardizing training and evaluation, and increasing the authority of civil servants in the organization of elementary education which was up till then entirely under the control of the *ulema*.

The proposals do not extend so far as to encourage the teaching of the sciences that the memorandum praises so passionately in elementary schools. Indeed, it appears that while the memorandum unambiguously states that it is the non-religious sciences that are required for welfare in this world, it also considers religious training fundamental for every Ottoman Muslim. Vocational education is a possibility only after a basic training in religious sciences and the study of books on ethics. This approach, of course, does not take away from the significance of the memorandum's assertions on science. Rather, it can be read as an initial attempt to combine the authorities of science and religion in order to create the desired type of subject. Somel (2001, 31) regards the two aspects of the report as the components of an unarticulated dual structure, one (i.e. pro-science) demonstrating the will for modernization, the other (i.e. religious) indicating the intent of "social disciplining." Yet the way science is characterized demonstrates quite well that the praise for science is closely related to its effect on the subject vis-à-vis the state: science not only enables the individual subject to generate more wealth for himself and his state, it also allows him to appreciate what his state provides for him, making him more patriotic. In sum, learning science makes one a useful individual and a deferential subject.

Furthermore, as Seyyid Mustafa's *Diatribe* 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 19th century suggest, Ottoman sultans in this period were interested in assuming the title "patron of education and science."[35] In this respect, learning science came to be considered as one's *duty* toward his sultan, the fulfillment of which made one a good subject. The ideas of science as *useful* knowledge, and knowledge that needs to be acquired as a duty toward the *state*, were clearly in the making in the 1830s.

B. Mustafa Sami: A Manifesto for Science

Another most passionate work on science from this period is Mustafa Sami's *Avrupa Risalesi* (Treatise on Europe) published in 1840, which provides us with a brief, but fascinating account of how a member of the new group of Ottoman bureaucrats analyzed the reasons behind European supremacy. We do not have any information about his early years and education, but Sami, like many other bureaucrats of the time, worked as a scribe in various civil offices and became a senior clerk (*hâce*) in 1833.[36] After his initial exposure to Europe 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.[37] Upon his return in 1839 he became the Minister of Postal Services and soon afterwards published his treatise.

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[35] More examples will be provided in the rest of the dissertation.
[36] Details of his biography are based on Fatih Andı's introduction in Mustafa Sami (1996)
[37] The Ottoman ambassador at the time was Ahmed Fethi Pasha (1802-1858). Raised in the Palace School and protected by Hüsrev Pasha, he became a military officer, and then Ottoman ambassador to Vienna. After his return to Istanbul, Fethi Pasha married the sultan's daughter. He not only occupied many high ranking posts during his career, but, inspired by his observations and experiences in Europe, he also founded several factories and became the chief organizer of the first Ottoman Museum where the imperial collections were exhibited. On his creation see Shaw (2003).

Mustafa Sami (1996) [1840] starts his treatise by indicating his purpose, which would become a recurrent theme in similar works published in subsequent years: serving the nation by making it aware of things of which it is ignorant. While he is cognizant of his own inadequacy and insignificance, Sami wants to share his observations and opinions in order to encourage greater scholars to express their own views, thus enabling hitherto unshared knowledges to be revealed. All he intends to do is serve his nation in this manner (Mustafa Sami 1840, 54).[38] The author's expression of humility is a well-established convention in Ottoman texts, but what is peculiar is the emphasis on "serving the nation" in a way rather reminiscent of the tone of the 1838 memorandum of the Council on Useful Affairs. The true patriots of the new era would be the ones who possessed useful knowledge and shared it, almost as a *mission civilisatrice*.

The inhabitants of Paris, according to Sami, are fond of pleasure and entertainment, but they are also morally fine, modest, patriotic, hard-working and keen on their honor – a view that was not congruent with established wisdom. Yet what impressed Sami most was the Parisian interest in learning that he generalized to all Europeans. Everyone in Europe was literate, even an ordinary porter or a shepherd; even the blind and the handicapped could study and make a living on their own (71-2). "Thanks to skill and learning," (*semere-i hüner ü marifet*) they discovered the true nature of all things, therefore they organize their lives accordingly and maintain their health. Literacy allows them to keep their accounts in order, their knowledge of

[38] (*milletime bir faide emelinden ibaret*)

mathematics and chemistry helps them to improve their crafts (73-75). 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 and smooth roads; their cities are well-planned and thanks to literacy and the availability of guide books, they are extremely easy to navigate; their postal services are efficient, and so on (76-78).

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 (78). Science begets science, thus,

> just as in our lands poetry became the basis of belles lettres,[39] in theirs ... the progress of geometry enabled the development 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. (79-80)

In his conclusion to this brief treatise, Mustafa Sami introduces yet another theme that would be very dominant in Ottoman debates on science: the sciences of the Europeans have nothing to do with their customs or religion.[40] In fact they are based on the sciences developed by Muslim Arabs, so science is "our true heritage" (*irs-i sahihimiz*). Hence, if it can once again be disseminated throughout Muslim lands,

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[39] The comparison between "our poetry" vs "their science" is a recurrent theme in Ottoman debates on science, which will be taken up in the next chapter.

[40] (*âyin ü mezheblerine dair demek olmayıp*)

there will be no need for the commodities Europeans produce, and, most strikingly, the people will "learn to appreciate the value of their fatherland and nation" (80-1). As a result, not only will the poor be protected, but hospitals for the needy will be opened, *medrese*s and dervish lodges will be built, and ruined mosques and bridges repaired, thus serving the afterlife as well.

Mustafa Sami's infatuation with science needs no elaboration. One fact worth noting is that, as he confesses at the end of his work, he did not speak any European languages. His impressions were entirely based on what he had heard during his time in Europe.[41] In this respect, Sami's views on Europe and the reason behind its supremacy are built more on what he had been told (perhaps by other bureaucrats at the embassy) than personal investigation. This, of course, may render them even more representative. Sami's allusions to some themes that had been gaining prominence in the official texts of this period, such as the idea of science as knowledge that enables one to appreciate his state, further indicate the commonness of his outlook. The flaws in his reasoning, such as the supposed link between the progress of algebra and the invention of the steam engine, the 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, bring about a rather fantastic picture of the development of science and its impact. It would, therefore, make more sense to consider Mustafa Sami's account as a mystification of science and its benefits, rather than a rigorous analysis of them.

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[41] (*lafzen tahkik edebildiğim mertebe*)

Sami's treatise certainly represents the viewpoint of this group of new bureaucrats, and accentuates its shortcomings: science was presented as the knowledge that the Empire needed more than anything, and it was the new bureaucrats that possessed this knowledge – or at least they were the ones who appreciated it, and that alone was enough to make them true patriots and *useful* subjects. Sami's brief digression after his discussion on the invention of lithography is telling in this context: as book reading gets more and more common, European states start to reward and respect authors who publish books and nobody's effort goes wasted (79).[42] Mustafa Sami most likely implied with this comment that his useful treatise certainly deserved such a reception.

Finally, while Sami has nothing but flattery for Europeans (which comes close to implying that they are even *morally* superior to Ottomans), at the end of his treatise he also attempts to appease those who could be offended by this admiration: Science does not belong to Europeans, it is the true legacy of Muslims.[43] Furthermore, the wealth generated by the application of science can help build and maintain religious buildings – 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 remark. Either way, it is clear that religion is entirely associated with the afterlife, in opposition to the worldliness of science.

Mustafa Sami's concessions would not suffice, however, as the fierce reaction to his work attests. The court historian Ahmed Lütfi writes that Sami attracted

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[42] (*müceddeden kitap te'lif eden ... kimesnelere layıkı vechile mükafat ve itibar edilerek ... ve hiçbir ferdin .. sa'y ve emeği heba olunmamasından*)

[43] This approach that would be elaborated in the following decades is discussed in Chapter 2.

"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. In his poem the young Üsküdarlı Hakkı Bey (1822-1895) referred to Sami as the "Devil-faced dissolute" (*facir-i iblis siret*), "the leader of the confounded" (*rehnüma-yı hâsirîn*), "the helper of the Zoroastrian and the Christian" (*destgîr-i gebr ü tersa*), "a gypsy in European clothes" (*kıbtî-i efrenc kıyafet*) who would face ruin in both this world and the afterlife (İnal 1939 vol.1, 1647). Hakkı Bey's poem was full of insults against Mustafa Sami that were rooted in the Islamic tradition, and he openly called him an infidel (*kâfir*). Praise for Hakkı Bey's attack came from older poets like Safvet (1794-1866) and Lebib Efendis (1785-1867). While Safvet commended Hakkı for being so truthful (*hak-gû*, a play on words), Lebib wrote: "You turned into hell all sides of the foe of the Prophet / Those fiery verses hit the enemy right in the heart" (İnal 1939 vol.1, 1647).[44]

Nonetheless, contrary to what might be expected, Sami's critics were not prominent *ulema*, but other bureaucrats. An examination of the particular positions the protagonists of the story occupied at the time sheds some light on the roots of this antagonism. Lebib Efendi had been appointed Minister of Quarantine in January 1840, but only two months later his office was given under the control of the Minister of Commerce, who, at the time, was none other than Mustafa Sami's patron, Ahmed Fethi Pasha.[45] Sami's *Treatise on Europe* was published four months later, in July

[44] (*Duzeh ettin dört yanın âda-yı fahr-ı âlemin / Düşmenin ta canına değdi o nazm-ı âteşîn*)
[45] On Fethi Pasha see n.37. In February 1841, Lebib would lose his post entirely and be sent to Izmir as the tax collector (*muhassıl*) by Fethi Pasha. For related archival documents, see BOA I.MSM 89/ 2559

1840. Safvet, on the other hand, had been Lebib's protégé since 1822 (Inal 1940 f.9, 1593). 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 true that the two groups had a crucial difference: Lebib had never been outside of the Empire, and the decline in the status of bureaucrats like himself within this period had caused them to fall out of favor, along with their protégés . Neither Ahmed Fethi nor Mustafa Sami spoke European languages, and they were not well-educated in the new sciences.[46] It appears that their past employment in Europe was the sole basis of their prestige upon 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.

The poet Ibrahim Hakkı, on the other hand, 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 expressed his disillusionment, and suffered a severe mental breakdown from which it would take him almost twenty years to recover.[47] Very similarly, Safvet's most famous poem, *Beranjer*, is founded on his comparison

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(03 Za 1255), CSH 18/896 (13 Za 1255), ISM 90/2569 (7 M 1256) , IDH 33/1580 (29 Z 1256), HAT 1423/58216 (29 Z 1256).

[46] Sami's comments in his treatise clarify his situation. Fethi was unable to speak French when he became ambassador to Paris (de Joinville 1895, 230-1. The author presents him as quite an awkward person to be an ambassador). He did speak some French according to Charles MacFarlane who met him ten years later, but knew next to nothing about issues he was interested in, like agriculture and manufactures (1850 vol 2, 161-4).

[47] For his biography and examples of his poetry see Inal (1932, f. 3, 481-6).

between his absolute poverty to the esteem with which poets are regarded in France (Inal 1940 f.9, 1598-9).[48]

Their poetic excesses aside, the works of Lebib, Safvet and Hakkı appear to represent a common perception, and indicate that the likes of Sami still constituted a minority with limited influence. His patron Ahmed Fethi Pasha collaborated with the chief architect of the Tanzimat edict, Mustafa Reşid Pasha, and Mustafa Sami was appointed as the director of the Imperial Press. Yet, according to the official historian 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."[49] This seems to have been quite costly for Mustafa Sami, as his career afterwards 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 (Tanpınar 1956, 125).

C. Ottoman "Men of Science": "The Men of the *Tanzimat*"

The emergence of new bureaucrats advocating similar views to Sami, albeit not always as passionately, proved an unstoppable process. The new schools such as the

[48] Rather significantly, we see the names of Lebib Efendi and İbrahim Hakkı among the members of the Council of Poets (*Encümen i Şuara*): an informal group of classicist poets formed in 1861. Meeting regularly to discuss and recite poetry, all members of this council were civil servants, with ties to dervish lodges or religious orders. Despite certain novelties they embraced, their main inspiration was classical Ottoman poetry (Çeçen 2006). Among the members also were three young men by the names of Namık Kemal, Ziya and Refik - founders of the Young Ottoman movement that will be discussed in chapter 2. Suffice it to say here that these young and fierce critics of the Tanzimat elite were, similarly, disillusioned lower ranking bureaucrats (Mardin 1962).

[49] (*önüne gelene usul ve âdat-ı melûfeyi zem ve takbih, ve Avrupa'nın adetlerini ezcanü dil nakil*)

school for civil servants (*Mekteb-i Maarif-i Adliye*), the Military School and the School of Medicine, as well as the Translation Bureau and the Ottoman embassies in Europe continued to produce new officials whose power was incomparably more than their still quite low numbers would suggest. Among the most influential of these bureaucrats were Reşid, Ali and Fuat Pashas, whose names symbolize the Tanzimat era as a whole. Mustafa Reşid (1800-1858), who represents the new century of the Ottoman Empire even with his year of birth, briefly studied at a *medrese*, but he was essentially an autodidact. He entered government service thanks to family connections, and standing out as a particularly gifted official, he rose rapidly and became the Ottoman ambassador to France in 1835, and then to England in 1836. He returned to Istanbul in late 1837, as the new Minister of Foreign Affairs.

It is interesting that the report Reşid Pasha presented to Mahmud II upon his return resembles nothing so much as a list of European expectations. He 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 tax-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" (Reproduced in Kaynar 1954, 91-92).

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 Findley (1980, 137) 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.

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 upon those expectations in ways they themselves saw fit. Indeed, all the suggestions in Reşid's memorandum would be realized within the period of reform (the Tanzimat era) that started with the Imperial Decree of 1839, a document prepared by Mustafa Reşid Pasha.

Abu-Manneh (1994) demonstrates, however, that the Decree was not considerably different in tone or even in most of its content than traditional Sunni Islamic texts that portrayed justice and law as the source of strength and prosperity for the state. Reşid himself had some religious education; his mentor Pertev Pasha was an orthodox Sunni, and the orthodox Naqshbandi – Mujaddidi order was particularly popular in Istanbul at the time, influencing the new sultan Abdülmecid II (reigned 1839-1861) as well. Hence, combining ideas that would appease the European powers with Islamic political theory, the document identifies the negligence of the Shari'a as the reason for the problems Ottomans faced, and while it indicates the importance of justice and basic rights, it is written from an entirely state-centric perspective. But as the response

to the Decree attests, this was sufficient for European audiences and Reşid came to be seen as a rare specimen of the "enlightened Oriental statesman."[50]

Security of life and property in addition to the centralizing policies of Mahmud II 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 a degree of self-confidence that could not have been possible for their predecessors by any means. For instance, Reşid Pasha was able to tell the British foreign secretary Lord Palmerston that sultan Mahmud II "had no knowledge whatsoever of the skills needed in administrating the affairs" (quoted in Mardin 1962, 110). A contemporary observer argued that the sultan's power was more than balanced by that of the "machiavellian" new bureaucrats who, thanks to their relatively superior erudition and practical experience had usurped the state, turning imperial authority into "but a phantom" (Millingen 1868, 256-8).

As Ottoman statesmen faced the reality that the survival of the Empire depended on navigating and exploiting the balances of power in Europe, the Ministry of Foreign Affairs became a most prestigious post, and ultimately, a stepping stone to the Prime

[50] Siyavuşgil (1940) discusses the positive reaction of France, even though Reşid's backers were mostly the British. Interestingly, Auguste Comte sent Reşid a letter in 1853 praising him for the reforms he helped enact and inviting him to his Positive Religion. Comte indicates that the East, due to the simplicity and practicality of Islam, could embrace the Positive Religion more easily than the West. Another significant comment of Comte in his letter is that an inspiration for him while developing this new faith of Humanity was that both Muslims and Christians had contributed to science simultaneously, despite their numerous divergences. Reşid probably was not impressed by Comte's suggestion that embracing his Positive religion and learning the sociological laws would help the Ottomans "to repudiate a vain political unity and ... cease to grieve over the necessary dismemberment of their empire." (Auguste Comte *Système de politique positiviste ou traité de sociologie*, Paris, 1853, t. 3, pp. XXIX-XLVI).

Ministry. The bureaucrats occupying these posts tended to have diplomatic experience, and they frequently interacted with European diplomats and visitors in Istanbul in European fashion, thus impressing them immensely. The American author Edwin de Leon (1872,610) praised Reşid Pasha stating that "[b]oth in intellect and character [he] looked less like an Oriental than any Eastern man I have ever seen... No more prepossessing man, no more subtile statesman, no more accomplished diplomat could be found in the ranks of the corps diplomatique than this representative Turk." In the obituary published for Fuad Pasha on 16 February 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."[51]

Safvet Pasha, another top bureaucrat who 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."[52] At a later age, he 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

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[51] Also see the 13 July 1863 edition for a description of a feast given by Fuad Pasha where the author states: "Not longer than 10 or 15 years ago any Turkish Minister of an eccentric turn who would have had the temerity to throw his house open for the reception of the European community of both sexes, who would have tolerated under his roof the amusements of an European ball-room would have been branded as a giaour (*infidel*)... In the present day how different seems to be the public feeling!"
[52] *Proceedings of the American Oriental Society* 1884, p.cxc.

cherishing the memories of the things I would have been able to see during that time." (Dated 7 September 1874 / 25 Receb 1291, Reproduced in Pakalın 1943, 101).[53]

Another example is Halil Şerif Pasha (1822-1879) who was also educated in Paris and was let down when he was appointed Ottoman ambassador to Athens, rather than Paris as he expected. Ali Pasha wrote him a letter teasingly comparing Athens to Paris where he stated, however, that he could not "believe that there could be on earth a more moving and more seductive song than the *Marseillaise*" (Quoted in Davison 1999, 83). The allure of Paris for young Ottoman bureaucrats is clarified by another letter Ali sent to Halil Şerif, this time when he was appointed to St. Petersburg: "[I]t 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" (Quoted in Davison 1999, 83).[54]

These high ranking bureaucrats exhibited another novelty: they relied on steady incomes paid by the state, instead of fluctuating land revenues. Upper ranking bureaucrats had rather high salaries which they spent in the capital, and their consumption patterns differed widely from their predecessors as well as that of the other groups within the Empire (Fatma Aliye 1995, 79-82; Göçek 1996, 81; Karpat 1985, 93). They were increasingly more interested in European goods, particularly those that had a strong symbolic value in terms of "Europeanness," such as pianos,

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[53] See also pp.102-114 for more examples regarding his appreciation of Europe as well as his *bon vivant* life.

[54] Halil Şerif, who was independently wealthy, later settled in Paris on his own and became a flamboyant figure in French high society as well as a patron of the arts which made him particularly well-known. He commissioned from Gustave Courbet a set of paintings including the infamous *L'Origine du Monde* (1866), a most candid nude that would end up in Jacques Lacan's collection in 1955. On Halil Şerif see Türker (2007).

and they liked to frequent the quarters of Istanbul where non-Muslims and Europeans lived.[55]

The builders of the official discourse on science were thus members of a new group of statesmen who appeared increasingly more alien to the Muslim community. But while this divergence certainly led to the popular view that the new bureaucrats were irreligious admirers of the infidels, Islamic references and moral concerns never disappeared from the official discourse on science, knowledge and ignorance. The "men of the Tanzimat" emphasized moral duties and responsibilities in order not only to strengthen their authority, but to portray themselves as the truly moral ones. The link that was gradually forged between the new type of knowledge and morality both legitimized the rule of the new bureaucrats – as it meant that they were not only knowledgeable but just and patriotic, rather than "infidel" – and indicated that the people should also possess the basics of the new knowledge and become moral, in the sense of obedient servants of the state the meaning and value of which they would understand better thanks to their basic education.

We see the best presentation of this approach in the works of Sadık Rifat Pasha (1807-1856), a collaborator of Reşid, who became the Ottoman ambassador to Austria in 1837 after a series of scribal posts. He wrote about his observations in Europe as well, and the things he discusses admiringly in those texts constituted the themes of the petitions and treatises he wrote about reforming the Empire. He stated overtly that

[55] The number of Europeans particularly in Istanbul steadily increased in the early 19th century. Most common among these were merchants and middlemen, among the foreign residents of Istanbul were also orientalists, artists, travelers and authors. Many members of the literate elite interacted with them, but as I will show in the next chapter, the "Europeanized" manners of these individuals – including those who had not been abroad – were commonly condemned in literature and the press.

European interference in the affairs of the Ottomans should not be condemned, as "in state administration it is required to abide by the temperament of the times and conditions. It is impossible to ... have the times conform to us" (Sadık Rifat 1873-6 vol.V, 23). Hence, the Ottomans had things to learn from the Europeans, such as the way civil servants should be treated. Indicative of the ambitions of bureaucrats like himself, he stated that the position of civil servants within the state mechanism should be clarified as in European states, that they should retain the rank that corresponded to their office even after they had been dismissed and new appointments should be made according to the rank of the officials (Sadık Rifat 1873-6, vol.IX, 11-14). In short, the commendable services of the bureaucrats should be given their due.

Rifat praised Austrian schools, the science classes in their curricula and their combination of the theoretical and the practical as well (Sadık Rifat 1873-6, vol.I, 7). 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 (*tebaa ve milletin*) and their acquisition of the needed knowledges (*ulûm-ı lâzıme*). ..[I]gnorance 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 liberalism, 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. (Sadik Rifat 1873-6 vol.VI, 45)

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

Sadık Rifat Pasha was not the only bureaucrat of the period concerned with the preservation of the social order and the dangers of disobedience. During a conversation on slavery while he was in Paris, Ahmed Fethi Pasha 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" (Wanda 1884, 265).[56] 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" (Mardin 1962, 111).

The new bureaucrats were enamored by what they called the civilization[57] they had observed in Europe. The curiosities they witnessed, which they labeled 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 upon. 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 type 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 disrupt social order in

[56] "Il vaut mieux pour le bonheur de tout le monde que chacun reste à sa place, c'est le plus sûr moyen de ne point mourir de faim et de ne point éveiller de vilaines passions."
[57] The word "civilization" was one of the first European words imported directly into Ottoman Turkish and remained in use until a Turkish word was coined. Sadık Rifat Pasha was the first person to refer to European "*sivilizasyon*." (Sadık Rifat 1873-6, 5-6).

ways they had observed in Europe.[58] The outcome was the representation of "new knowledge" with an emphasis on its certainty, which is simply to be learned from books, just as religious sciences were learned in the *medrese*s. 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: a sufficient amount of properly understood "new knowledge," coupled with an understanding of "one's place" that should not be challenged, i.e. the combination of "their" science which is in harmony with, and further complemented by, "our" morality.

It is in this respect not surprising that Sadık Rifat, the devotee of "*sivilizasyon*," is also the author of a textbook on morality, the *Risale-i Ahlak* , first published in 1847 and used in both Qur'an schools and the new elementary schools as a required book until 1876 (Somel 2001, 62). 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 (Sadık Rifat 1873-6, vol IX, 60).[59] The authority of the teachings is thus rendered almost 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

[58] Ottoman bureaucrats were terrified by the social upheavals they had witnessed. Mustafa Sami, the author of the Treatise on Europe, for instance, wanted to resign from office at the Berlin Embassy after the events of 1848 (BOA IHR 45/2092, 04 Ca 1264). Sadık Rifat Pasha was a close admirer of Metternich and his policies for retaining social order (Mardin 1962, 186-7).

[59] (*dince ve akılca farzdır*)

hope to educate and be useful to the people and thus, to be properly respected (Sadık Rifat 1873-6, vol IX, 60).

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.[60] But Sadık Rifat was even clearer in the supplement he published in 1857. His *Zeyl-i Risale-i Ahlâk* starts with a blunt proclamation that obedience to religious commands and the sultan are the prerequisites of being considered a moral individual (Sadık Rifat 1857, 2). This volume also contains a section on knowledge where Rifat commends the new developments in the sciences and arts, and, as a consequence of these changes, the imposition of "beneficial laws and useful regulations" (15).[61] 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 upon all men, and, as a result, science does not belong to a nation, it is the common property of humanity (16). Hence, scientific knowledge may and 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 that truly understand the nature of science and its benefits, according to Sadık 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

[60] For a brief summary and analysis of the text see Somel (2001, 62-63).
[61] (*kavanin i nafia ve nizamat ı hayriye*)

better of everything is the most esteemed privilege of being human, everyone should strive to learn what he does not know" (16). By identifying "ilm" with the sciences he discusses so passionately, Rifat simultaneously imagines ignorance as the lack of knowledge pertaining to those sciences. Furthermore, when "knowledge" becomes "science," all the virtues associated with being knowledgeable can be ascribed to those who possess scientific knowledge, i.e. knowing about geology implies moral soundness as well. [62]

Sadık Rifat also noted that sciences and arts enabled individuals to make a living without demanding aid from the state (17). 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" (18). Not everybody should be a civil servant, one could earn his life as a locksmith as well. Indeed, as Rifat states at the outset that he wrote his book exclusively for those who would become civil servants (3), it appears that those on state service should be allowed to know the intricacies of science, but the rest should also get the "right dose."

While the authority of Reşid and Rifat Pashas gradually waned particularly after the 1850s, the most influential "men of the Tanzimat," became Ali and Fuad Pashas, as the posts of the Grand Vizier (prime minister) and the Minister of Foreign Affairs alternated between these two former disciples of Mustafa Reşid Pasha for fifteen years. Like Reşid, Ali (1815-1871) was trained during his clerkships in his youth, but it was after his years at the Translation Bureau that he rose very rapidly and was

[62] Conversely, Hanioğlu (1995, 12) refers to this text on ethics as reminiscent of the "cold-blooded strain" in European thought that did not base its analyses on moral values.

appointed to posts in Europe. In 1836 he was at the Ottoman embassy in Vienna, under Ahmed Fethi Pasha, where he learned French. Five years later he became the Ottoman ambassador to London, at the age of twenty-six. Yet another five years later he was the foreign minister, and at the age of thirty-seven he became the Grand Vizier for the first time. Fuad (1815-1869), on the other hand, was the son of a high rank statesman, and was a graduate of the Medical School. Yet thanks to his fluent French, he also transferred to bureaucracy and entered the Translation Bureau, which, in the usual manner, was followed by diplomatic duties in Britain, Spain, Russia and France. At the age of thirty-seven, he was the foreign minister under Grand Vizier Ali Pasha. But before that, Ali and Fuad had worked together as members of the Council of Public Education in 1846 which established the foundations of the Ottoman Ministry of Education.

The process started in January 1845 (Muharrem 1261) when Sultan Abdülmecid II issued an edict complaining that despite his strongest will, the condition of his subjects and his lands had not been substantially ameliorated save the improvement of the military. [63] He stated his disappointment with his top bureaucrats and argued that the fundamental solution to the Empire's problems was the "elimination of the ignorance of the subjects in all issues, religious and worldly." What was needed was new schools which were "the origin of knowledge and science, and the source of arts based on learning."[64] Abdülmecid's blunt distinction between the religious and the worldly as

[63] It was probably Reşid Pasha who encouraged the sultan to issue this edict according to Somel (2001, 37).
[64] (*memba-i ulûm ve fünûnun ve mehaz-ı sanayi-i maarif-nümun*)

far as knowledge is concerned 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. His emphasis on "knowledge-based arts" also indicates that instruction in the professional schools he envisaged would not have anything to do with religion. It would be reasonable to conjecture that Abdülmecid also recommended a system that was based on elementary religious training that would later be followed by "worldly knowledge" and vocational education.

The Provisional Council (*Meclis-i Muvakkat*) that was formed in order to deliberate on the issue of education after this edict was formed of one chair, six members and one secretary. Four members including the chair were *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.[65]

[65] The chair, Melekpaşazade Abdülkadir Efendi was a regular at the meetings of the Beşiktaş Scientific Society (*Cemiyet i İlmiyyesi*): resembling a *salon*, this was a regularly-meeting group of well-educated *Ulema* with mysticist leanings such as Şanizade Ataullah and Kethüdazade Arif that discussed the scientific developments in Europe in addition to subjects like literature and philosophy. Kethüdazade is known to have argued that: "A thosand and so years ago the ancients wrote so many books ... [that were forgotten afterwards] Then the Franks studied these books and furthered science. All the factories, steam engines, machines, wheels are thanks to science. The Franks both study the sciences and implement it practically. Their states aid those who perform experiments... With us, the practice is ignored even if the knowledge is studied..." (Emin 1877, 219). For the Beşiktaş society see İhsanoğlu (2004). Another member, Esad Efendi was the court historian in the 1820s, and the chief editor of the official gazette at its establishment. The remaining two members, Arif Hikmet and Mehmed Arif Efendis, were future şeyhülislams. The careful selection of the representatives of the *Ulema* indicates the goal to create a council that would be hospitable to reform.

In a report dated 21 July 1846 (27 Receb 1262), the Provisional Council recommended a similar logic to the one indicated by Abdülmecid: Schools of elementary levels (*sıbyan* schools and *rüşdiye*s) should be devoted to the religious sciences that are essential for everybody. Secondly, a *Darülfünûn* ("House of Sciences", i.e. a university) 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."[66] No science would be neglected by this University, and its students would "strive to earn and achieve maturity under the enlightening auspices of [the sultan]"[67] (Reproduced in Akyüz 2001, 28). These measures were of utter importance as education was defined as the basis of prosperity. Moreover, the ignorant were *dangerous*: "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" (Akyüz 2001, 43).

What is conspicuously absent from this document that addresses the issue of higher education as well is the status of the *medrese*s. As it was specifically mentioned that the proposed University 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 religious realm. Additionally, the document refers to the future students of this new institution as the *talebe-i ulûm*, literally, students of knowledge

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[66] (*kemâlât-ı insaniye etmek için kaffe-i ulûm ve fünûnu taallüm ve iktisaba hâhiş-ger olanlara ve aklâm-ı pâdişâhide istihdam arzusunda bulunanlara*)
[67] (*sâye-i füyûzatvaye-i cenâb ı şâhânede iktirâf ve iktisâb-ı kemâlâta sây ü ikdâm*)

(*ilm*), which was the term traditionally used for *medrese* students. Yet another aspect of the document is its strong emphasis on the connections between the learning of the sciences and knowledges and being virtuous: ignorant people not only are unaware of the meaning of patriotism – a phrase which 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 University are described as those who would thus achieve "kemâlât": a concept that entails both knowledgeability and morality.[68]

Once again, what we observe is the transfer of a concept related to the acquisition of religiously significant knowledge to "all knowledges and 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." Virtuousness, 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 University are those who would be appreciated both by God and the state.

The permanent Council of Education which was formed soon afterwards exhibits a different composition in that it had only one member from the *Ulema*. In order to

[68] According to *Kamus-ı Türki*, "kemâlât" was commonly used to refer to "being perfect with respect to knowledge and morality." ("kemal" p. 1182)

replace the three members of the *Ulema* who had left the Council (one died, one became the Şeyhülislam, and another was assigned to another post), new members, including Ali, were introduced from the bureaucracy and the Council's supervisors became Mustafa Reşid and Sadık Rifat Pashas: the realm of education was being monopolized by civil officials with European or on-the-job non-religious training. The head of the newly established Ministry of Public Schools (*Mekatib-i Umûmiye*) would be Esad Efendi, the only *ulema* member of the Council. Yet one year later he was removed from office and became the chair of the Council. Replacing him was another, but much younger member of the *ulema*, Kemal Efendi, who had had disputes with Esad in the past (Inal 1938 f.5, 812). In a memorandum dated 25 December 1847 (17 Muharrem 1264) Mustafa Reşid Pasha stated that Esad Efendi, as the minister, did not enjoy working according to the resolutions of the Council and preferred to act independently, and, moreover, his health did not allow him to work intensely. As a result the post of the Minister should be given to someone who would "do whatever is instructed, take it up as his own personal task." (Reproduced in Berker 1945, 25). Kemal did not fail Reşid Pasha thanks to his enthusiastic involvement in educational reform.

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 11 February 1851 (9 Rebiülahir 1267) that the attainment of prosperity and

civilization was founded exclusively (*hasren ve kasren*) on the spread and growth of the various sciences (*fünûn*), and this could be achieved only by the endless support of the state (Cevdet 1967, vol.4, 47). Indeed, according to the report, history proved that those states that strived 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 knowledges to shed its light over eastern lands" and many books on the "needed sciences of the day" had been written by Ottoman authors.[69] However, the authors had ignored Turkish, and preferred to compose their works in Arabic or Persian, "in order to demonstrate their brilliance."[70] Furthermore, they had devoted most of their effort on "poetry and belles lettres, which is [but] one branch within the totality of the sciences" (47).[71]

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 an unprecedented progress had been observed in the realm of education. Due to this

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[69] (*âfitâb-ı ulûm ü fünûn memalik-i şarkiyede pertev-endaz olup*), (*ol vakte göre lâzım olan fünûn ü maarif*)
[70] (*arz-ı kemâl zımnında*)
[71] (*külliyat-ı ulûmun bir fer'i olan şi'r ü inşâya*)

speedy development, no time should be wasted until the opening of the University, and the production of the required textbooks should be the responsibility of a new Ottoman Learned Academy, the *Encümen-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 (48).[72]

We observe in this memorandum further, and 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, and 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, and in this respect, the Council's report serves as an invaluable indication of how the discussion on science made it inevitable to face the question of which subjects of the sultan were the intended addressees in the final analysis.[73]

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[72] According to *Kamus-ı Türkî*, the phrase "Encümen-i Dâniş" which literally means "Council of Learning" was intended as the equivalent of "Academy" ("dâniş", p. 600). Some sources translate the name as "Academy of Science(s)" into English or as "Bilim Akademisi" into modern Turkish (Hanioğlu 2008, Göçek 1996, Bilim 1985) but the current meanings of these words fail to capture the range of fields the Academy was expected to study. Conspicuously, foreign authors referred to *Encümen-i Dâniş* as "Academy of Science and the Belles Lettres" (Porter 1854, Heuschling 1860) or "Society for Advancement of Turkish Literature" (The Smithsonian Institution 1872).

[73] The version of the memorandum published in the official gazette emphasized that works on arts and sciences should be in a language that "common people" (amme-i nas) can understand, and thus make use of. It is also much clearer in terms of its description of the transformation of knowledge: "Science and knowledge changes with the passing of time and grows with the amalgamation of ideas. In each era

While "poetry and belles lettres" are defined as a branch of science, they are also implied to be useless and outdated in the memorandum. The works of the old masters are praised, but it is also noted that they are not necessarily useful and valuable in the new era, as each period has its own sciences and arts. This is of course an indication of the internalization of a conception of linear progress by the bureaucrats that composed the report, and an attempt to re-write 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 science is characterized as a "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" which would gradually become more and more common.

Şeyhülislam Arif Hikmet Efendi, a former member of the Provisional Council, declared his office's positive opinion about the new institution, and the Academy was opened on 18 July, 1851 (1 Şaban 1267). In his brief opening speech, Mustafa Reşid Pasha 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 towards happiness and well-being in both this world and the afterlife" (Cevdet 1967, 56). Note the connection between knowledge and science, and humanity and virtuousness.

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the producers of ideas demonstrate different skills and arts, and the most precious fabric of science and knowledge is embellished with a different pattern each day. Hence, in each period, it is required to spread the needed sciences and knowledges [of that period]" (Akyüz 1975, 50).

Cevdet Pasha, 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 (54).[74] Cevdet was also specific about what different types of sciences were needed for: 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 (*hikmet-i ilâhiye*) and found pleasure in poetry and belles lettres.

It is interesting that his speech on the need for and the benefits of knowledge gradually transforms into a discussion on language. "It is the sciences and knowledges it encompasses that bestows honor upon a language," Cevdet argues, and proclaims that languages do not acquire distinction unless literary and scientific books are written in them (55).[75] Hence, the importation of science was simultaneously a means through which the Ottoman language would be reconstructed and redefined. 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

[74] (*sâmân ve intizâm-ı ahval-i enâm ve hüsn-i muâşeret-i havâss u avâm... garâib-i umûr ve sûret-i asayiş ü huzûr*)
[75] (*lisana şeref veren şâmil olduğu fünûn u maarifdir*)

serve the progress of the language" (Reproduced in Akyüz 1975, 54).[76] The books to be published by the Academy would be in "âdi Türkçe," or plain Turkish, so that everybody could understand them. In this respect, the "new sciences" were declared not only the useful ones, but the ones that common people would understand, as opposed to the "old sciences" that remained esoteric, as they were in Arabic. While it could not have been the intention of the authors in this era of "Ottomanism" that entailed the construction of an Ottoman identity that would transcend all religious and ethnic identities, the document thus implied the construction of an association between the Turkish language and the new sciences. This association would become a fully-formed and explicit one 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 the aim to resemble a European-style academy of science for which the nationality or religion of the members would not matter. It is true that of the 73 members only 16 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 12 non-Muslim Ottomans, three Europeans were also among the founding members of the Academy: the orientalists James Redhouse, Thomas Bianchi and Joseph van Hammer. Later, the American orientalists Edward E.

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[76] (*lisân-ı türkîde fünûn-ı mütenevviaya dair lazım gelen kitapların teksîrine ve lisân-ı türkinin ilerülemesine hizmet*)
While the Academy encouraged translations, it also declared that those who wrote an original work that would produce something new within a particular science and thus be "tremendously beneficial to the state and the nation" would be awarded the highest rank. (Akyüz 1975, 56).

Salisbury and Charles Johnson joined as well, and the Smithsonian Institute, under the directorship of Joseph Henry, sent the Academy eleven books as a gift in return for a book on the church of Hagia Sophia donated by the Academy.[77] 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.[78]

Despite the initial enthusiasm and the cosmopolitan attitude, the Academy was rather short lived – its name disappeared from official almanacs after 1862 (Akyüz 1975, 29).[79] The books that have been presented to the Academy within this period include a number of translations and original works on European and general history, in addition to a translation of Buffon's *Histoire Naturelle* (Tanpınar 1956, 115). Cevdet's *History* that was commissioned by the Academy but completed only in 1892, and Cevdet and Fuad's co-authored work on Ottoman Grammar (Kavaid-i Osmaniye) are the more celebrated works associated with the Academy, however.[80]

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[77] BOA DVN DVE 21/28 (8 C 1271), IHR 118/5800 (20 C 1271), 108/5361 (21 C 1271), AAMD 75/13 (1273), AAMD 75/13 (1273); AAMD 79/12 (1273); IHR 145/7667 (15 Z 1273); IHR 184/10237 (4 Za 1277). I contacted the Smithsonian Institute as well but unfortunately the staff was not able to locate any documents regarding the correspondence with the Ottoman Academy

[78] Proceedings of the American Oriental Society, Prepared from the Records, 1849-1850. The new bureaucrats certainly embraced the "universality" of science: When he was minister of education in 1874 Safvet Pasha promptly had the pieces of a meteor that fell in Vidin brought to Istanbul and then sent to France to be examined at Ecole des Mines. BOA MF MKT 18/124 (16 Ca 1291); MF MKT 19/117 (14 B 1291). Also see Daubrée, G.A. "Note sur un metéorite tombée le 20 Mai, 1874, en Turquie, á Virba près Vidin" *Comptes Rendus LXXIX* pp.276-7.

[79] This date is provided by many sources as the year the Academy disappeared. But there are at least two documents in the Ottoman Archives from later years that refer to the Academy. Furthermore, in Smithsonian's publications, the name of the Ottoman Academy continues to appear in the list of foreign institutions the organization has relations with, even in 1903. It is true that the Academy was rather marginalized by 1862 but clearly more research is needed to shed light on the question.

[80] A copy of *Kavaid* was sent by Fuad to the American Oriental Society as well.

Another work that stands out among the products of the Academy is the first book on geology in Turkish: *Ilm-i Tabakat-ül Arz*, based on translations of sections from de Beaumont's works and published in 1853 (1269). The translator Mehmed Ali Fethi, a member of the Academy, was from the *ulema*, and he had translated the work from an Arabic translation. 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. Ali Pasha, for instance, wrote that the "noble science" (*fenn-i hatîr*) this new book contained had not been discovered in the "land of Turkish language" as yet, resembling an unnoticed mine that had been left under the earth. Hence, Fethi's translation was full of benefits (Mehmed Ali Fethi 1853, 2). Mehmed Pasha, the Chief of Staff, defined geology as a "grand science that brings many profits" (*fenn-i celîl-i sûd-âver*) 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 people involved with it was well-known (*ulum ve erbabı hakkında*) (3). Fuad Pasha also congratulated Fethi for his contribution to the "gems and glories of learning" (*cevâhir i zevâhir i maarif*) that had come out during the reign of the sultan – a time characterized by learning (*zamân-ı maarifnişân*) (6). Finally, the future minister of education Subhi Bey thanked the translator for introducing into Turkish language such a "new science" (*fenn-i cedîd*) with abundant uses and expressed his hope that more "useful works" of this kind would be published thanks to the sultan (7).

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.

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 (1953, 13) notes that Academy memberships, just like posts within the bureaucracy and the high *ilmiyye*, were based mostly on personal relations rather than merit, and resentful ministers and bureaucrats who were not allowed to be a member interfered with the efforts of the Academy.[81]

Cevdet Pasha's remarks can certainly be seen as potentially subjective, yet it is critical that even though 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

[81] Among the chief adversaries, according to Cevdet, was Ahmed Fethi Paşa, who had been a close ally of Reşid until the establishment of the Academy.

bureaucrats of high rank (Akyüz 1975, 28). 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 *Mühendishane*, and a student of Ishak Efendi. Following his graduation, he was sent to London in 1834 to further his training and assume a professorship at the Military Academy upon his return. 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 Military School. In addition to numerous general volumes and dictionaries on physics, chemistry, medicine, he bought collections of scientific journals, laboratory instruments and fossils (Günergun 2002). In the decades following his return, he assumed many different posts including professorships at the School of Medicine and the Military Academy, diplomatic envoyships on numerous occasions, ambassadorship at St. Petersburg, and the Ministry of Education. In this respect, Derviş Pasha was a typical member of the new generation that were able to take up many different but always prestigious roles thanks to the new type of education they received. The historian Ahmed Lütfi, 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 a training within that profession itself. (Lütfi 1984 vol 9, 157) [82]

Derviş's book on chemistry, the *Usûl-i Kimya*, is introduced by a preface with a strong Islamic tone, and the author, following the classical Islamic model, classifies philosophy (*ilm-i hikmet*) into the theoretical and the practical branches with metaphysics/theology, a theoretical branch (*ilm-i hikmet-i ilahi*), 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."[83] Chemistry, being one of these sciences, helps "the acquisition of the new industries and the bringing in of numerous benefits" (Derviş Pasha 1848, 3). 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 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" (5).[84]

Derviş bases his defense of chemistry on an Islamic categorization, but emphasizes the independent worth of "mathematical and natural sciences" for the production of

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[82] "*Müşarünileyhin Petersburg sefareti gibi en nazik ve mühim bir memuriyyetin intihabına sebep bir aralık Avrupada tahsilde bulunması kaziyyesi olsa gerektir. Lakin yalnızca sathice Fransızca bilmekle böyle memuriyyete tayin olunabiliyor mu? Sefaret memuriyyeti fenn-i sefarete vukufa, bu vukuf ise yolu ile o meslekte yetişmeye mevkuftur.*"
[83] (*ıstına'-i bedayi'-i makbule ve ihtira'-i sanayi-i mechule*)
[84] (*tahsil-i ulum-i külliye ve maarif-i cüz'iyye ile iktisab-ı saadet-i diniyye ve dünyeviyye eylemeleri*)

"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 reach bliss in the afterlife as well. Whether Derviş was sincere, or if his approach was simply an attempt to appease skeptical readers is not a relevant question, 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 of Islam. But equally important is that their new skills were the essential bases for distinction for Derviş's generation. Most tellingly, the copy of his *Usûl-i Kimya* that I examined at the library of the Turkish Historical Association in Ankara was an autographed copy, signed by the author for Edhem Pasha, a former student of the École des Mines, in French, rather than Turkish.[85]

[85] Derviş's autograph, where he spells his name in the French way as Dervisch, reads "Á son excellence Edhem Pacha, souvenir de l'auteur." Edhem Pasha, a renowned statesman of the second half of the 19th century, was a member of the first group of Ottoman youths sent to Paris for education..

V. Conclusion

The first half of the 19th century witnessed the formation of a new elite in the Ottoman Empire, with a new kind of cultural capital that they were able to convert into statist capital. Many members of the higher ranking *ulema*, aiming to maintain their position, allied with the new group, however, 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 *ulema* sanctioned. It was useful knowledge that rendered subjects productive, and enabled them to understand and appreciate the state that protected them. This characterization involved the portrayal of the new knowledge as simply facts to be learned, that showed the learner the true order of things.

But this period also entailed significant legal and economic changes that utterly disappointed the Muslim community, and led to the perception of the new bureaucrats as snobs who adored and humbly obeyed European powers, rather than defending the dignity of the Empire. In order to counter this representation, the official discourse appropriated traditional 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 traditional concepts such as “ilm.”

It was also in this period that the new knowledges started to be associated with the “language of the people,” i.e. Turkish, and the old (religious) sciences with Arabic. While this was an outcome of the efforts to centralize education and bring it under absolute state control and 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 that emerged in the first half of the 19th century would flourish and become more explicitly discussed in the following decades when new outlets emerged for the articulation of alternative discourses.

CHAPTER 3

1850-1878: PROLIFERATION, CONSOLIDATION AND REACTION

I. Introduction

The first half of the 19th century thus witnessed the emergence of a new elite group, the members of which justified their claim to state authority by referring to a special, new type of knowledge that they possessed. Even when the actual amount of knowledge they had was admittedly scant, they emphasized that what truly distinguished them from the "ignorant" was essentially their awareness that this new type of knowledge should be respected and imported. One did not need to know much about chemistry to be a member of this rising class, it sufficed to have some basic familiarity and acknowledge that chemistry was indisputably beneficial. If one wanted to save the Empire, one had to be aware that the Europeans dominated the world thanks to this new knowledge they produced; those who were too ignorant even to admit this fact could not be fit to govern. This awareness, in turn, was bestowed only upon those who had spent time in Europe and/or could speak European languages – French, in particular. As Appendix 3 illustrates, experience in Europe was almost a prerequisite for becoming the Ottoman Minister of Education in the 19th century, up until the 1890s.

Moreover, the new knowledge produced by the Europeans was also one that made people appreciate and support their state; learning a sufficient amount of science

would make Ottoman subjects well-mannered, hard-working individuals. Familiarity with the new types of knowledge would lead to patriotism.

In other words, what we observe in the texts of the early 19th century, is the gradual emergence of associations between the new types of knowledge and both *good* subjecthood and *good* rulership. In the Ottoman Empire of the early 19th century, the new sciences of the Europeans were promoted with reference not only to their practical impact on the daily lives of individuals or the welfare of states, but also to their *moral* benefits. European sciences were increasingly identified with knowledge *per se*, which implied, in a sense, new ways of being "ignorant." As I will show in this chapter, in the subsequent decades these connections were discussed much more explicitly, and the moral connotations of knowledge and ignorance were directly imported into arguments on science by the new elite.

While these new, official meanings of being ignorant or knowledgeable were becoming established and new associations between knowledge and political power were being formed, the reaction was also in the making. As the favored knowledge and experience gradually became more common among newer generations, the number of contenders for the prestigious posts increased. In other words, new actors possessing the necessary qualifications entered the state field. As illustrated by Mardin's unsurpassed work (1962), the frustration of these new generations with the political monopoly of the earlier generation lies at the heart of the Young Ottoman

movement that was born in the 1860s.[1] These younger bureaucrats who were mostly products of the Translation Bureau and hence proficient in French, also embraced the widespread reservations with the affiliations and life styles of the "overly westernized" statesmen of the Tanzimat era, formed an alliance with the disillusioned lower *ulema*, and called for a more participatory government with a strongly Islamic tone.[2]

Furthermore, they became the columnists of the first privately owned newspapers in Turkish and effectively spread their alternative discourses. We see in their writings a harsh criticism of the policies of Ali and Fuad Pashas in particular, and their attitudes toward the "morals and customs of the people." Yet, it is also worth noting that they had virtually no objection to the fundamentals of the official discourse on science and its benefits. "Science as savior" had, by the 1860s, become *doxa* for the state field, and despite their success as journalists and authors, their ultimate goal was political power. However, they wished to expand the category of science in a particular way to distinguish themselves and other groups that spoke in the name of as "knowers" as well – "knowers" who were closer to the average literate Ottoman subject than the top bureaucrats could ever be.

One of the key contributions of this generation to the debate on science is their definition of the "true" man of science as someone who strikes a balance between "the

[1] My account of the lives of the members of the movement is based on Mardin's work. But my emphasis in this chapter is not only on the representatives of the movement themselves, as I argue that their formulations were shared by many critics of the Tanzimat regime, even if they were not involved with the political objectives of the Young Ottomans. As a result what matters for the purposes of this dissertation is the *generation* of the Young Ottomans.

[2] For examples, see Mardin's (1962) discussion on how the Young Ottomans revived concepts from the Islamic tradition such as "biat", "şu'ra" and "meşveret" and interpreted them as indications that Islam stipulates the participation of a wider portion of the entitled groups in government.

Western" and "the Eastern." It is in this period that the laughingstock of many literary texts and the symbol of "wrong westernization" emerges: *şık*, or the "fop," i.e. a person who learned to look, talk and consume like a European, without any respect for the traditions and religion of his compatriots and any real knowledge about the topics he discusses – one of which, inevitably, is the benefits of science. The emergence of the figure of the fop as such a powerful symbol and the astounding popularity it gained is indicative of widespread discontentment with the cultural and political changes brought about by the Tanzimat. Furthermore, it had significant implications for the way in which science was perceived and defined. After all, "European science" did not come to the Ottoman Empire "on its own." The discourse praising science emerged at the same time as the invasion of the Ottoman market by European consumer goods, the signing of treaties that guaranteed equal rights to the non-Muslim subjects and the rise of non-Muslim families and European merchants that took advantage of the opening of Ottoman markets at the expense of Muslim subjects. The "fop" represented young Muslim men who, within such a context, wished to acquaint themselves with Europeans and live like them. They tended also to hold a public post thanks to family connections and/or some education in the new schools of the Empire. That statements about the benefits and significance of science were made by this particular group unavoidably shaped the way alternative discourses were constructed.

Many examples about this figure will be presented throughout the chapter, but for one consider two characters from the play *İşte Alafranga* ("This is *Alla franca*"),[3]

[3] The Ottomans referred to Europeans as "Franks," and European manners and styles as "alla franca."

published in 1875 – Hasan Bey, a man with a "powdered face, monocle, a very short jacket, a satin or velvet vest, wing tip shirt and fashionable tie, with a thin cane and gloves in his hand" and his friend Mustafa Bey who proclaims, while deliberating on himself: "We can no longer sit at our coffee shops like oysters in their shells, can we? I advanced on the path of civilization. Praise be to God, I am almost a *monsieur* now. .... Yes, yes! I am *scientifiquement géographique*, *chimiquement* radiant, I now look like a man!" (Quoted in Akı 1974, 92).

Hence, European dress alone does not make one a fop: scientific gibberish uttered in French is part and parcel of this character. As a result, the "fop" is also a most handy device for constraining those wishing to praise or practice science: they had to prove they were not like the many "chemically radiant" Mustafa Beys one could find in the newspapers or plays of the 1860s and 70s.

II. The seeds of a critical discourse: Ibrahim Şinasi

The intellectual inspiration of many members of the Young Ottomans was Ibrahim Şinasi, a young protégé of Mustafa Reşid Pasha. Educated in Paris where he acquainted himself with orientalists like Renan, de Sacy and Lamartine, he wholeheartedly espoused the discourse on "new knowledge" and the virtues of its holders. He expressed his gratitude to his patron with the following verse in 1849: "Since a European idol started giving beauty and glory to Ottoman realms / Turkey has been turning into the envy of Frankish lands."[4]

[4] "*Ruma bir Avrupalı büt vereli revnak ü şan / Reşk i iklim i firenk olmadadır Türkistan*"

Mustafa Reşid, a "European idol," was enlightening the Empire. Thanks to his patron to whom he also referred as the "prophet of civilization,"[5] he joined the ranks of the "enlighteners," and became a member of the Council of Education in 1855. But he never rose further as his patron was replaced by Ali and Fuad Pashas, and failed to build the state career his education had prepared him for. In the poems he wrote in the 1850s, he continued to praise Mustafa Reşid with verses referring to the "new knowledge":

> Your justness and generosity could not be measured by the likes of Newton
> Your reason and intelligence could not be grasped by the likes of Plato
> ...
> We were slaves to oppression, you freed us
> It was our ignorance, the chain binding us.[6]

In a similar way, however, he also expressed his career exasperation: "O, president of the republic of virtuous people / Do I deserve to remain enslaved by men of ignorance?"[7]

This advocate of "the new" even wrote a couplet that hinted at the question of religious ideas conflicting science: "Don't sell me worn out Jewish beliefs, sir / How can I 'buy old stuff' with this new education!"[8] We do not see an elaboration or

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[5] "*medeniyet resulü*"

[6] "*Adl ü ihsanını ölçüp biçemez Nevtonlar /Akl ü irfanını derk eyleyemez Eflatunlar/ .. Ettin azad bizi olmuş iken zulme esir /Cehlimiz sanki idi kendimize bir zincir*"
Plato was of course known and respected by Ottomans, as his philosophy was a major inspiration for Islamic philosophy as well. But the novelty Şinasi introduces, much in accordance with the newly emerging European historiography of science, is the presentation of Newton as a "great man" comparable to, or in the same category as, Plato.

[7] "*Eyâ ahâli-yi fazlın reis-i cumhuru / Revâ mı kim kalayım ehl-i cehl elinde esir"*

[8] "*Efendi köhne yahudi akaidin satma / Nasıl bu taze maarifle 'Eskiler alayım!,* "' referring to the calls of itinerant junk buyers common on the streets of Istanbul. This is an early illustration of what constitutes a critical transformation in Islamic exegesis in the 19th century as well. While stories borrowed from the Old and the New Testaments collectively known as "Israiliyyat" were a legitimate

reiteration of this particular idea in Şinasi's other writings, and the Young Ottomans who appreciated Şinasi did not espouse such views. Şinasi's effort to re-define the boundaries of religion and science which likens him to the top bureaucrats of the Tanzimat is evident: what does not pass the test of "this new education" can no longer be labeled Islam, it is a "worn out Jewish belief."

In 1860, Şinasi and his partner Agah Efendi started to publish the first Ottoman newspaper owned by Muslim entrepreneurs, the *Tercüman-ı Ahval* (Interpreter of Conditions). In the famous first editorial column of the newspaper, Şinasi wrote that it was certainly the right of the people, who were legally required to fulfill so many duties, to express their opinions on the state of their country. One only needed to peruse the political newspapers of the "civilized nations whose eyes were opened thanks to education" to be convinced of this fact.[9] The newspaper that he started on his own two years later, the *Tasvir-i Efkar* (Description of Ideas), was introduced with a similar column. Şinasi made his aim clearer, though, when he wrote that newspapers revealed in civilized nations what the people regarded as "the way to achieve their interests," and his newspaper would be devoted to "news and education".[10]

Education was thus the tool that would help Ottomans achieve their goals, and Şinasi would enlighten his readers. The essence of this enlightenment was further clarified in a column he wrote two years later: "to combine the sagely mind of Asia

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ingredient of the Islamic tradition, they were gradually thrusted aside in the 19th and 20th centuries by modernist authors, particularly due to their "conflict with science." On this subject that needs more analysis, see Kara (2003b, 90-1), Sagiv (1995,22).

[9] "Mukaddime" *Tercüman-ı Ahval* 1, 6 Rebiülahir 1277/22 October 1860.

[10] "Mukaddime" *Tasvir-i Efkar* 1, 30 Zilhicce 1278/18 June 1862.

with the virgin thought of Europe."[11] Knowledge was thus to come from Europe, and made sense of and put to use by the mature Asian. It is interesting to note that the production of thought itself is left to the Europeans in this proposal; the ideas are then to be imported and interpreted by the Asian. Also significant are the gendered metaphors Şinasi uses: in line with the central discourse of Ottoman westernization, Europe is represented as a young female whose allure should be responded to, but with caution, by Asia, the old, wise man.[12]

We thus see in Şinasi, a "champion of Westernization" (Çelik 1992, 12) and a "humanistic rationalist" (Mardin 1962, 268), also an association of fresh, innovative knowledge with Europe, and a "mature" line of conduct with Asia, and specifically, the Ottoman realm. This is another illustration of how the discourse on the best synthesis of "the West" and "the East" defined and, in a sense, "froze" these categories. This discourse stipulating that science is the West, and wisdom the East not only fixed the "Orientals" in a position of constant importer, rather than producer, of new ideas, but also imposed on them a rather heavy responsibility of being the "virtuous ones." The hierarchical social relations that this "virtuousness" would help reproduce is the crucial aspect of this discourse that an exclusive emphasis on science fails to notice. Furthermore, the emphasis on synthesis almost necessitates the existence of a particular elite group that can delineate the ideal society and supervise

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[11] "İstanbul Sokaklarının Tenvir ve Tathiri" *Tasvir-i Efkar* 192, 28 Zilkade 1280/ 5 May 1864.
[12] The fop, in this portrayal, can be seen as an "in-between," effeminate character. Indeed, there are many condescending references to the "delicate" nature and "chic" appearance of the fop in Ottoman literature. As the next chapter will illustrate, we see in late 19th century Ottoman novels representations of the "correctly westernized," "true" man of science as a "manly" character as opposed to the "sensitive" fop.

the transfer of ideas into the Ottoman Empire, or "the East" in general. Hence, the elitism of the "scientistic" Ottoman bureaucrats was countered essentially by a different kind of elitism.

"The people" that the littérateur/activists of the 1860s imagined as their audience – and ally – is one that is better informed and vigilant about their rights vis-à-vis the high ranking wielders of political power. It is also one that is more industrious and productive, also thanks to the knowledge it possesses. But it is also a "mature people" composed of individuals with high moral qualities, as defined by what the authors would designate as "our values." In this respect the Young Ottoman contribution to the hegemonic discourse on science is the emphasis on complementarity and synthesis ("East and West", "wisdom and science", "tradition and novelty," "values and knowledge") and the characterization of science as what enables productivity. The essentiality of the role of the "enlightener" is not questioned: the importation of Western science should take place under the control of gatekeepers who know both the virtues and vices of Europe. If the elite statesmen of the era, due to their political ambition, ignore the vices, then it is the role of the littérateurs to spot them and, in a sense, *better* enlighten "the people."

III. Prominent educational developments

A. Ecole Ottomane

Between 1839 and 1856 forty three Ottoman students were sent to France, the intellectual patron of the Ottoman Empire in this period.[13] Most of them were graduates of the Imperial Military Academy, and in France they usually attended military schools after some preparatory training. There were fifty Ottoman students in France in 1856, the year in which the French and Ottoman governments agreed on establishing a commission to organize and supervise their training. The general test administered by the commission proved that Ottoman students, even those who had spent more than two years in France, were able to perform nothing more than the basic arithmetical operations, and had very rudimentary knowledge of history and geography – which is more important as an indication of their training *before* coming to France. The result was the establishment of the *Ecole Ottomane* in Paris where students would receive some basic training in a variety of fields from French teachers. We see in the detailed curricula of the school courses on history, geography, physics, chemistry, mathematics and cosmography. Yet the school was hardly a success. The reports of the disappointed teachers mention several problems such as the rather sloppy selection of the students by the Ottoman government – even though they tended to be around 20 years old and hence older than stipulated, they were also less prepared than expected – and the lack of discipline.

[13] Details on the Ottoman students in France are from Şişman (2004) unless otherwise noted.

In 1864, the director of the school Esad Efendi wrote a report stating that it was certainly beneficial to send students to Paris in order to replace the French officers and engineers who had to be hired by the Ottoman government "to be used as engineers and teachers in factories, and in the construction of roads, passages and bridges, as well as to perform other important services." The Ottoman subjects who would replace them would also become the teachers of the new Ottoman schools. But for this purpose, it would be much better to send younger students to France and send them directly to French schools so that they would learn the language well. If this were done, the very costly *Ecole Ottomane* could be shut down, Esad wrote, as it obviously failed to produce a sufficient number of "knowledgeable men"[14] (Report reproduced in Şişman 2004, 165).

The response of the Council for Military Affairs (*Dar-ı Şura-yı Askeri*), however, unequivocally asserted that it would be unacceptable to send younger students, as "the primary requirement of education is to raise children within the congenital creed and national customs and morals of their parents and nation." But it was also true that if the teaching of French was improved at the Imperial Military Academy, its graduates would benefit from following courses in French military schools, particularly with respect to the practical applications of the abstract knowledge they adequately learned in Istanbul. This was the way to achieve the "high purpose" of raising "knowledgeable officers" who could convey information on the military sciences to the imperial

[14] (*malumatlı adamlar*)

military (Şişman 2004, 167). [15] A few graduates of the Imperial School of Medicine could also be sent to Paris, and only after comparable schools of public administration and diplomacy were opened in the Ottoman Empire, their graduates could be sent as well. Under the current conditions, it was agreed that the *Ecole Ottomane* should be closed down, which happened in late 1864.

Raising "knowledgeable and virtuous officers and officials" was the key purpose not only of the *Ecole Ottomane*, but the entire Ottoman educational system. Science as knowledge would be learned by the Empire's military engineers, commanders as well as physicians, and both put to use and taught to newer generations. The Empire needed these cadres, and these "knowledgeable men" were its scientists. Subjects that needed to be learned were those with evident practical use, particularly in the military field, and, in line with the pattern we observe throughout the period, the production of new knowledge by these educated Ottomans is never envisioned.

Another indication of the scope of the Ottoman expectations associated with the *Ecole Ottomane* is the two figures sent to Paris in 1857 as teachers of Turkish for the non-Muslim Ottoman students of the school: Tahsin and Selim Sabit Efendis. According to the instructions they received, another duty of these two teachers would be to become professors of mathematics and natural sciences of the Ottoman University that would be opened in Istanbul as prescribed by the Council of Education's report of 1846. It was not determined which one would be which, however. They would let the Council of Education know which branch they chose,

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[15] (*malumatlı zâbitan yetiştirilerek ordu-yı hümayunlarda fünun-ı harbiyye[yi] .. neşr ü tamim etmek maksad- ı âlisi*)

and learn these "needed sciences" while in Paris. They would be supervised by the Ottoman Embassy there, and they were required to send reports "about the sciences they had learned" at the end of their first year (Mahmud Cevad 2001, 58).[16]

Of these two teacher-students, Selim Sabit was twenty-eight at the time of his appointment. He was a *medrese* graduate who had also graduated from the *Darülmuallimin*, the Teacher's Seminary. He did follow courses on a variety of topics in Paris[17] but he would make a career as a pedagogue and educational administrator and reformer after his return in 1861. Tahsin, on the other hand, who was also a *medrese* graduate, was forty-six years old when he arrived in Paris. He attended courses in physics and chemistry at the *College de France*, and according to the French reports that Şişman (2004, 35) examined, led a rather hedonistic life during the twelve years he spent there.[18] His career at the University and his works will be discussed later, but the implications of the characteristics of the two people sent to Paris to later become professors of mathematics and natural sciences need to be noted. These two members of the *ulema* had only casual familiarity with the sciences they were supposed to master in Paris, and were already much older than the students they were expected to follow courses with. Their training was not planned and supervised carefully,[19] and it appears that acquiring some knowledge of some sciences was what the assigned accomplishment amounted to. Mardin's (1962, 222) description of the

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[16] "*fünun ı lazıme*" "*tahsil eyledikleri fünun*"
[17] "Natural sciences" according to Somel (2001, 170), "political economy" according to French archival material that Şişman (2004, 35) discusses.
[18] On his life with anecdotes about his experiences in Paris see Inal (1940, vol.4 cüz 10, 1870-82).
[19] I was unable to find in the archives any yearly reports about their studies in Paris as specified in the instructions they had received.

Ottoman government's expectation from this experiment as being a step in the creation of "a Westernized *ulema* elite" seems pertinent. But if we consider the official instructions of Selim Sabit and Tahsin, we can also see the case as a reflection of Ottoman bureaucrats' conceptualization of the learning of science as but the acquisition of another part of the "wealth of knowledge."

B. The University

The story of the establishment of the Ottoman University constitutes perhaps the most suggestive aspect of any narrative about the Ottoman encounter with science, as, the idea of establishing a university, just like the idea of science itself, was constantly brought up in the second half of the 19th century, but the institution itself never became a durable, perceivable entity until 1900. It came to life and died several times in this period, and was never truly institutionalized: instead, texts were where the university stably resided. In a sense, this lack of institutionalization meant that the boundaries of science themselves were never stabilized, as Gieryn (2008) suggests more generally.

The opening of a university constituted a central proposition of the 1846 report on public education, and construction started under the supervision of an Italian architect soon afterwards. The location of the building indicated its importance: situated right between the great mosque of Sultanahmet and the Hagia Sophia and very close to the Imperial Palace, the massive building would become a symbol of the renewed might of the Ottoman Empire. But the provision of funds remained erratic throughout

construction, and contingent on international and domestic affairs. Charles MacFarlane (1850, 292) notes that construction had stopped after the 1848 revolution in France, for instance. Then during the Crimean War between 1853 and 1856 the building was turned into a hospital. Refugees were allowed to stay in it in 1862.[20] Finally, in 1863 it was decided that lectures should start before the building was completed.

The University boasted a 4000 volume library (Ergin 1977 vols 1-2, 550), tools and instruments for experiments as well as geological samples. It was not the highest point of a seamless chain, however, as there existed very few schools that prepared students for higher education; nor were there an adequate number of textbooks or competent professors. As a result, the first incarnation of the University was in the form of a series of public lectures, which were promoted rather enthusiastically by *Mecmua-i Fünun*, or the Journal of Science:

> It is not unknown that a sincere comprehension of matters pertaining to natural sciences depends on the witnessing of the necessary experiments. Hence these experiments will be performed, and simple terms will be used as much as possible, so everybody will be able to benefit from listening. These sciences certainly have a good influence on the expansion of the opinions of the people and the progress of the arts. So it is doubtless that all classes of imperial subjects – *medrese* students (*talebe-i ulum*), civil servants, and men of arts and crafts will show keen interest in learning and understanding them.[21]

[20] BOA MKT MHM 204/18 (14 C 1277).
[21] "Darülfünun'da Ders-i Amm Vuku-ı Küşadı" *Mecmua-i Fünun* 1:6, 259

The first lecture was given by Derviş Pasha, the Director of Imperial Mines, to an audience of 300 on 14 January, 1863.[22] *Mecmua-i Fünun* reports that Derviş started by praising the Sultan's interest in public education and, after a discussion on the benefits of physics and chemistry, gave some basic information about them. What followed these were experiments that stunned the audience. The journal described the event vividly:

> The performed experiments were curious phenomena, and the majority of the audience who were seeing such things for the first time in their lives were flabbergasted. Especially the experiments on electrical force where sparks of fire emerged from special tools, and when said force was transmitted into a man's body via a thin wire, his hand or whatever part of his body that the wire touched emitted blue sparks, and where, thanks to certain chemical compounds, an iron wire became incandescent and fiery, like an inflammable substance, left them in astonishment.[23]

Details about the conferences were also presented in the Official Gazette. We learn from the Gazette that Derviş Pasha, who was also made undersecretary of the Ministry of Education in the meantime, received in April 1864 a certificate of honor from the attendees due to his most beneficial lectures. It was stated in the certificate that those who listened to the lectures had "acquired further knowledge and understanding of the place of divine power and greatness within the essence of certain odd and curious matters in the universe."[24]

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[22] On Derviş see Chapter 1.
[23] "Darülfünun'da Ders-i Amm Vuku-ı Küşadı" *Mecmua-i Fünun* 7 Receb 1279/January 1863, 301-2.
[24] (*alem-i kevn ve fesad*) *Takvim-i Vekayi* 742, 22 Mart 1280 / 3 April 1864.

Not all lecture attendees reacted in the expected fashion, however. Münif Pasha wrote in the *Mecmua-i Fünun* that some members of the audience were watching the experiments as if they were entertaining games. Those ignoramuses who looked at the "useful sciences" in this way, according to Münif, should not be prevented from attending the lectures, but they should not occupy the seats of those who acted properly. Münif proposed that meticulous investigation should be carried out in order to identify those whose "condition, level of competence and skill" suggest that they will attend regularly and benefit from the lectures, so a group of seats can be assigned to them.[25] But the proposal was not enacted, as the Darülfünun did not last long enough to train its audience into what Shapin and Schaffer (1985) would refer to as "modest witnesses."

Derviş Pasha was not the only high ranking bureaucrat who lectured at the University. Chief of the Central Court (*meclis-i tahkik*) and Chief Physician Salih Efendi, a graduate of the Imperial School of Medicine, taught biological sciences (*ilm-i mevalid*); head of the Accounting Council (*Divan-ı Muhasebat*) Ahmed Vefik Efendi who was educated in France taught history. Director of Military Schools Safvet Pasha gave lectures on physics during Derviş Pasha's absences.[26] Geography was taught by Mehmed Cevdet, teacher of geography at the School of Public Administration, and astronomy by court astrologer Osman Saip Efendi. While the latter was from the

[25] "Darülfünun'da Ders-i Amm Vuku-ı Küşadı" *Mecmua-i Fünun* 7, pp.302-3.
[26] A graduate of the Imperial Military School and a Divisional General, not to be confused with the future Minister of Education Safvet Pasha.

ulema, he knew European languages and belonged to the ranks of established high *ulema* that supported educational and administrative reform.[27]

This demonstrated that the sciences taught at the University were fully backed by the Ottoman state. According to an official statement, sciences were progressing in the Empire under the auspices of the sultan, the "embellisher of knowledge," and the many sciences to be taught at the University would "realize many great benefits and common interests" (Mahmud Cevad 2001, 73-4).[28] That some of the most illustrious members of the state mechanism were among the lecturers was hinted as a strong indication of this support. But as journal articles from the period suggest, this very fact must have caused discomfort among the audience. In defense, Münif Pasha wrote in the *Mecmua-i Fünun* that trying to spread sciences in this manner further heightened the glory of these men, let alone damage their high status, as Muslim faith itself stated that knowledge was the highest rank of all. Moreover, that the individuals running the state were knowledgeable in science, or at least appreciated and demanded it, was particularly pleasing; in the new era, ignorant and incompetent people could no longer run states as they did in the old times. States should now be bestowed upon people who know "various sciences, especially those regarding public administration and international relations."[29] That the sciences taught by the bureaucrats in question were not among these apparently did not bother Münif Pasha, as it was ultimately the

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[27] Osman Saip was one of the earliest teachers and principals of the School of Medicine. He translated medical works from French in addition to sections from Italian geographer Adriano Balbi's *Abrégé de Géographie* (1832) in 1841.
[28] "*saye-i maarif-pirâye*" "*nice nice fevâid-i külliyye ve menfaat-ı umûmiyyeyi mucib*"
[29] "Darülfünun dersleri" *Mecmua-i Fünun* 8, pp. 331-2.

appreciation of science that mattered.[30] It is also striking how he was able to imply that former statesmen of the Ottoman Empire could be regarded as "ignorant and incompetent." Advocacy of science not only involved imaginations of the future, but the re-writing of the past.

Şinasi, too, made a similar point reinforced with an Islamic reference:

> At the zenith of Islamic learning, certain individuals such as Ibn Sina [Avicenna] who had reached the rank of Grand Vizier, and even in the Sublime State [i.e. Ottoman Empire] those who acquired the highest titles in the path of learning[31] used to teach sciences to the public; currently European cabinet ministers also give lectures in this way, if they are able to. Because, just as a branch that reaches maturity scatters its fruit to the soil that nourished it, men of learning, too, develop thanks to the public (*heyet i medeniyye*) within which they are raised, and sharing with the public the benefits of their knowledge is, in reality, the fulfillment of their duty of gratitude.[32]

State dignitaries not only gave the lectures, but were occasionally among the audience as well. Yusuf Kamil Pasha is known to have visited the University both in 1863 as prime minister and in 1864 as head of the High Council for Judicial Ordinances (Aynî 2007,16-17). Fuad Pasha also attended a lecture of Derviş Pasha's in 1863 as the Minister of War. His brief speech at the end of the lecture not only is another indication of the official support for science but also marks the terms in which this support was justified. Fuad first noted that the duty of the state was to deliver to the subjects all kinds of boons within its reach, and as the greatest blessing in life was

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[30] It may be useful here to remember Lütfi Efendi's criticism of Derviş Pasha's appointment to St. Petersburg as the Ottoman ambassador. See chapter 1.
[31] "tarik i ilmiyye", i.e. hierarchy within the *Ulema* class.
[32] "Darülfünun dersleri" *Tasvir-i Efkar* 62, 30 January 1863/9 Şaban 1279.

knowledge, it was incumbent upon the state to spread it among the people. He then defined the knowledge in question:

> Even though the science taught here is called natural philosophy, it is in essence divine philosophy. Because it reveals to us divine knowledge at a level that our [limited minds] can grasp. Philosophy is a means for this purpose, and the difference between ancient philosophy and new philosophy is like the difference between a sailboat and a steamboat. The latter takes one to the destination in shorter time.
>
> We are also grateful to the person who undertook the teaching of it. While he holds a most exalted rank among the highest ranks of the state, he truly demonstrates that knowledge is the highest rank of all. He thus honors the work of the eminent *ulema* of the past, who, after leaving their official duties, would spread knowledge in *medrese*s.[33]

The arguments of Şinasi, Münif and Fuad are very lucid in terms of the continuity they affirm. Never in their statements do they proclaim that the new science is to replace the old one, but this is precisely what is implied. Those who spoke about physics in the 1860s were by all means comparable to the religious scholars, the "eminent *ulema*," of the glorious days of Islam in general and the Ottoman Empire in particular. Indeed, in Fuad Pasha's words, the knowledge presented by the new scholars was actually even more effective, as they rendered the divine almost tangible to some extent. Furthermore, examples from the Islamic tradition strengthen the connection between knowledge and the state. Ibn Sina was both a scholar and a statesman, the *ulema* of the past were both men of religion and statesmen. Hence, it is no coincidence that their contemporary replacements are statesmen as well: the men who possess the new sciences will be, in a sense, the new *ulema* of the new state mechanism. In this formulation, science, religion and state are the justifications and

[33] "Darülfünun dersleri" *Mecmua-i Fünun* 8, pp.330-1.

reinforcers of one another, with scant room for autonomy for science. Needless to say, the discourse that brings these three concepts together in such a *plexus*, in Carroll's (2006) terminology, renders potential comprehensive criticisms of science exceptionally difficult to advance.

Despite all these statements about the supposedly obvious benefits of science to people from all walks of life, its link to divine knowledge, and the particularly significant role of experiments in the learning of science and the comprehension of this link, this first experiment of Darülfünun itself came to a rather abrupt end. When construction was finally finished in late 1864 – almost twenty years after it had started – the building was handed over to the Ministry of Finance. Lectures continued in a mansion, with falling rates of attendance, and soon afterwards the building burned down with all the books and laboratory equipment within it. But the more basic reason for the failure of the experiment can be found in a report from 1868 that elaborated on the lessons learned from it. Stating that the lectures *did* have many attendees, the report complains that:

> ..a portion of the attendees were public officials, and they remained auditors only, as they were unable to attend regularly... Another group had no duties or occupations, but they were also ignorant of the background that is required for comprehending the lectures, so they came and went in vain. Yet another group listened to history as it were a legend, and attended physics lectures just to be entertained by the experiments. Hence, lectures remained lectures only, without any outside benefits. (Quoted in Aynî 2007, 18)

Science could not be taught to people with no previous education or actual reason to believe that what they observed was beneficial or important. Meanwhile, the group

that advocates of science always relied on, that is, young civil servants, proved undependable precisely because they were civil servants. In sum, science, represented as lectures by "great statesmen," failed to generate a public that would appreciate and endorse it.

C. Science and Ottomanism: The 1869 Public Education Act

The 1860s are characterized by the constant re-iteration of the "official ideas" on science established in the previous decades. In a memorandum dated 15 March 1868 (21 Zilkade 1284), for instance, it was stated that "[k]nowledges and learning (*ulum ve maarif*) are the greatest bases of civilization and prosperity." The 14 August 1868 (24 Rebiyülahir 1285) memorandum about the opening of the *Mekteb-i Sultani*, a high school designed in collaboration with the representatives of the French government, also refers to the "perfection of the means for all the subjects of the sultan to achieve maturity by benefiting from the light of science and education" (Ergin 1977 vols.1-2, 482). But the ultimate document that epitomizes the official discourse on science, knowledge and education is the Public Education Regulation of 1869. This was an act prepared under the guidance of Victor Duruy, the French minister of education. Not only did the final draft written by Safvet Pasha, with the assistance of Sadullah and Kemal Pashas, outline the educational system that the Ottoman government intended to construct, but particularly its introduction resembled a manifesto for Tanzimat policies as a whole (Somel 2001, 86):

> It is needless to state and explain that science and learning (*fünun ü maarif*) are the principal source of prosperity. The realization of the

> progress that mankind has a propensity for... and the production of the inventions and useful institutions concerning arts and industries all depend on knowledge and learning (*ilm ü marifet*).
>
> Learning and knowledge give rise to the birth of arts and industries, and arts and industries to the invention of many vehicles and useful works that facilitate the [satisfaction of] the basic needs of human society. Therefore, it is clear that the reason why nations that belong in the civilized world get their share from the treasures of wealth of the world is their access to the most perfect means of human education. (Mahmud Cevad 2001, 93)

The contemporary development of industries was based on "certain methods and principles determined by the subtle sciences" that had constantly been spreading in civilized countries. These sciences, by showing that the practical should be based on the theoretical, had entirely changed processes of production, rendering plain natural talent useless.

Now while all this was known in the Ottoman Empire, the system of education had remained unsuccessful, and key in this failure was the state and organization of elementary schools. These schools where "instruction consist[ed] only of the basics of religious sciences," were under the administration of people of dubious qualifications (94). Furthermore, as there did not exist a sufficient number of higher institutions, there were only two routes for the educated: civil service or the military. As a result, the Ottoman system failed to raise "people of profound skill in sciences and industries."[34]

In addition to an across-the-board reorganization of the Ottoman educational system, the introduction to the Act recommended the rapid translation of books on "the new sciences," as each nation could progress in the sciences only in its own

[34] (*fünun ü sanayi*)

language (97). Finally, as the perfect reflection of Ottomanist ideas in educational policy,[35] the introduction stated that in new high schools where non-Muslim and Muslim students would study together, religious courses would be taught to different communities by teachers assigned by their own community, while all science courses would be under the administration of the central government (98).[36]

It is needless to state the implications of the phrase "It is needless to state" at the introduction of an official document. We observe in the regulations of 1869 a clear intent expressed in the strongest terms to centralize, organize and closely supervise all educational activity within the Empire. The speakers of the state officially announce their reservations about the competence and merit of at least some of the teachers of elementary schools who were, by and large, *medrese* graduates. Industry, inventions and prosperity are linked very tightly to the "new sciences," thus clarifying which sciences the Act deems necessary for the welfare of the Empire.

Indeed, while earlier documents on the need for educational reform and the significance of the new sciences always referred to religious sciences, the afterlife, or used Islamic justifications as well, the 1869 Act is striking in its nonreligious tone and content. As Somel (2007, 2001) indicates, the influence of Duruy on the final draft cannot be neglected, but it also appears that the idea of science as beyond religious and political affiliation was a perfect fit with the Ottomanist discourse of the 1860s.

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[35] Ottomanism, the dominant policy of the Tanzimat era, entailed the construction of an Ottoman identity that would transcend all religious and ethnic identities. The rights given to non-Muslim communities were a key part of this policy. It is also worth noting in this context that 1869 is also the year in which the Ottoman Citizenship Law was enacted, asserting the equal status of "all subjects of the Empire" regardless of religion.

[36] Finding it "a remarkable document," *The American Journal of Education* published all articles of the Act in 1870, without the introduction. See "Public Instruction in Turkey" 4:9, pp. 17-31.

The document specified that religious classes would be taught separately to students from different religious communities, but they would learn science together, as Ottomans. Similarly, teachers of religious classes would be appointed by the communities themselves, but science teachers would be appointed centrally by the state. In the new political system, religion was to belong to the communities, albeit under state supervision, but science was state property. Moreover, science was the realm within which the equal status of all religious communities would be made manifest.

While the official discourse thus continued to link science to the state, alternatives started to emerge after the 1860s, with the growth of the Ottoman press. Even though the leading scientific journal of the period was endorsed by the top bureaucrats and served as an outlet for consolidating the official discourse, its competitors with concerns for popular appeal disseminated views that were occasionally at odds with the official definitions and descriptions.

IV. Proliferation of Discourse: Science in the Ottoman Press

A. *Mecmua-i Fünun*, or the Journal of Sciences

On 11 April 1861, Halil Pasha, the Ottoman ambassador to St. Petersburg, wrote a petition to the Prime Ministry asking for permission for the establishment of a new association under the name Ottoman Society for Science (*Cemiyet-i İlmiye-i Osmaniye*). According to the petition, the need for such an association stemmed from the fact that it was "science and useful learning that [had] steered European nations to

the highest summit of civilization and power." Despite all best-intentioned attempts, however, Ottomans themselves had not yet reached the desired level. As a result, Halil Pasha declared, "certain servants of the exalted sultan who succeeded in acquiring a good education in Europe or within the Empire" were willing to contribute to the spread of "sciences and the needed knowledges," as a demonstration of their gratitude (Reproduced in Karaçavuş 2006, 198). The society would focus on the writing and translation of books on all branches of learning, avoiding politics and religion, and conduct courses for the public at large. Funding for these activities would be provided by the members themselves, and the society demanded from the state only that the authors and translators be awarded.

The board of the society was composed of eight people, with five Muslim and two non-Muslim Ottomans, and one European resident of the Empire: Halil Pasha,[37] Münif Pasha,[38] Said Pasha,[39] Mehmed Kadri,[40] Sadullah,[41] Karabet,[42] Andreas David

[37] (1822-1879) Later Halil Şerif Pasha. Coming from an established Egyptian family, he went to the Ecole Militaire Egyptienne and also studied political science in Paris before becoming an Ottoman diplomat. Also see chapter 1, p.61.
[38] (1830?-1910) Münif got his initial training at a *medrese* in Damascus, learned French in addition to Arabic and Persian, then joined the Translation Bureau. He was then employed at the Berlin Embassy, and followed lectures in Berlin University. He would become a Pasha in 1880, but I will refer to him as Münif Pasha throughout the text to facilitate reading.
[39] (1831?-1896) Said studied mathematics at the University of Edinburgh, then got additional training at the Woolwich Military Academy, Enfield Rifle Factory, Waltham Gunpowder Mills, and the Greenwich Observatory.
[40] (1832-1884) The son of the governor of Cyprus. After basic Islamic training, held bureaucratic posts in the provinces. Then joined the Translation Bureau, and became the Translator-in-chief of the Supreme Council of Judicial Ordinances.
[41] (1830?-1891) A graduate of Darülmaarif, a prestigious new school that was intended to prepare students for the Darülfünun. Later joined the Translation Bureau, held high official posts and became ambassador to Berlin.
[42] Secretary at the Council of the Treasury, Armenian.

Mordtmann[43]and Istefan.[44] Of the remaining twenty-five members, eight were non-Muslim. Young employees of the Translation Bureau dominated the Society, alongside three teachers of the Imperial School of Military Engineering and three officers. The representation of the *ulema* by one person, and only among the provisional members, is striking. As Ihsanoğlu (1987, 209) notes, it is also interesting that very few of the teachers of science in the prestigious European-style schools of the Empire are among the members of the Society. Hence, while its membership profile demonstrated the religious cosmopolitanism of the Society and reflected the cosmopolitanism of the Empire itself in this respect, it also resembled an exclusive club for rising Ottoman bureaucrats in their thirties.

The Ottoman Society of Science was indeed an *Ottoman* society, along the lines of the broader policy of Ottomanism implemented in the *Tanzimat* period. As the Imperial Decrees of 1839 and 1856 indicated, and the 1869 Citizenship Law unequivocally asserted, the people living under the dominion of the Ottoman Sultan were equal citizens regardless of their religion, and their identity as Ottomans should transcend their religious affiliation. But this also indicated an ambiguity regarding the prestige of the *ulema* as the "knowing class," as their knowledge could not but be based in Islam itself. Knowledge *was* religion for the *ulema*. The Ottomanist, young bureaucrats of the 1860s, however, constructed a new discourse where knowledge could be talked about as somewhat autonomous. Religion could motivate the search

[43] (1811-1879) German orientalist. Moved to Istanbul in 1860 and became a judge at the Commercial Court.
[44] Translator, Armenian.

for knowledge, guide it, provide hints for it, but could not be identified with it. This had to be true, for otherwise it could not be possible for the Ottoman Empire to import the new knowledge that was the engine behind European progress. The overwhelming majority of the bureaucrats who established the Society grew up in the heyday of Tanzimat reforms, during the construction and propagation of the inclusive ideology of "Ottoman, before Muslim or non-Muslim." Science, for them, was rather similar to what "being Ottoman" meant: it was above religious or ethnic identity, and, as they implied in their petition, they deemed it possible to talk about science without referring to religion. And it was this new generation that could explain what science meant, because it was they who possessed, as they saw it, "superior" training rarely found in the Ottoman Empire.[45]

The petition of the Society was accepted on 3 June 1861, as its aims were found harmonious with the state's "glorious efforts for the education of the people."[46] One year later, the most influential and substantial product of the Society came into existence: *Mecmua-i Fünun*, or the Journal of Sciences. This was not only the first journal devoted to science in the Ottoman Empire, it was the first long-lasting periodical in Turkish.[47] As the vice-president of the Society, Münif Pasha was in charge of the journal and his name would be identified with it.

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[45] The epitome of this new sense of cosmopolitanism among the young bureaucrats is Şinasi's stanza "My nation is mankind, my homeland is the world." based on a line from Victor Hugo ("*Milletim nev-i beşerdir, vatanım ruy-i zemin.*")

[46] The letter of acceptance reproduced in *Mecmua-i Fünun* 1, p.17.

[47] The very first periodical in Turkish is generally regarded as the bulletin of the School of Medicine that published a total of 28 issues in 1849 and 1850 (Topuz 2003).

In the first issue, the journal published the by-laws of the Ottoman Society for Science. Members of the society, according to this document, had to know Turkish, Arabic, or Persian in addition to French, English, German or Greek. Permanent members were required to submit essays to the Society's journal, and/or teach public lessons on a science they were competent in. The journal would be devoted to "sciences, learning, commerce and industry," and it would not discuss religious or political issues. Even though members were not required to be fluent in it, the official language of the Society was Turkish, and works written in other languages by the members would be translated by the Society. Finally, collaborations would be pursued with other associations whose mission was also to spread science.[48]

In order to locate the programmatic statement of the journal and the society, we need to analyze the two essays written by Münif Pasha that followed these official documents – the "Introduction," and, in particular, the rather lengthy essay entitled "Comparison of Knowledge and Ignorance." It is possible to find all the key elements of the dominant discourse on science in Tanzimat era Ottoman Empire in these pages.

As "useful knowledges and sciences" are the sources of felicity in this world and the next, according to Münif, the journal will be devoted to "useful knowledge" on all sciences and arts, and will avoid topics pertaining to religion and current politics. It is remarkable that Münif uses the phrase "*saadet-i dâreyn*," a well-established phrase in Islamic literature that refers to happiness in both worlds, but locates "useful learning"

[48] "Cemiyet-i İlmiye-i Osmaniye Nizamnamesidir" *Mecmua- i Fünun* 1:1 July 1862/ Muharrem 1279, pp. 2-10.

purified of Islamic connotations behind this bliss – this is a knowledge that can be known without religious associations.[49]

If speech is what makes man superior to animals, Münif proclaims, those men who possess knowledge are superior in a similar way to those who lack it. The contemporary world is proof of this fact: peoples of Africa and America that lived in "blindness of ignorance" are now defeated and enslaved by "civilized nations."[50] A small country such as England now dominates a population twenty times greater than its own "only because of their power in science and industry."[51] With such a sleight of hand, Münif equates "knowledge" to the particular kind of science that England, along with other "civilized nations" possesses.

But then Münif takes another bold step and brings in the traditional idea that knowledge is what enables man to distinguish good from evil and act accordingly. He who is ignorant does not know his duties and responsibilities, and fails to protect himself from vices and dangers. Hence, knowledge is also the path to virtue, and, accordingly, bliss in the afterlife. What this implies, however, is that civilized nations – which, in Münif Pasha's essay, are the Great Powers of Europe – should also be the most virtuous, which makes the point particularly difficult to bring into line with established Islamic Ottoman thought.

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[49] (*Sermaye-i saadet-i dareyn olan ulum ve fünun-ı nafıa*) "Mukaddime" *Mecmua-i Fünun* 1:1 July 1862/ Muharrem 1279, p.18.
[50] (*'amâ-yı cehl*) "Mukayese-i İlm ü Cehl" *Mecmua-i Fünun* 1:1, July 1862/ Muharrem 1279, p.21.
[51] (*mücerred fünun ve sanayide yed-i tulâsı olmak hasebiyle*)

Münif does tackle this point, also touching upon the issue of "science and religion." Some ignorant people, he states, believe that knowledge corrupts faith.[52] Yet it is these "mindless friends of religion" themselves who, thus, harm the very essence of religion, as their argument amounts to saying that religiosity requires ignorance. Those who understand the many mysteries of the universe are the true believers, whereas the faith of the ignorant is nothing but imitation, as it is not built on a sound foundation (25-6). Münif's examples here are Socrates and Hippocrates, figures already respected in the Islamic tradition. But the unstated, yet obvious conclusion of the argument is that contemporary European "men of science," if not all those who possess scientific knowledge, should be treated as true believers, even if they are Christians.

The invisible audience that Münif Pasha's text addresses is clearly those who could consider the knowledge coming from the West as un-Islamic, or "infidel." Having shown the link between faith and knowledge, he further clarifies the link between virtue and knowledge. If it is possible to observe disagreeable scenes in "the civilized world," Münif contends, it is not because of their knowledge, but because their civilization has not reached perfection yet. Furthermore, while there is poverty and suffering in London, for instance, the English also provide the suffering minority charitable services that can hardly be found in uncivilized countries (26-7). Similarly, if "the general state and behavior of certain individuals who claim to have knowledge are seen to be devoid of the virtue and righteousness *that should be the consequence of*

[52] ("*ilim fesad-ı itikadı münticdir*")

knowledge, this must not give rise to doubts about the beneficial impact of knowledge" (35, my italics). Those individuals are the ones who know only some jargon, not the subject matter, purpose and the manner of application of the knowledge in question.

Kindness to the poor is not the only important virtue, of course. People who know also know the need for government, along with all the religious and rational dictates regarding obedience towards the holders of power. So "[men of] knowledge do not cause detriment to statesmen and disobey their authority by any means."[53] Knowledgeable rulers know this, and instead of resorting to violence like ignorant rulers who would not deserve obedience, they encourage the spread of knowledge within their dominion. Hence, just like religion, the state needs people who *know*.

It is worth repeating, though, that this is not just any knowledge. It is the new knowledge that the Europeans produce.

> Around twenty or thirty thousand Europeans covered in a few months great distances and, with utter ease, declared victory over China, which is unique in the world in terms of territory and population, and ... has a few million soldiers. They went all the way into the Chinese capital and set the terms of the peace treaty. The Emperor of China was undoubtedly displeased with his soldiers who were ignorant of new military methods. Had the Chinese not insisted on preserving their ancient methods and imperfect civilization, would they have fallen victim to the insult of a few thousand foreigners? (28)

Those who know are those who study history, people, animals, plants, minerals, the earth and the sky; as their minds are filled with true knowledge, they cannot be

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[53] (*Alim olan zat hükümetin lüzumunu ve uli'l-emre itaat ü inkıyad hakkında olan vacibat-ı diniyye ve aklıyyeyi bildiğinden ilim hâşâ erbab-ı hükumeti ızrar ve nüfuzlarını ihlal etmez*)

deceived by charlatans and their superstitious claims. They know, so they are also able to produce more than the uncivilized in much less time, and as a result, they may be said to live fuller, longer lives. Knowledge is not only for the acquisition of material goods, however: it is for becoming virtuous. God Almighty created man not simply for him to live, but to "extend the limits of the virtues and faculties within his natural disposition, and improve his worth and rank in a way that befits the glory of humanity"[54] (33-34).

Münif Pasha's essay demonstrates the intricacies of mid-19th century official Ottoman discourse on science with all the silences, unstated implications, vague transitions and reasonings, and abrupt shifts of terminology that it embodies. On its surface, Münif's text is about knowledge broadly conceived, with ignorance as its antonym. He commonly uses the term "ilm," which, in Islamic terminology does mean knowledge, but with strong religious connotations, to the point of being almost a synonym for Islam (Rosenthal 2007). Branches of "intellectual" knowledge that were not necessarily related to tradition / religion were called "ilm" as well in Muslim societies, but the classification itself that defined certain branches of knowledge as "transmitted" (*naklî*) or "intellectual " (*aklî*) was Islamic. Likewise, the knowledge that distinguishes the "knower" from the ignorant is not one that makes sense without

[54] "*merkûz-ı fıtratı olan fezâil ve kuvâ dairesini tevsî, ve şan-ı insaniyete şayan surette kadr ü mertebesini terfî eylemesi*"

a reference to religion, and the connections between knowledge, action and virtue cannot be set without "passing through" Islam.[55]

Münif Pasha, however, effortlessly transforms the sciences that the Ottomans were learning from the Europeans such as zoology, botany, ethnography, physics and chemistry into "knowledge" *per se*, which puts those who were not aware of these sciences in a position of ignorance, with its moral connotations. In other words, while Münif Pasha and the journal he was in charge of stated that their discussions on science would avoid religious topics, he made very effective use of Islamic associations between knowledge and virtue to make a case for the sciences of the Europeans. We see the same strategy at work throughout the text in the shape of references to bliss in both worlds, or the natural disposition instilled in man by God and the duties and responsibilities this imposes.

We observe in Münif's text, then, a rhetorical mechanism that transforms the discussion of the new sciences of Europe into their identification with knowledge as such, and attributes to them the moral connotations of the Islamic conception of knowledge. The programmatic statement on science in this journal that declared that it would stay away from religious issues is thus enmeshed with subtle and overt

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[55] It would be helpful to remember here that *medrese* students were called as "*talebe-i ulûm*", or students of *ilm* in the Ottoman Empire. Similarly, the word *ulema* is derived from the word *ilm* and literally means "those who know."The word for "ignorant" in Ottoman Turkish, "*cahil*," is borrowed from Arabic (*jahil*), and is a word that signifies the opposite of "knowledge," with all its connotations. So much so that the pre-Islamic period is referred to in Islamic literature as *Jahilliya*, "a period of ignorance." See articles "Ilm," "Djahilliya," "'Ulama" in the Encyclopedia of Islam 2nd ed. Leiden: Brill. Also see Taşköprüzade's mid-16th century collection of the biographies of Ottoman scholars (*eş-Şakâiku'n Nu'maniyye fî 'ulemai'd-Devlet-i Osmaniyye;* published as *Osmanlı Bilginleri* trans. Muharrem Tan. Istanbul: Iz, 2007) for many examples on the association between knowledgeability and virtuousness.

references to Islam. Likewise, while science is supposedly a topic that the journal is to discuss without reference to politics, in his essay Münif Pasha brings up the theme the development of which was discussed in Chapter 1: science teaches people to be obedient to their government, if it is "those who know" who are in charge. The need for a supposedly autonomous sphere called science is thus asserted entirely with reference to religion and the state. The authority of science is based on its benefits for the state and its endorsement by religion.

While Münif was thus linking knowledge to virtue with references to both religion and state, and attempting to show his readers that knowledgeable people were a treasure, rather than a potential threat, Ali Pasha, Münif's supporter and one of the most influential statesmen of the era, felt the need to "insert," so to speak, more "*raison d'êtat*" into this discourse. Foreign Secretary at the time, Ali Pasha sent a letter of congratulation to the Society that was published in the second issue of the Journal of Science, and subtly "corrected" Münif.

Civilization, which involves the prosperity and security of mankind, is a God-given requirement of human existence, Ali Pasha asserted, and progress is its very nature. The level of civilization and progress of each human community is dependent on the education (*terbiye*) and awareness (*vukuf*) of its members; knowledge is the nourishment of the soul and the foundation of civilization (*Mecmua-i Fünun* 2, 52). But learning should be accompanied by good morals, as the ultimate issue is striking a balance between the individual and the general good. Ignorance leads to egoism, so should certainly be eradicated, but this does not mean that individuals should cease to

seek personal interest. After all, personal interest itself made possible the progress of science and industry.[56] But just as the invention of tools for using electricity in communication exemplifies, the ideal deed is one that serves both personal and general interest.

What Ali Pasha has in mind in this discussion on ignorance, knowledge, the personal and the general is the problem of social order, as he states that the essential goal is to balance rights and responsibilities. Knowing and taking advantage of the laws of a country is a right, but obeying them is a responsibility. While the former represents knowledge in Ali Pasha's scheme, the latter is about morals. "Knowledge without good morals is certainly the cause of endless harm," as he who lacks decency is likely to use his knowledge for evil (54).

Münif and Ali Pasha's texts clarify the question: Knowledge – in this particular context, we can consider this the scientific knowledge imported from Europe – is beneficial, but do people who possess this knowledge constitute a threat to the stability and well-being of the state? Clearly, the importation of science constitutes a question of social order for both authors. Münif's essay attempts to demonstrate that the holders of power need not be concerned, while Ali Pasha expresses precisely this concern with his letter. There is no rift between the two in that they both regard social order and the stability of the state the chief issue, and morality is equally fundamental for both. That disruption should be avoided by all means is what is shared by the competing arguments. But as *the* symbol of state power in the 1860s, Ali Pasha emphasizes that

[56] "Menfaat ı zatiye taziyanesi olmasa ulum ve fününun ve hıref ve sanayiin meşhud olan terakkiyat-ı azimesi nereden hasıl olabilir idi?" (53)

assuming a direct relationship between knowledgeability and virtuousness (read obedience) can be dangerous for the state. Münif, on the other hand, becomes the representative of the discourse that associates the spread of scientific knowledge with the preservation of social order.

It is quite striking in this context that Hyde Clarke, a member of the British Association for the Advancement of Science and at the time Cotton Commissioner in the Ottoman Empire refers to Münif Pasha as "the Brougham of Turkey" (Clarke 1867, 513), after Lord Brougham, whose *Practical Observations upon the Education of People* (1825) was a fervent publicity for the Mechanics' Institutes (Shapin and Barnes 1977, 42).

Very soon after the publication of the Journal of Science two more periodicals appeared declaring that they would cover issues on science as well: *Mecmua-i İber-i İntibah* (Lessons and Awakening) and *Mir'at* (The Mirror). Their editors were also young bureaucrats: Ali Haydar, the editor of the former, was twenty-seven and had studied in Paris. He was working as the translator of the Tanzimat Council at the time (Inal 1932 f. 3, 573-6). *Mir'at*, on the other hand, was published by Mustafa Refik, a nineteen-year old clerk in a governmental office.

In the first issue of *Mir'at*, the first illustrated journal in Turkish, Refik, too, wrote a long essay on civilization, education and knowledge, with an emphasis that resembled Ali Pasha's. Civilization involved the permanent happiness and prosperity

of a people, Refik wrote, and the basis of civilization was "good training."[57] As civilization brought to people certain liberties in addition to knowledge, the only way to prevent them from abusing these liberties and knowledge was to insure that they had good morals, and this is what could be achieved through good training. The following section illustrates the difference from Münif's argument very clearly:

> Once it was thought that the correction of morals could be achieved through knowledge and education, but this should not be the case. Truly, knowledge is the essence of the life of civilization, but it is not the sole cause of the purification of morals. Because knowledge is certainly the guide of the mind in comprehending, using and implementing everything, be they good or bad, and mankind tends towards evil in most of its actions and attitudes. Particularly, certain sciences and knowledges have always acted as intermediaries towards malice and evil, in accordance with the level of depravity of the morals of individuals. And it is proven by many incidents that a person, once his morals are corrupted, cannot help but use his knowledge and skill for harming his state and nation. (*Mir'at* 1:1, 3)[58]

Hence, if people learn many knowledges and skills without correcting their morals, they will threaten the security and well-being of their country, and it is in cities where science and learning are most improved where godlessness and sacrilege are most common. Refik then shifts the discussion entirely to the topic of morality and learning.

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[57] The word Refik uses is "terbiye" which essentially means "bringing up." But the emphasis is on being well-mannered, and Şemseddin Sami defines the word in his *Kamus-ı Türki* as "the teaching of knowledge and manners" (*ilim ve edeb öğretme*). In this respect the concept has more to do with "discipline" than education per se. I elaborate on the importance of this concept in Chapter III.

[58] "*Bir vakit tehzib-i ahlak maddesinin ilm ve maarifle imkan-ı husulune zehab olunmuş ise de böyle olmamalıdır. Vakıa, ilm maye-el-hayat-ı medeniyyetir, lakin tasfiye-i ahlakın sebeb-i müstakili değildir. Zira mutlaka ilim nik ve bed herşeyi teyakkun ve istimal ve icrada akla rehber ve nev-i beni beşer dahi ekser ef'al ve ahvalinde mütemayil-i taraf-ı şer olup, hususiyle bazı ulum ve fünun insanın ahlakının derece-i redaetine nisbetle fesad ve şerre delalet edegeldiği gibi bir kere ahlakı fesada yol bulmuş olan adamın ilm ve marifetini dahi vatan ve milletinin efsad-ı ahvaline sarf etmekden kendisini alamadığı ve alamayacağı tecarüb-i adide ile müsbettir.*"

If the morals of a certain people are untainted, he argues, they will perform their duties towards their state well, provided that the laws of the country are applied equally to every individual. Training and the purification of morals involves the work of both the state and the individuals: it is the duty of the state to spread good morals and punish those who do evil deeds, while the duty of individuals is to strengthen their religious faith and protect their honor. This they can do by studying religious and literary sciences and associating themselves with respectable, learned people (4).

Refik's journal further clarified its broader conception of science, as it published essays on and examples of literary composition (*inşa*), translations from Montesquieu, along with texts regarding the progress of agriculture and the characteristics of steam power. Even essays like the latter that gave information on new European sciences emphasized the divine bequest for humanity that allows such inventions to be possible, however.[59]

Münif's Journal of Sciences published lukewarm comments on both of these new periodicals. While it was pleasing to see the emergence of new outlets for the spread of knowledge, Münif wrote, the *İber-i İntibah* contained little information that could not be found in the already existing newspapers, and even its name was not syntactically correct ("Hudus-ı Mecmua-ı İber-i İntibah" *Mecmua-i Fünun* 8:353-5 January 1863/ Şaban 1279). He had further dry comments to make after the emergence of Refik's *Mir'at*:

[59] See *Mir'at* 3:42.

> It is quite striking, and perhaps telling, that while the need for such scientific publications had been felt for so long, no attempt had been made; and then two newspapers of this sort have emerged only a few months after the appearance of our humble journal. Everything happens this way in the world: when a beneficial path is opened, there emerge people who follow it, and it is clear that this will encourage the competent and the generous to produce all kinds of works useful to our country. ("Zuhur-ı Mir'at" *Mecmua-i Fünun* 9:399 February 1863/ Ramazan 1279)

This brief comment was sufficient to offend Refik. He wrote in his response,

> If we assume that [Münif] has actually seen our journal, his disparaging tone seems to indicate that some of the matters we discussed in our first issue perturbed his thoughts. If we suppose he has not, it would be particularly unexpected of him indeed not to be interested in the perusal of such a publication [as ours], as his very decency and his violent attacks on the *Mecmua-i İber-i İntibah* would suggest. ("Vecibe" *Mir'at* 1:3 April 1863/ Zilkade 1279, 47-8)

Refik's rather angry remarks included an overt ridicule of Münif ("Apparently his attitude is due to the ferocity of his desire and passion to spread learning"), and several examples intended to demonstrate that he was actually quite ignorant of the things he was writing about.

But this response from a very young clerk to the Translator-in-Chief of the Sublime Porte[60] and the former head of the Court of Commerce had a great cost. Ali Pasha found the way Refik expressed his opinions entirely at odds with the "official style" and indicative of an interest in oppositional politics, and instructed him either to apologize or resign from his post. The parallels between Ali Pasha's and Refik's essays on civilization and the need for moral soundness are striking, but apparently the very fact that Refik also emphasized the duties of the *state*, and his unabashedly

[60] *Bab-ı Ali*, the metonymy for the Ottoman government.

belittling tone were sufficient for him to sound like a dangerous youth. When confronted with an "angry young man" like Refik, the differences between Ali and Münif evaporated. Of the two options Ali Pasha gave him, Refik chose the latter and resigned; he also ended the publication of the *Mir'at* and became one of the founders of the Young Ottoman movement in 1865. He died of cholera soon afterwards (Inal 1939f. 8, 1404-1410).

Both competitors of the Journal of Science thus disappeared very soon after their emergence. Journal of Science, on the other hand, remained alive for more than four years – a figure which includes interruptions that lasted several months. Even this constitutes a major success in the Ottoman Empire of the 1860s, with very low rates of literacy and devastating financial crises. The list of those who subscribed to more than one issue of the Journal which was published in its fourth issue is indicative of the reason behind this success: the prime ministry, the office of the foreign secretary, the Ministry of Education, members of the high councils of government, ambassadors, the School of Military Engineering and branches of the military were the main sponsors of the Journal. If we also remember the affiliations of the founders of the Society and the contributors to the Journal themselves, the Journal of Science appears more like a state enterprise despite its quasi-independence. Indeed, the authors who contributed the most essays to the journal, after the founders Münif, Kadri, and Halil Şerif are İbrahim Edhem Pasha[61] and Mehmed Cemil Pasha.[62] Muslim and non-Muslim members of the

[61] See chapter 1.
[62] Mustafa Reşid Pasha's son, ambassador to Paris.

Translation Bureau such as Mehmed Şevki Bey and Fardis Efendi (Alexander Themistoklis Phardys) also contributed numerous articles.[63]

That the Society and the Journal attempted to be the concrete example of Ottomanism at work also puts it in close proximity to the state and its official ideology of the 1860s. The displayed image was of Muslims and non-Muslims as joint contributors to the Journal, with the common objective of strengthening the Ottoman state through the endeavors of equal citizens. Phardys, along with Alexander Constantinidis, another Ottoman Greek member of the Translation Bureau and a protégé of Safvet Pasha, submitted essays on ancient Persia, history of Istanbul and its environs, and the Hagia Sophia. Alexander Karatheodori who would rise to be the Foreign Secretary in 1878 wrote on insurance and the history of book production.[64] The Armenians Ohannes Vahanian, and Sakızlı Ohannes wrote on economics.

This cosmopolitanism was also reflected in the essays of Muslim contributors. Münif Pasha himself wrote a series of articles on the lives and thoughts of Greek philosophers as well as on America, Mehmed Cemil and Halil Şerif wrote on ancient Egypt, Mehmed Şevki on Japan, and Kadri on England. Hence, information on new sciences such as geology, meteorology and chemistry and topics like telegraphy, photography, electricity and magnetism was presented within such a context. The new knowledge belonged to the whole world, and knowing and using it was also about

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[63] Members of the Translation Bureau probably used in their essays material from the books owned by the library of the Bureau whose records were recently uncovered and examined by Balcı (2006). We learn from these records, for instance, that Mehmed Şevki, the author of a series of essays on the political and military history of Europe had checked out Paoli-Chagny's *Histoire de la politique des puissances de l' Europe* (1817), *Histoire de la Republique de Venice*, possibly of Daru (1853), and a book entitled *Travers d'Espagne*. See Balcı (2006, 142).

[64] For more on the Greek contribution to Ottoman intellectual life, see Strauss (1995, 2003).

being a "man of the world," a part of a universal history.[65] Even when the Journal published material relating to Islam, the subject was the contributions of Muslims to civilization (e.g. "Islamic Libraries," No. 45; "Services of Arabs to Geography" Nos. 36, 41), or the lives and lands of Muslims in remote parts of the world such as Cape of Good Hope (Nos. 9-11, 13, 26, 33), China (No.8) and the Comoro Islands (No.27). While a shared Islamic background was taken for granted in many texts – especially those written by Muslim authors, of course – we thus see in the pages of the Journal a treatment of Islamic subjects as part of "general culture." Particularly in definitions of science, the Islamic tradition is referred to and revered, yet it is treated as a provider of incentives and clues for the production of knowledge rather than as a provider and definer of knowledge itself.

Another essay by Münif Pasha on the branches of learning is an obvious example. In this essay, Münif starts with the basic Islamic classification of sciences (*ilm*s) into the intellectual (*aklî*) and the transmitted (*naklî*). While *ilm* literally means "to know," its technical meaning is "knowledge that is gathered and organized around a rule and studied specifically" (*Mecmua-i Fünun* 2:13, June 1863/ Muharrem 1280, 2). But the term had been abused before, and even though they are unacceptable both for common

[65] Certainly this involved seeing the world through the eyes of the Great Powers and the *mission civilisatrice*. Münif Pasha's awe at and unconcealed approval of European colonialism is an indication of the surviving imperial vision of the Ottoman authors. The racist element of this discourse was appropriated by Ottomans as well, as exemplified by Münif's statement that while "Caucasians, which includes Turks, Arabs, Persians, Greeks and the Europeans" are most able in science, "Negroes, due to their creation, are reportedly unable to understand the intricacies of mathematical and rational sciences." ("Mahiyet ve Aksam-ı Ulum" *Mecmua-i Fünun* 2:13, June 1863/ Muharrem 1280, 9)

sense and religion, "superstitions" such as astrology and geomancy had been labeled as science.[66]

Once again, at this point Münif shifts the discussion on *ilm* with its religious connotations to *ilm* as sciences imported from Europe. Even when he starts a section by referring to the "rational sciences" as defined in the Islamic tradition, he drops the term at once to continue discussing them as "science" *per se*. The brief history of "science" he presents is based on the standard European narrative on the evolution of science among the Assyrians, Egyptians, Greeks, Romans, Muslims and then Europeans, which is a narrative excluding Islamic religious sciences, of course.

Sciences are essentially composed of "some information and their consequences"[67] and they are all related to one another: physics and chemistry are dependent on arithmetic, medicine on anatomy, history on geography. Furthermore, as nature is the object that most sciences study, they do not change with changing times and places. Arithmetic does not change, as five multiplied by five is always twenty-five; physics does not change, as the characteristics of light and heat remain the same. Note that as Münif equates science to "knowledge of objects," his comments on the unchangeability of the facts of nature are simultaneously statements that sciences themselves are unchangeable: they simply have to be *learned* as they are.

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[66] At the time Münif's writing, and indeed until its collapse, the Ottoman court had a post of Chief Astrologer. The traditional duty of the astrologer was to prepare horoscopes as well as calendars. While the use of horoscopes to determine the proper time (*eşref saat*) for important events was common procedure, we observe a gradual decline in horoscope preparation after the 1830s. I was able to find in the Ottoman Archives only three documents regarding the use of horoscopes from the period between 1840 (1255) and 1908 (1325): April 1846, June 1857, September 1891. See BOA IDH 118/6015 (14 Ra 1262); A MKT NZD 227/15 (02 Za 1273); Y EE 58/17 (26 M 1309).

[67] (*birtakım malumattan ve bunların netayicinden ibaret*)

Another important phrase that we come across repeatedly in Münif's texts is "useful knowledges/sciences."[68] As early as 1860 when he had started to publish the *Ruzname*, the supplement to the newspaper *Ceride-i Havadis*, he had defined one of the tasks as providing the reader with "entertaining stories as well as [texts on] useful sciences such as history, [69] geography, physics and political economy" ("Mukaddime" *Ruzname-i Ceride-i Havadis* 1, 1 November 1860/16 Rebiyülahir 1277).[70] What made the sciences practiced by the Europeans special was that they were *useful*: this was clearly a central theme of the official discourse on science. Sciences were useful for the development of arts and crafts, for the progress of civilization, for social order and moral purification. We see the phrase frequently in official documents on education from this period as well. An 1863 report on the problems of elementary education starts by asserting that "[v]arious useful sciences and knowledges ... are the basis of civilization and prosperity" (Ergin 1977 vols. 1-2, 464). "The spread of useful sciences and knowledges" is also referred to in a notice on the transformation of the Council of Education in 1864 and a declaration of the Ottoman cabinet in 1870 (Mahmud Cevad 2001, 74, 104).

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[68] (*ulûm/fünûn-ı nâfıa*)

[69] I refer in this dissertation to "new sciences," "European sciences" or sciences learned from Europeans. In some cases these are branches of learning that Ottomans already knew about and/or practised, such as history or geography. But they were now being discussed and promoted differently, as "sciences." Münif made this clear when he argued that "In Oriental countries ... the instruction of the science of history is not customary, those enslaved by customs see [classes on history] with surprised eyes... Indeed, if the science of history is seen as entertainment, and as parables and stories, there is no need for the teaching of it..." ("Tarih-i Devlet-i Osmaniye Dersi" *Mecmua-i Fünun* 3:28, September 1864/Rebiyülahir 1281, 157-8).

[70] For other references to useful sciences see "Ehemmiyet-i Terbiye-i Sıbyan *Mecmua-i Fünun* 5, November 1862/ Cemaziyülahir 1279.

On the one hand, this is another theme strikingly reminiscent of the English "useful knowledge" movement of the 1820s-1840s. Henry Brougham and his Whig associates founded the Society for the Diffusion of Useful Knowledge in 1826 which published the *Penny Magazine* and the *Library of Useful Knowledge* book series. Their aim was "to divert the attention of working-class readers from revolutionary radical prints to more 'rational' pursuits" (Topham 1992: 419) and, via scientific education, render them "peaceable, respectable and diligent" (Topham 1992, 406; also see Shapin and Barnes, 1977). The knowledge conveyed to the readers was useful, thus, because it would enable them to be more productive and self-sufficient, and at the same time contain their dissent. We see both in official Ottoman documents and Münif's texts a similar theme, albeit with a different intended audience.

It is true that links between scientific education and the improvement of arts and crafts were referred to in these texts, but the journal's true audience comprised the new generation of students attending the new schools, and the prominent as well as young civil servants of the Empire. The training of these groups symbolized the hopes for the Empire's future, as well as potential threats: European science had to be imported and taught, but many European political ideas that could inspire rebellion should be kept outside the Empire's borders. Luckily, however, the former could actually make possible the latter, as Münif's arguments suggested. Respecting and learning "science as true knowledge" would teach the educated youth the meaning and necessity of order, the love for the fatherland, and, most significantly, the indispensability and greatness of the state. Hence, science was useful, as well as true knowledge.

On the other hand, however, it should be noted that the concept "useful knowledge" (*ulûm-ı nâfıa*) was not new in Ottoman discourse at all, as it signified desirable knowledge in traditional *medrese* education as well. The unknown author of the *Kitâb-ı Müstetâb* wrote in the 1620s, for instance, that "Knowledge, sir, should be useful / It should ward off whim and ego."[71] This line of criticism directed at branches of learning that did not serve such high goals ("philosophy," as they were generally called) was well-established among the Ottoman *ulema* (Unan 2003, 380-92, particularly 385-6).[72] Even though he was a critique of the contemporary state of the *ulema* class he himself had belonged to, the prominent jurist and statesman of the Tanzimat era Cevdet Pasha maintained this sense in the basic textbook he wrote for elementary schools as well. His *Malumat-ı Nafıa* (Useful Information) (1886) is a simple narrative on the history and principles of Islam.

As Zaman (2002, 65-6) states, that knowledge should be useful was crucial for all Muslim scholars, but it was knowledge that assisted salvation that was indeed useful. In this respect, too, then, we see the appropriation and re-interpretation of a concept from *medrese* education. The phrase that signifies that knowledge should be useful is borrowed, but to be applied to a different type of knowledge taught at a different type of institution. But although it is evident that the sense of "salvation" is not connoted

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[71] "*Beyim, ilm olıcak nâfî gerektir / Hevâ vü nefs dâfi gerektir*" (Yücel 1988).

[72] Taşköprülü Ahmed wrote in the 16th century, "Useful sciences (*ilm*) are Qur'an, *hadith*, and *fiqh*/ The rest are meaningless pursuits, don't fancy them/ Science is that contains the words of Allah and the prophet / The rest are diabolical suggestions, may this be sufficient advice." (Quoted in Karal 1978, 54). For other examples see Akgündüz (1997, 218, 270, 282). In the earlier periods when the "rational/intellectual sciences" were part of *medrese* curricula, they were also regarded as "useful sciences" as the foundation deed (*vakfiye*) of the *medrese* of Mehmed II (15th century) suggests. See *ibid*, p.270.

by the new usage of "useful," it would not be accurate to interpret the transformation as a wholesale replacement of moral concerns by material ones. That the new sciences are useful because of their tangible products and the prosperity they create in this world is indeed a fundamental element of the discourse about science; but the moral connotations are kept intact, as the new sciences are deemed useful also due to their contribution to social order, virtuousness and obedience.

B. New outlets and alternative discourses

1. On science as "Civilization"

One of the most impassioned criticisms of the well-established identification between civilization and science as characterized by the *Mecmua-i Fünun* and the position this equation implied for the Ottoman Empire came from Hayreddin Bey, a Polish convert who published essays in various newspapers of the period. In an essay entitled "Civilization and Turkey" published in the newspaper *Terakki*, he asserted his astonishment at the ease with which Turks surrendered to accusations of being uncivilized. The essence of civilization was community life and the ties of mutual assistance and respect, which the Turks possessed perhaps more than the so-called civilized nations. He proclaimed:

> Ottomans! No nation is superior to you in these respects, and I assure you, if somebody attempts to claim otherwise, you should respond that they are unaware of what civilization is. Civilization must not be confused with sciences and industry and machines. Certainly, sciences

> and industry and machines are desirable powers. But they are material forces ... whereas civilization is the totality of human virtues.[73]

Even though Ancient Greece lacked the scientific knowledge and its products, they were more civilized than contemporary Europe. Russians were stronger in terms of material forces, but they were less civilized than the Ottomans. Ottomans *should* strive to learn the sciences, Hayreddin wrote, but in order to acquire the material power that their civilization deserved, rather than mistaking them for civilization itself. The author of a letter to the newspaper *Basiret* made a similar comment: "our nation is civilized by nature. But is it only Ottomans, that is, Turks, that are innately civilized? This virtue is in essence but one of the endless virtues that result from being honored by the religion of Islam."[74]

This emergent critical attitude towards Eurocentric conceptions of civilization – conceptions which were quite common among the Tanzimat elite including Münif Pasha – was based not only on the broad lack of trust towards European powers, but also on the attitudes of the Europeans who resided in the Ottoman Empire. When the Ottoman government banned smoking in Istanbul ferries during the holy month of Ramadan, for instance, a significant diplomatic crisis ensued.[75] Similarly, Ali Efendi complained in his daily *Basiret* that even when the ferries were packed, Europeans would let their pets sit on the seats, rather than "barbaric Turks." "We do not need a

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[73] "Medeniyet ve Türkistan" *Terakki* 118 17 April 1869 / 5 Muharrem 1286, p.3
[74] "Muteber imzasile aldığımız varakadır" *Basiret* 439 10 August 1871/23 Cemaziyelevvel 1288 p.2
[75] BOA MKT NZD 347/39 (1 April 1861/20 Ramazan 1277)

civilization that makes one consider his own kind less worthy than animals," he wrote.[76]

But probably the most upfront criticism of this particular understanding of civilization came from an anonymous author in the *Basiret*. After arguing that civilization should be divided into "civilized progress," i.e. material products of civilization, and "civilized thought," the author stated that,

> If the progress of civilization has produced as its unique benefit the Armstrong cannon, it [brought forth] only the word 'humanity' to counterbalance it. Therefore, civilized thought can be said to keep up with civilized progress only when the significance of humanity is as considerable for Europe as that of the Armstrong.

Imagine a simple community where people live in peace, the author continued. If they stayed this way, they would enjoy constant bliss and harmony.

> But they are not satisfied with the protection of the Protector of humanity, and instead they place an Armstrong on the walls and bastions of their town. Each time these [cannons] open their mouths ..., they utter words like "Disperse this community; because in these plains we shall fight the enemies of humanity who are envious of your bliss. We shall flatten these mountains and hills and with their debris construct new mountains in the plains you see now. We shall shake and demolish this earth from its roots. But know also that this zealous effort of ours is based on a sincere desire to preserve your happiness."...
>
> But isn't it those very Armstrongs, the protectors of humanity, that invite other Armstrongs that are the annihilator of humanity and civilization? Civilized progress builds railways.., extends telegraph lines. It is only later that we find out that these trains were in fact for transporting our beloved children to the slaughterhouse one hour

[76] "Şehir Mektubu" *Basiret* 935 24 May 1873/29 September 1871/26 Rebiülevvel 1290, 2. Reproduced in Basiretçi Ali Efendi (2001, 147-8).

> earlier, and the telegraphs were for bringing us bad news from them as soon as possible. What bliss![77]

It was necessary to import the learning (*maarif*) and arts (*sanayi*) of Europe, the author argued. But it was also true that while Islam, like other religions, commanded safety and well-being, it also ordered that whatever prevents these should be banished, unlike those that suggested turning the other cheek. Civilization, in short, should be evaluated according to Islamic, rather than European, criteria.

But in a period where particularly the military might of the "civilized world" and the new knowledges that made this might possible were discussed with awe even by the critics of European policies, such wholesale criticisms of the consequences of material progress were hard to come by. Similarly, verses informed by Islamic mysticism like Muallim Naci's "Can those who learn sciences also know the mysteries? / It is he who surrenders his self that knows the mysteries" were not very common in the poetry of the period.[78] The viable alternative to the "science" of the *Mecmua-i Fünun* emerged rather in the form of a discourse that insisted on explicitly referring to Islam and morals while praising science or civilization.

2. Islam and Science: Expanding boundaries, determining virtues

While its closeness with the powers that be, and the conformism of its editors did not fare particularly well with the dissatisfied activists, the *Mecmua-i Fünun* was nevertheless quite popular among the new generation of littérateurs. Ebuzziya Tevfik,

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[77] "Islamiyet ve Medeniyet" *Basiret* 646 13 June 18727 6 Rebiyülahir 1289, p.2.
[78] "Terkib-i Bend" (1874) in Muallim Naci (1997)

a member of this generation, wrote in 1910 that "the youths who enjoyed reading [the journal] would carry it with them like an amulet," and virtually memorize its contents (Quoted in Budak 2004, 272). Classic studies like Tanpınar (1956, 152) and Mardin (1962, 240) rightly emphasize the lasting influence of the journal on future publications. But it is also a fact that the journal's cosmopolitan outlook that referred to "Civilization," rather than Islamic or Western civilizations, and the implications of this choice were not entirely appealing. In a context where the life styles and policies of the Tanzimat bureaucrats who were also the main patrons of the journal raised considerable dissatisfaction particularly among the Muslim community, "Islam and civilization / science" proved a topic that could not be avoided. Subtle discussions on Islam's endorsement of science, or lip service to "Muslim contributions to civilization" were not sufficient.

A striking example of this was the series of articles the *Tasvir-i Efkâr* published between 6 July and 24 August 1866 (Nos. 402-15, 22 Safer-12 Rebiyyulahir 1283).[79] The author Mehmed Mansur, a convert from Macedonia and teacher of French at the Translation Bureau, was infuriated by an article published in the July 1863 issue of the *Mecmua-i Fünun*. In this article on the history of books, Alexander Karatheodori made a passing remark on the devastating impact of battles on libraries, particularly in periods preceding the invention of printing, and referred to the case of the Library of Alexandria. While he avoided specifying the culprit in this controversial incident, he also noted that "after the invasion of Egypt by the Arabs, the connection that existed

[79] The articles were published as a book in 1883, with two additional chapters. My citations are from this version.

between Europe and Egypt was absolutely cut off, and as this also hampered papyrus trade, it became one additional reason behind the disappearance of ancient books" (*Mecmua-i Fünun* 2:14, 23). But this was no different than saying that had Islam not arisen, Greek masterpieces would not have been lost, Mansur asserted. After a detailed criticism of the view that Muslims destroyed the Library of Alexandria, Mansur stated that the relevant information could be found even in the works of the Greek historian Constantine Paparrigopoulos – "books in the author's own language."

The author's errors had led the *Mecmua-i Fünun* to become a means to "spread false rumors," and Mansur had more evidence to back his arguments with in the revised version of his treatise. Apparently, "[t]he authors of the journal were not satisfied with this, and as if only to confirm and advocate the false allegations of this author," they published another piece, this time in their 45th issue (Mehmed Mansur 1883, 66-7). Interestingly enough, this piece entitled "Islamic Libraries" was one of the very few articles directly related to the Islamic tradition that the *Mecmua-i Fünun* had ever published. Furthermore, it is overall a very complimentary account of the flourishing of sciences after the advent of Islam, and refers to the destruction of books only by rebellious slaves and the invading Tartars (see Ali ibn Embasevî "İslam Kütüphaneleri" *Mecmua-i Fünun* 44, May 1867/ Muharrem 1284).

The allegation that the books looted by the slaves were later abandoned and remained buried under the sand for decades is unacceptable, for Mansur: "Not a single person from within the Muslim community other than the authors of this article has ever claimed that the Muslims were ignorant enough not to appreciate the books

written in their own language, and leave them under sand and dirt" (Mehmed Mansur 1882-3, 70-1).[80]

Namık Kemal, the most prominent member of the Young Ottoman movement, published a flattering review of Mansur's treatise in the *Tasvir-i Efkar* (418, September 1866/23 Rebiyülahir 1283). "Arab heroes" knew that the acquisition of knowledge was a command of Islam, he wrote, and their translations of the works of prior civilizations provided evidence for their "service to and esteem for science."[81] Yet while the false rumors about the destruction of the Library of Alexandria by the Arabs are no longer accepted even by many European scholars, they are constantly referred to by "those fanatics – the so-called enemies of fanaticism – who have an affection for Christianity or are set to betray Islam."[82] Moreover, these same authors never mentioned the destruction of the Islamic treasures of knowledge in the Moorish Kingdom by the Christians. Mansur's excellent work would be the definitive refutation of the false rumors, Namık Kemal proclaimed. Ali Suavi, another Young Ottoman and one of the most eccentric characters in 19th century Ottoman history, went further than the other critics, and referred to Münif Pasha in another context as a man who had, "by translating Protestants' raving attacks on Islam, revealed his apostasy and got loathed by the nation."[83]

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[80] "*Millet-i İslamiyenin kendi lisanında muharrer olan kitabların kadr ü kıymetini bilmeyip de bunları kum ve toprak altında bırakacak derecede cahil kalmış olduğunu bend-i mezkur muharrirlerinden başka sadr-ı İslamdan bu ana gelinceye değin ferd-i vahid iddia etmemiştir".*

[81] "*fünuna hizmet ve rağbetleri*" Note that it was Mansur who had taught French to Namık Kemal.

[82] "*Hristiyanlığa muhabbet veya İslam'a ihanet kasdında olan birtakım düşman-ı taassub ünvanlı mutaassıblar*"

[83] "Encümen-i Daniş-i Şarkî" *Ulum* 9 1286/1869 pp. 530-7. Reproduced in Kaplan et al. (1978 vol.2), p. 540. According to Mordtmann (1877/1999, 124), who was a member of the Ottoman Society of Science

Therefore, the reaction to the Eurocentric account of civilization and science that *Mecmua-i Fünun* propagated was an emphasis on Islamic contributions which, in effect, implied the acceptance of the broader narrative. In this alternative approach it was compulsory to state that Islam instructed and guided the acquisition of knowledge and that Muslims had for many centuries followed this order.[84] In an article on the teaching of medicine in the Ottoman Empire, the *Tasvir-i Efkâr* referred to "the Arabic people who constructed a compound out of the transmitted and the intellectual sciences and gave a fresh life to humanity."[85] It added, however, that the Ottomans had not made as much progress as the Arabs in any branch of knowledge. In the first issue of the Young Ottoman newspaper *Hürriyet*, on the other hand, Namık Kemal asked, "Isn't the Turks the nation at whose *medrese*s the likes of Farabi, Ibn Sina, Gazali and Zemahşeri augmented knowledge?... Such a community that had once gained the title 'teacher of the world' now looks at the simplest product of knowledge and is fascinated like having observed a miracle."[86]

Most importantly, however, specifically Islamic branches of learning such as *fiqh* (Islamic jurisprudence) were also referred to by the Young Ottomans as needed sciences. Furthermore, a particular offshoot of their contribution to the discourse on science was its implication regarding morality.

(see chapter 2 p.19), Münif was regarded by many as an atheist. This claim supported by Ali Suavi's remarks points to a reaction that probably emerged as early as 1859, when Münif Pasha published his first work: an anthology of dialogues he selected and translated from the works of Voltaire, Fenelon and Fontenelle (*Philosophical Dialogues* / *Muhaverat-ı Hikemiye*, 1859).

[84] Münif Pasha did acknowledge the contributions of Muslims in his articles, but his emphasis was on novel developments, and, as discussed above, he did not address all branches of knowledge that Muslims had developed.

[85] "Havadisat-ı Dahiliyye" *Tasvir-i Efkar* 437 20 November 1866/ 12 Receb 1283, p.1.

[86] "Hubbül-vatan min el-iman" *Hürriyet* 1 29 Haziran 1868/8 Rebiyülevvel 1285

These contributions can be observed together in their arguments on the reasons behind the decline of Muslim states in general and the Ottoman Empire in particular. The impact of invaders is one reason, as mentioned above. For the Ottoman case, Münif Pasha simply uses the phrase that had also been used in the Imperial Decree of 1839: "certain disturbances" (*bazı gavâil*) ("Mahiyet ve Aksam-ı Ulum" 2: 30 June 1863/13 Muharrem 1280, 9). But the key word for the critics was, once again, "Andalusia." Indeed, since Ziya Pasha's translation of *The History of Andalusia* in 1859, the history of the Islamic state in Spain had become a source of inspiration for Ottoman authors. The significance of the achievements of the Muslim scholars of the Moorish Kingdom – which, incidentally, Ottoman authors learned mostly from European sources themselves – became a justification for emphasizing the Islamic element in the pursuit of knowledge.[87] Andalusia proved that science flourished in a society where Islam guided knowledge production and government was based on Islamic law, with the science regarding this law (*fiqh*) protected by just rulers.

Thus, the discourse on the need for acquiring the new sciences which so far had been monopolized by the "Europhile" elites of the Tanzimat was now being infiltrated with Islamic references, and, in a sense, popularized. But the "Andalusia" narrative was in essence a parable, as it implied also that immorality among the rulers as well as the ruled facilitated the work of the invaders waiting on the other side of the border.

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[87] Ziya Pasha, a leading member of the Young Ottoman movement, translated Viardot's *Histoire des Arabes et des Mores d'Espagne* (1833) quite freely, with additional material from other sources, and published under the title *The History of Andalusia* in 1859. For a rather harsh criticism of the translation see Yinanç (1940, 584). Ayvazoğlu (1996,79-80) underlines that while Ottoman authors must have certainly been aware of the intellectual achievements of the Muslims of Spain, they hardly ever referred to Andalusia before the 19th century. On the theme of Andalusia in Ottoman literature also see Enginün (2000).

Namık Kemal discussed these points very clearly in many of his essays, especially in those he wrote for *Hürriyet*, the newspaper Young Ottomans published during their voluntary exile in Paris. European powers, admittedly, had a significant impact on the dealings of the Ottoman government, and in order to gain their favors, the bureaucrats of the Tanzimat had invented the notion that religious fanaticism reigned in the Ottoman Empire, Kemal wrote. Yet "if the glory, prosperity and erudition of the Muslim world in Damascus, Baghdad, Egypt and Andalusia [were] taken into account," it would be impossible to argue that the religion of Islam impeded progress (*Hürriyet* 35 22 February 1869/10 Zilkade 1285). Laws should be based on the *sharia*, as that was what had "made Andalusia the envy of the world" (*Hürriyet* 50, 26 safer 1286 / 7 June 1869). But the call for sustained commitment to *sharia* law also meant that the Islamic *science* of *fiqh* should be the basis of law-making in the Ottoman Empire.[88]

Thus, the boundaries of science as defined by Namık Kemal were large enough to include the traditional Islamic sciences as well – the sciences that the *Mecmua-i Fünun* had little to say about. This, as can be expected, also had implications for the discourse on ignorance that had been developed in the earlier decades. "Our current cabinet ministers have read everything they have ever read in European languages," Namık Kemal stated, "so they are in effect ignorant Europeans who happen to know Turkish." They are "a bunch of scoundrels who are ignorant even of the catechism [of Islam]"

[88] Namık Kemal refers to the "glorious science of fiqh (*fenn-i celîl-i fıkh*)" in *İbret* 68, but makes the point in many other articles as well, such as *Hürriyet* 9, 23, 30, *İbret* 24. For similar remarks, see Ziya Pasha *Hürriyet* 41. For a broad analysis of Young Ottoman arguments see Sungu (1940). Mardin (1962, 313-319), on the other hand, shows that Namık Kemal's understanding of Islamic law was not as puristic as he made it out to sound.

(*Hürriyet* 35 22 February 1869/10 Zilkade 1285). Ziya Pasha expressed the attitude of the Young Ottomans towards the top bureaucrats in his celebrated verses:

> The zealous man is now accused of fanaticism;
> Attributing wisdom to the irreligious, this is now the fashion
> Islam, they say, is a stumbling block to the progress of the state;
> This story was not known before, now it is the fashion.
> Forgetting our religious loyalty in all our affairs,
> Allegiance to Frankish ideas is now the fashion.
> ("Terkib-i Bend" in Akyüz 1970, 48)

This insistence on the prestige and relevance of Islamic sciences inevitably involved a challenge to the new definition of "ignorance" that the official discourse of the early 19th century had established. For example, in the verse introduction to his anthology of Turkish, Arabic and Persian poetry, the *Harabat*, Ziya Pasha wrote that ignorance and poetry could not exist together. The branches of knowledge (*ulum*) he deemed essential, however, were figures of speech (*bedi*), comparison and metaphor (*beyan*), syntax (*nahiv*), eloquence (*fesahat*), and history, especially of poetry. In order to understand the world, a poet also needed to learn a European language: "That is where the sciences progressed / Do not keep yourself away from learning them." Learning foreign languages and new knowledges would not turn one into an infidel, he wrote, but, as can be expected, with an unequivocal warning: "Acquire their arts and sciences / Leave behind their customs and vices / Forget not your essence with imitation / Do not despise your own nation" ("Meşrut-ı Ahval-i Şâ'iri" in Göçgün, ed. 1987, 73-5).[89]

[89] Strikingly, Ziya Pasha's recommendations appear less comprehensive than the way Fuzuli, a celebrated 16th century poet, discussed his path to good poetry: "I regarded as unfaithfulness to keep my

Ali Suavi, on the other hand, blended in his own reaction to the discourse on ignorance a defense of both Islam and the Turkish nation itself. Not only had Muslims made the greatest contributions to science, Turks themselves had excelled in all branches of science, according to Suavi. Indeed, great men of science mistakenly known as Arabs were actually Turkish. Ibn Sina and Farabi, two Turkish scholars, had made an enormous impact on contemporary Western science, and Turkish authors had surpassed even the Arabs in literature in Arabic. "It is true," Suavi wrote, "that with us arguments on nature were based on conjectural premises rather than experiments... [Yet] the advanced physics of today has done nothing but approve the results of those arguments and demonstrate them with experiments."[90] According to Suavi's interpretation, the Turks had produced proud representatives in all sciences: astronomy, economy, arithmetic, philosophy, natural sciences, as well as *fiqh*, and learning spread from the mosques and *medrese*s of the Ottoman Empire.

He concluded, "[i]t is nothing but buffoonery that some children in Istanbul and elsewhere assume that Turks are in ignorance and dare to give advice like aged men with some big words. It would be more in accordance with respect and reason that

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poetry devoid of the jewel of knowledge (*ilm*), and I detested poetry without knowledge, which is a mass without a soul. Hence I devoted part of my life to acquiring the rational and mathematical sciences. I placed in my verses pearls from a variety of masteries.... I then studied exegeses and the *hadith* and was convinced that the virtue that is poetry cannot be deplored" (Quoted in Yetiş 2007, 35). That Fuzuli was more resolute on the importance of "rational and mathematical sciences" than Ziya Pasha may be indicative of the transformation of the Ottoman conception of knowledge and science: In Fuzuli's world, the sciences in question were still taught in Ottoman medreses and deemed "native." In the 19th century, they had become "European sciences" that were rendered less foreign only with reference to Andalusia.

[90] "Türk" *Ulum* 2, 11 July 1869 / 1 Rebiülahir 1286 p.1-17. Also in Kaplan et al (1978, 501).

those types read and learn from their compatriots whom they are daring to advise" (Kaplan et al. 1978, 504).

The idea of ignorance propagated by the Tanzimat bureaucrats was challenged also by the *ulema*, in an instance that also exemplifies the way those speaking in the name of the new sciences were commonly criticized. The young journalist Ahmed Midhat published two essays that discussed the origin of life on earth within a loosely materialistic framework with references to the theory of evolution in his journal *Dağarcık*, the Knapsack, in early 1873. Following these, however, was another essay that underscored that he had no respect for such sciences and any idea that did not entirely conform to his religious faith.[91] But obviously this was not enough: Harputlu İshak Hoca, an *alim*, anonymously published a short but scathing criticism in the *Basiret* on 4 March 1873, which, as can be expected, was framed also as a condemnation of a type of individual. He complained in his brief letter that "certain individuals with bizarre opinions have emerged in ... the center of the Caliphate, that worry and confuse the community ... with their words, writings, attitudes and actions."[92] When Ahmed Midhat asked his critic to reveal his identity, İshak published another article which he not only signed with his name, but amplified his disparaging remarks. "When our pseudo-philosophers interact with the Europeans," he wrote,

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[91] See the following essays in the *Dağarcık*: "İnsan" no. 2, 1873/1288, pp.45-47 ;"Velâdet" no. 2, 1873/1288, pp.49-52; "Duvardan Bir Sada" no. 4, 1873/1288, pp. 99-102; "İnsan- Dünyada İnsanın Zuhuru" No.4, 1873/1288, pp.109-116, and for his own condemnation of these ideas from a religious standpoint, "Bir Mülahaza-ı Dînîyye" no. 4, 1288, pp.102-105. As specific scientific issues like the theory of evolution and their criticisms are not within the scope of this dissertation I will not go into the details of these texts and the reaction they received. For the purposes of this dissertation what matters is the way arguments about science are framed.

[92] "Mevaliden bir zat tarafından matbaamıza vürud eden varakadır," *Basiret* 865, 4 March 1873 / 4 Muharrem 1290, p.1.

> they take a needless trouble and discuss issues pertaining to religion and faith. They not only do not really know what they think they know, but they imagine and present themselves as learned men. As a result, when their addressee utters ridiculous words criticizing religion, these hopeless types are unable to respond. In order to relieve themselves of embarrassment, they then attribute their own ignorance to the entire nation ... and cry "oh, our nation is in darkness; what are we to do?"[93]

Harputlu Ishak, then, revitalizes the traditional discourse within which ignorance is quintessentially a religious concept, with both ethical and epistemological implications. It is thus not surprising that his comments end with what can hardly be considered as anything other than an excommunication of Ahmed Midhat: "This country's thirty-five million people of the book,[94] Muslim and non-Muslim, ... the Protector of the state and religion and the possessor of the throne of the Caliphate, and the great men of the state share the same view and faith with us, whereas the publisher of the *Dağarcık* has nothing other than his journal and his cane."[95]

Accused of being not only ignorant but also a "cane-carrying" enemy of Islam, and an outcast within his community, Ahmed Midhat's self-defense was, correspondingly, a defense of his own version of Islam, the religion that encourages the search for knowledge, the religion to which the admirers of the progress of science should be grateful. Unfortunately, he wrote, the advocates of "old views" despised everything that came from Europe, even "European sciences."[96] Midhat's compromise, however, was his statement that what made matters worse were men who visited Europe without

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[93] "Varaka-i Cevabiyye" *Basiret* 870 9 March 1873/ 9 Muharrem 1290, p.2.
[94] The Islamic term used to refer to Muslims, Christians and Jews.
[95] "Varaka-i Cevabiyye" *Basiret* 870 9 March 1873/ 9 Muharrem 1290, p.2. Note that canes were commonly regarded as accessories the "fops" of Istanbul liked to carry.
[96] (*ulum-ı Efrenciyye*)

having received a sound Islamic education and witnessed the amazing products of the "new sciences and industries," as these people came to think that Islam was indeed an obstacle against progress when they heard the hateful arguments of the advocates of "old views." What was to be done, then?

> [The problem] stems from the fact that the parties are ignorant of the sciences the other party possesses. Hence, the purpose should be introducing the two sides to one another, and showing to the holders of old views that European progress is a product not of infidel inventions (as believed to be) but, on the contrary, of old Muslims and, that it is essential to appropriate it. Similarly, the holders of new views should be shown that progress and civilization are characteristics of Islam itself rather than the latter being an obstacle to them. This would make the terms "old views" and "new views" obsolete, and Ottomans would work all together for bliss.[97]

This solution did not save Midhat, however, as he was sent on exile along with the Young Ottomans soon afterwards. Strikingly, the alleged advocate of materialism and the Islamic critics of the Tanzimat bureaucrats had been chastised together: it was not the exact content of particular political, philosophical or scientific standpoints that were found intolerable by the state; as long as they were found equally disruptive to social order, hence, not virtuous in the right sense, Islamists and "materialists" were on equal footing.

But Midhat's formulation would survive. The fusion of the two discourses as characterized by his arguments yielded two sorts of science to be known, and two sorts of ignorance to be eradicated for the Ottoman Empire to stay intact. Turning the tables on Tanzimat bureaucrats, the generation of the Young Ottomans redefined science,

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[97] *Dağarcık* 8 1873/1288 pp.237-8.

knowledge and ignorance in a way that tied in with their own political agendas, and this approach gained many followers in the following years. Science was to include both European and Islamic sciences, and one needed to have at least some knowledge of *both* to be able to call oneself knowledgeable. Furthermore, he who would deserve to speak in the name of science had to be a moral individual, unlike the Europhile bureaucrats of the Tanzimat and the "fops" of Istanbul, and this morality was based on Islam, not a simple consequence of learning some sciences.[98]

The political cause of the Young Ottomans involved the termination of the despotic rule of the "enlightened" top bureaucrats and the expansion of the limits of political participation. It involved at the same time the expansion of the borders of science, by re-asserting the worth and applicability of Islamic sciences. But it also re-defined the ideal man of knowledge quite strictly. In an essay where he addresses the Europeans, Namık Kemal stated that they wanted a parliament, and it was what Islam stipulated.

> But you still declare our religion an obstacle to progress. Is progress possible under the tyranny of a few people? ... Wasn't it Islam that preserved the glories of civilization after the decline of the Romans? Wasn't it Islam that advanced and revived rational knowledge? Some wise men among you cry "The Arabs of Andalusia were the teachers of knowledge to Europe"; weren't they Muslim? If what you think is civilization is women going out in immodest dress and dancing in gatherings, that is at odds with our morals. We do not want that, we do

[98] Namık Kemal wrote that the situation in the Ottoman Empire resembled the clash between a father and a son. The son, astounded by the beauty and prosperity of Europe, but ignorant of the history and merits of his own country, came to the conclusion that everything European had to be imitated. The father, on the other hand, failed to understand that the way to transmit religious and moral values was to consciously teach them, not simply act upon them. As a result, Ottomans had ended up imitating the depravities of the Europeans as well, rather than importing only the things that were truly needed, i.e. "sciences and industries." See his "Efkâr-ı Cedide" *Hadika* 14, 27 November 1872 / 26 Ramazan 1289.

> not want that, we do not want that a thousand times. (*Hürriyet* 11 19 September 1868/ 19 Cemaziyelevvel 1285)

A reference to this ideal man can also be found in Abdülhak Hamid's play *Sabr ü Sebat*, "Patience and Perseverance," written in 1875. In a key scene, Mün'im Efendi meets Müyesser Bey, a young man his brother is considering as a potential son-in-law. Mün'im is glad to hear that Müyesser works at the Translation Bureau and spent a few years in Paris, stating that his brother wanted a son-in-law who possessed "new knowledge."[99] After asking Müyesser about the schools of Paris and receiving a praising answer, Mün'im starts his lecture:

> The thing about the Europeans that is to be imitated is their methods of instruction. Young men like yourself should see as a model those men of knowledge who reach perfection in those well-organized schools of Europe. Otherwise, what could be the consequence of acting like our fops today, and imitating the behaviors, accessories and clothes, prodigal customs of the Franks that they themselves refuse to appreciate, other than being unaware of one's own true nature and failing to preserve one's nation? (Tarhan 1998, 53-54)

While their understanding of ignorance was thus broader, the generation of the Young Ottomans did not have any objection to the notion that ignorance was a chief cause of the hardships the Empire had been going through. Ziya Pasha argued that just as the welfare of an individual is dependent on his intelligence, a nation could not survive without knowledge: "The sole reason behind the progress of European states is

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[99] ("*malumat ı cedide"*)

knowledge and learning (*ilim ve marifet*) and the cause of our backwardness is ignorance and unawareness."[100]

But the Young Ottoman approach to the "problem of ignorance" was also framed in a way that was congruent to their broader concerns, i.e. as yet another area of disparity between Muslim and non-Muslim Ottomans. Ziya Pasha asserted that "among [Armenians and Greeks] one could hardly find a ten year old who is unable to write in his own language and read newspapers... Not even two percent of the Muslim community can write. [But] twenty percent of the other communities are literate."[101] In another essay, he admitted that Muslim children were able to read the Qur'an, but that was all they could do.

> Our child can only read, he writes but it's more like scribbling. He can't express his thoughts on paper. [A non-Muslim child] knows at least some things about sciences (*fenler*) like arithmetic, geometry, geography, drawing and music. Ours is utterly ignorant, and hasn't even heard the names of the sciences. So many ignoramuses all around are unaware even of the state of the world and the perilous position of our state and nation. And when it is heard that teaching methods will be enhanced,... some start rumors that the Qur'an will be banned and everybody will become an infidel.[102]

The constant interference of the Great Powers with the internal affairs of the Empire and the impact of the unjust treaties were undeniable, Namık Kemal wrote, but the state of the non-Muslim communities within the Empire proved that they could not

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[100] "Türkistan'ın Esbab-ı Tedennisi" *Hürriyet* 5 27 July 1868/6 Rebiyülahir 1285. Türköne (1991, 98) attributes the essay to Namık Kemal and claims that the two essays published in the 5th and 6th issues of the *Hürriyet* that put the blame on ignorance rather than the usual target of the Young Ottomans, i.e. the despotism of Tanzimat bureaucrats, were actually commissioned by the Ottoman government itself. The rebellious intellectuals published these pieces half-heartedly in return for financial aid.
[101] "Türkistan'ın Esbab-ı Tedennisi" *Hürriyet* 5 27 July 1868/6 Rebiyülahir 1285.
[102] *Hürriyet* 54 5 July 1869 / 25 Rebiyülevvel 1285.

be used as excuses for all failures: "The affairs of the Greeks and the Armenians are subject to the same treaties, but they do not cease to progress... Thanks to their patriarchate, they are somewhat protected from oppression; and thanks to the organization of their schools, they advanced in education."[103] Clearly, if Muslims had the same kind of protection, they would be able to progress as well.

Basiret also touched upon the reasons behind the increasing wealth and power of the non-Muslim communities within the Empire. While Muslim communities perceived the change as a sign of differential treatment by the government, the difference was due to education. Non-Muslim Ottoman subjects emulated the efforts of the civilized nations of Europe for "improving sciences and industries and expanding the means of commerce." They sacrificed their wealth for the education of their children, thanks to which they were able to better handle their affairs with the state. "Most Turkish tradesmen," on the other hand, "are unaware of the affairs of the world" and cannot express themselves even to an ordinary clerk. Hence, those who accused the state for attaching more importance to Christians should seek the blame in themselves.[104]

Ebuzziya Tevfik, on the other hand, stated that even the Jews, who were the most backward among the non-Muslim communities of the Empire, now had better institutions than the Muslims. While their children now learned the "needed sciences" (*fünûn-ı lâzıme*), Muslim children still had to wrestle with "the thousand-year-old Grammar and Syntax, and even Logic, which was composed twelve-hundred years

[103] *Hürriyet* 35 22 February 1869/10 Zilkade 1285.
[104] *Basiret* 86 29 May 1870/27 Safer 1287.

ago in Greece."[105] But now that it was obvious that the government was unable to provide the necessary education, the Muslim community had to be set free like the non-Muslims, and private initiative should be in charge of the translation of the needed books and the opening of new schools.

Another idea that attracted the fury of the Young Ottomans was therefore that of science as a gift from the state to the subjects, which was very much alive in this period. *Mümeyyiz*, a newspaper for children, for instance, follows the technique established in the previous two decades when it starts with an introduction about the importance of knowledge, but then emphasizes that ignorance had become unacceptable in the contemporary era when there existed many new schools.

> Up until ten, fifteen years ago the needed branches of knowledge (*ulum-ı mukteziye*) had not yet flourished in our country, and the means for learning some sciences were not available. Thank God we now have such a sultan who ... with so much sacrifice, opened many schools dedicated to the sciences and the arts. You should do your part to express your gratitude ... and strive to learn the branches of knowledge. (*tahsil-i ulum*)[106]

Thus, the knowledge of the new, "needed" sciences was equated with knowledge *per se*,[107] and learning science was portrayed as a duty towards the Sultan. Science was under his protection, and in order to become a good subject, one had to learn it.

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[105] *Sirac* 5 2 March 1873/ 2 Muharrem 1290
[106] "Bilmek ve Bilmemek" *Mümeyyiz* 15 January 1870/12 Şevval 1286, p.3.
[107] *Mümeyyiz* further clarified its approach to knowledge by publishing in its 48th issue an abridged version of Münif Pasha's "Comparison of Knowledge and Ignorance" that identified ignorance with lack of knowledge on the new sciences. It is also important that in a text on "people to interact and be friends with," the newspaper recommends "people of knowledge and skill" as the primary group, whereas "people of good morals" comes second. See "İhtilat ve Ünsiyet Olunacak Tavaif" *Mümeyyiz* 31 21 May 1870 / 19 Safer 1287, p.3.

We can observe such portrayals in books written for the new schools as well. In the foreword of a textbook translated for the school of medicine (Ahmed Remzi 1871, 2), for example, it is stated that "the merciful gaze" of the sultan had revived the sciences, and the "coming across of his glance" had become the source of emergence of various knowledges and arts.[108]

Criticizing this idea in his an analysis of an official document on education that used a cliché of bureaucratic writing and referred to official permission, Namık Kemal wrote:

> What does it mean to say "The exalted permission bestowed unsparingly for the spread of science and learning (*fünun ve maarifin*) and the perfection of public education"? ... Do we need permission even to acquire knowledge? ... Will our government, if it so desires, be able to deprive us of the light of understanding as well?... There are only twelve or thirteen thousand children in the public schools of the Ottoman sultanate which is one of the leading states of the world in terms of area and population. Yet official language unabashedly refers to the cause of education with such hoopla. (*Hürriyet* 49 31 May 1869/19 Safer 1286)

So for the Young Ottomans education and the spread of science should be seen as the *obligation* of the state, not as a grace. Once again we see the approval of the official discourse, along with a call for expanding it – yet as we shall see in the next chapter this call for understanding education as the state's duty had very limited impact on the official discourse.

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[108] "*Temayül-i nazar-ı merahim eser-i mülukanesi medar-ı ihya-yı ulum ve fünun ve tesadüf-i nigah maali iktirah-ı tacdaranesi bais-i icad-ı maarif ve sanayi-i gunagun olan padi*şah-ı azim"

3. The pros and cons of the "ignorance" discourse

Ali Suavi's passionate and sweeping reaction to the discourse on ignorance (see above) appears to be an undercurrent of a widespread discontentment with the official view on what constituted the "needed knowledges" and, in particular, its young advocates that Suavi referred to as the "children in Istanbul." A fact that cannot be overlooked is that from the 1860s onward, publishing became a potential source of income for many educated Ottomans. The generation of the Young Ottomans also includes the first Muslim entrepreneurs in this field, as well as the first individuals to turn journalism and literature into a career, usually as a result of a stalled career in the bureaucracy. The path was by no means a secure and lucrative one, however, due to the low rates of literacy and strict state censorship. Nevertheless, some newspapers reached sales figures like 10,000, and plays such as Namık Kemal's "Fatherland" (*Vatan, yahud Silistre*) attracted huge audiences. The criticisms of ignorance and calls for spreading literacy by these young men of letters should be seen under this light as well. In a representative text, Ali Efendi, the publisher of *Basiret*, complained that because rates of literacy were so low, the popularity of Ottoman newspapers could not by any means be compared to the situation in Europe. This was a shame, he wrote, as newspapers themselves were crucial for the spread of education.[109]

While we see such complaints in many newspapers, it nevertheless appears to be the case that many educated young men attempted to start new journals and newspapers, and share with their readers what they learned at school. As a result, these

[109] "Şehir Mektubu" *Basiret* 331, 1 April 1871/17 Muharrem 1288. Reproduced in Basiretçi Ali Efendi (2001, 10-2).

publications tended to contain in their first issues a confession that the publisher / author was not truly an expert on the subjects he was writing about, along with a justification that the author hoped his modest attempt would nevertheless be a contribution to the lofty objective of "spreading education."[110] Ahmed Midhat touched upon this subject as well when his journal *Dağarcık* received a question from a reader regarding "the formation of the earth according to science." That the question sent to Midhat, a journalist without an advanced education, was from a student of one of the new military schools, which were known to be the hubs of European-style education in the Ottoman Empire, is a striking hint not only about the level of education in these schools, but also of the role journals like *Dağarcık* were expected to play. In the absence of efficient institutions and resources for scientific debate, instruction and research, the press assumed the position of the teacher of the literate class. Aware of this situation, Midhat confessed to ignorance in such complex matters, and complained that the current level of education in the country did not allow for specialization. He wrote,

> learning knowledges and sciences (*taallüm ve tefennün*) in our country amounts to accumulating some knowledge, and seeing in a book what one has heard of before and recognizing it, and, if one makes some progress, exposure to the basics of sciences, and later, getting a public office based on all this knowledge... As a result, the sciences that we currently possess failed to enable us not only to raise one proper chemist or astronomer or admiral but to distinguish one group from among the men of letters... and authorizing them to report to their compatriots the direction and manner of progress of the sciences.[111]

[110] Akı (1989,6) indicates that similar introductions were very common in plays published in this period as well.
[111] "Kürre i Arzın Fen Nazarında Suret i Teşekkülü: Aczin Sebebi ve Cevabın Suret-i Tedariki" *Dağarcık* 1873/1288 p.271

Most of the current authors were around thirty years old, Midhat argued, and they had started publishing usually after years of education within the muddled educational system and learning a foreign language, around the age of twenty-five.[112] While they all wanted to serve their nation, they were still too few, and this did not allow them to specialize. They worked diligently to improve the Ottoman language, publish novels and plays to correct morals, translate and write texts on history, science and philosophy, and start newspapers and journals. When they had so much work to do, they could unfortunately not be expected to know all the sciences in detail.[113]

Midhat's positive and Ali Suavi's negative comments on those young men lecturing on the benefits of science and education and the dangers of ignorance are consistent with what we observe in the new, and usually short-lived newspapers and journals of Istanbul in the 1870s, as they, almost as a rule, contained essays on education, knowledge and ignorance at least in their first issues. H. Nuri's *Revnak* (Glow), for instance, praised the new books on science published thanks to the encouragement of the Ministry of Education, and argued that "our twenty-year-old youths who graduate after reading these books do not waste their lives after empty desires and whims as in the old times." These youths wrote new works themselves, assuring that the Empire's future would be much brighter.[114] Mehmed Cemil's *Sandık* (The Chest) published an essay on ignorance based mostly on Münif Pasha's *Mecmua-*

[112] Ahmed Midhat was twenty-nine when he wrote this article.
[113] *Ibid*, pp.273-4. Interestingly, Ahmed Midhat was still complaining about the current level of education that did not allow for specialization in his *Alafranga, yahud Avrupa Adab-ı Muaşereti* published twenty-one years later.
[114] "Mukaddime" *Revnak* 1 1873-4 / 1290

i Fünun article, "Comparison of Knowledge and Ignorance" and praising the knowledge that had enabled the English to dominate the world.[115]

But possibly the most pompous manifesto on knowledge and those who possessed it was published in another short-lived journal of the period, the *Afitab-ı Maarif*, "The Sun of Learning." In the first issue of this now entirely forgotten journal, the authors argued that the sun of learning emanated its rays which were then reflected by "the sea of civilization" that further spread the light. As a result,

> Westerners are turning the west into the origin of the acquisition of knowledge by grasping the light of science on which the means of civilization depend. The Orientals are taking ineffective steps to borrow this light which they had left behind the dark clouds of forgetfulness and negligence, and enlighten the oriental lands, and, alas, turning the Orient into the West of four or five centuries ago, where the flame of knowledge was extinguished and the blaze of civilization had disappeared.[116]

While they themselves had made so many discoveries when the Europeans were entirely ignorant, Orientals now did not wish to learn the sciences even to prove Europeans wrong, and simply belittled European inventions. Even the Ottomans who were once the greatest warriors on earth were in utter destitution due to "the catastrophe of lack of learning and arts."[117] "How can we, in a world of progress where Western nations are competing to announce their scientific discoveries..., waste time reading and writing stories on love and affection?" the authors asked. While there were also wise Ottoman authors who wished to contribute to the spread of science in

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[115] "Mukayese-i İlm ü Cehl" *Sandık* 1 1873-4/ 1290
[116] "Mukaddime" *Afitab-ı Maarif* 1 1874-5/ 1291 p.2. The translation is intended to mimic the verbosity of the original text.
[117] (*marifetsizlik ve sanatsızlık*)

the Empire, their incompetence in the sciences hampered their efforts. As a result, "the Sun of Learning came into being ... to radiate the light of accomplishment and virtue (*kemalat*) and illuminate the Oriental press." (4)

Unfortunately I was unable to find any information on the authors Mehmed, Vassaf, Nazım and Recai, but from the tone of the text, it appears reasonable to conjecture that they were students or graduates of one of the highest ranking new schools of the Empire, the Military Academy or the School of Medicine.

The journal published texts on archaeology, astronomy, zoology and politics in its first (and last) issue. But this initial and quite ambitious issue received one of the most brutal responses in 19th century Ottoman press when Süleyman Talat's journal *Kasa* (The Safe) published an issue ridiculing some of the Ottoman periodicals of the time, with a majority of the pages devoted to the *Afitab-ı Maarif*.[118] This satirical issue of the *Kasa* contains an "advertisement" from a "Society of Science" (*Cemiyet-i Fenniye*) welcoming the emergence of the *Afitab-ı Maarif*. This journal, according to the ad, conveyed information on such sciences as foppery and fashion, and was published by four men who aimed to make some money. The *Kasa* wrote, "[s]upposedly humanity was in darkness, their thoughts had been darkened, and they were thirsty for the water of life, the sun of knowledge. And these men here have filled up their barrels ... and

[118] Talat, who was twenty-five at the time, was a graduate of one of the less prestigious new schools of the empire, the *Mahrec-i Aklam*: an intermediate-level school for providing basic skills and general knowledge on a broad range of subjects for future civil servants. He occupied a number of lower level posts in judicial institutions and also wrote a play (*Feryad*, "Cry for help") criticizing arranged marriages. The protagonist of the play was a well-educated, but chaste young girl.

now want to sell us water. Turns out these four writers grabbed their lanterns and came out to illuminate our darkened thoughts..."[119]

In addition to numerous mocking comments about the self-importance of the four authors, the *Kasa* made fun of every single essay in the *Afitab*. The one on astronomy can give an idea about the general tone:

> **Astronomy**
>
> There were three views in Greece: 1. Ptolemy said "In March 1874 a journal called *Afitab-ı Maarif* will emerge, but it won't sell, as it is stationary." 2. Plato said "*Afitab-ı Maarif* is stationary, so it will stay motionless in booksellers, but its authors will revolve around the stores." 3. Tycho Brahe said "Whether *Afitab-ı Maarif* is stationary or not, whether its authors revolve or not, the typists will demand all their fees." (*Kasa* 3, 1874, 44)

But it was in a more serious article in this issue where the publishers of the *Afitab* were condemned most harshly. "It is so strange," the author argued, "that some people publish translations of European absurdities that corrupt morals under the name 'science'." Most specifically, it was the adulation of Ancient Greek philosophers that was unacceptable: "Poor master of sciences! What is he to do? Had he read some Arabic as well, he would not have applauded Greek men of science so wholeheartedly." The counter-argument concerned the by now rather established narrative about the glory of the Arabs when Europeans were in ignorance. Furthermore, the glorious Greece of the bygone eras was now suffering from the

[119] "Şark Usulü: Afitab-ı Maarifin Münderecat-ı Mühimmesi / Mukaddime" *Kasa* 3 1874/1291, p.43.

greatest ill of all: moral destitute – the reason behind the decline of Andalusia as well. The conclusion had little to do with scientific knowledge itself, however:

> No matter what anybody says. We prefer [the garb] of those old Ottomans who had appreciated the justice, wisdom, history, generosity, morality, and the greatness of Islam to the *alla franca* outfits of our new-fangled gentlemen with short jackets, tight slacks ..., canes, chamois leather gloves and monocles, who lost their community and emulated Frankish manners... While our youths try to learn clownliness in balls, dancing in theaters, the latest fashions of Paris, *alla franca* haircuts, bowing and bending while being introduced to a woman, ... the qualities that adorn the moral virtues of the Ottomans are lost entirely.
>
> It is true that learning (*maarif*) is the water of life for any nation.... [But] we want to progress in the knowledges of civilization while maintaining the morals of our community, we do not need the vileness and degeneracy of Europe in the guise of civilization. We sincerely hope that we will see in our country a lot of progress with respect to the philosophy and experiments of the natural sciences, the science of law, the fundamentals of wealth, liberty, orderliness, freedom of the press, highways, railways, new weapons; but if our fops excuse us, we do not want to and will never see the ... balls, dances, hubbubs and fashions of Europe.... We will progress within Islam, we will not be Franks in fezes, with altered morals and manners.[120]

Ignorance was clearly a problem worthy of discussion, and the Ottomans certainly needed the fruits of knowledge. But nothing could be resolved if the manner of the arrogant fops prevailed.

Indeed, Young Ottomans referring to ignorance never received such criticisms. Nuri, an associate of Namık Kemal, for instance, complained in the Young Ottoman newspaper *Ibret* that there had emerged a view that condemning the ignorance of the people was an insult to Ottomans. He argued that silence in such matters would

[120] "Tiyatro ve Ahlak" *Kasa* 3 1874/1291, p. 53-55.

constitute the real crime, and that campaigns for the spread of education would become all the more widespread if people were aware that even French newspapers complained about the ignorance of their own nation. "If we think a little evenhandedly on this matter, we will realize that comparing our education to that of France is like comparing a child with a savant."[121] Similarly, Ebuzziya Tevfik argued that the children of Muslim Ottomans got their elementary education from teachers who were themselves "ignorance in material form." European children knew more than Ottoman children who were older than they: "When they hear the words 'history', 'geography', 'arithmetic', 'geometry', our children are astonished, and left wondering if those things are [the names of] humans or playthings."[122]

But the emphasis on ignorance put those demanding political reform in a dilemma, as we can observe in their essays. If the Ottomans were too ignorant of the way the contemporary world actually worked and lacked the new types of knowledge about mankind and the world, then of course the knowledgeable had the right to be in charge. We see even that the Young Ottomans, the major critics of the post-Tanzimat political order, appropriated this discourse and used it particularly to prove that it was the Muslim, rather than the non-Muslim, community of the Empire that was underprivileged. But the discourse was a double-edged weapon in that too strong an emphasis on the ignorance of the Ottoman people in comparison to the Europeans could imply that they were at a much lower stage on the civilizational ladder, as many

[121] "Batıl Zehab" *İbret* 10, 27 June 1872/ 20 Rebiyülahir 1289.
[122] "Mektebsizlikten görülen bela ve mekteblerin vücub-ı ıslahı" *İbret* 15, 4 July 1872/27 Rebiyülahir 1289

European authors claimed. Furthermore, it made it particularly difficult to argue that the parliamentary monarchy that the Young Ottomans defended could actually work in the Ottoman Empire. As ignorant people were easier to "lead astray," freedom of the press could also be deemed dangerous, just as the Ottoman government resolutely did.

Examples of the resultant inconsistency are easy to come by. While the first issue of Şinasi's *Tasvir-i Efkâr* had referred to the popularity of newspapers in "civilized nations whose eyes were opened thanks to education," for instance, its fifth issue introduced a news story on superstition translated from an Austrian newspaper by stating that the story showed that "even though rational sciences have progressed remarkably in Europe, commoners are still so deficient in knowledge."[123] Similarly, while *Tasvir-i Efkâr* published many essays that criticized superstition, news/advertisements about itinerant healers can also be found in its pages.[124] Namık Kemal, who wrote in the *Hürriyet* many essays where he indicated that non-Muslim Ottomans themselves were more knowledgeable than Muslims, let alone Europeans, also asked in defense of an Ottoman parliament, "Do [critics] think that every peasant in Europe is able to distinguish good from evil, the idiot from the wise, the cruel from the just, the knowledgeable from the ignorant? No, they are just like our people. Their affairs are better organized, that is why they are wealthier" (*Hürriyet* 13 21 September 1868 / 4 Cemaziyelahir 1285).

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[123] *Tasvir-i Efkâr* 5 8 July 1862/10 Muharrem 1279 p.3.
[124] See "Halepli Ahmed Efendi" 519 19 September 1867 /20 Cemaziyelevvel 1284, p.4; "Hoca Abdi Efendi" 684 1 January 1869 /17 Ramazan 1285, p.3. These were people believed to heal the ill with their breath.

An essay published in the *İbret* was more blunt. Ottoman advocates of progress always discussed the Empire's shortcomings in education, commerce and industry, the author argued. Yet an unnoticed, but most significant obstacle against progress was to constantly emphasize the ignorance of the people. "Isn't all that there is the people?," the author asked, "[i]s it acceptable to proclaim so hastily 'the people are ignorant!' as long as there is, in a particular community, enough knowledge and science (*ulum ve fünun*) for governing that community, and even have it categorized as a civilized nation?" This political elitism was then replaced with an intellectual elitism: Even if the people are as ignorant as they are mistakenly thought to be, then it was precisely the freedom of the press to convey information that would save it from that state.[125]

Yet in an essay published in the same period ("Maarif" *İbret* 16, 5 July 1872/28 Rebiülahir 1289), Namık Kemal would argue that the people of Europe and the United States were not only literate, but "even a common sailor or porter" in these places knew the basic principles of their religion, understood at least one foreign language, and were familiar with the essentials of "geography, history, arithmetic, algebra, geometry, physics, chemistry, astronomy and natural history." Similar comments about the astounding knowledgeability of the average European can be found in the letters he sent to Rifat Bey in August 1878. In one letter he states that "the lowest peasant in those countries learns eight tenths of all the classes taught at our Military Academy." He even ridicules Ottoman men of letters themselves, along with himself:

[125] "Terakkiyi men eden şeylerden ikisi daha" *İbret* 113 12 March 1873/ 12 Muharrem 1290

> Here, we are all literate. But we are as ignorant as peasants. Because I don't see among us anybody better at keeping his accounts than a peasant. I saw it with my own eyes in Sofia. A shepherd thrust a pole into the ground and measured the elevation.... We cannot measure slopes ourselves. We cannot measure the size of our house destroyed in fire in Istanbul. We don't know how to hold a match so our moustache won't get burnt. We are unable to save ourselves in case of an earthquake. We would hide under a tree during the rain and get struck by lightning. (Namık Kemal 1969 vol.2, 192, 237).

The outstandingly political nature of the struggles regarding the definition of the meaning and consequences of ignorance and "useful knowledge," and descriptions of the ideal man of knowledge and virtue were thus made explicit by the very contradictions within the texts written by the Young Ottomans.

4. Useful Knowledge, Useless Groups

One aspect of the official discourse on science – as characterized by Münif Pasha's writings – that remained rather unchallenged in the 1870s was its emphasis on usefulness. The prestige of the practical, material benefits associated with "useful knowledge" transformed this understanding of "usefulness" into a principal criterion for evaluating the worth of any activity. Indeed, this element became part and parcel of emergent alternative discourses themselves.

A common target of criticism in this respect was literature itself. The early examples of this reaction that would in the 1880s turn into a full-blown criticism of traditional Ottoman literature and its representatives emerged in this period. In a letter published in the newspaper *Terakki*, for instance, an anonymous author complained

that the Europeans constantly blamed the Ottomans for being indolent as well as ignoring science and education. He asked, "Where are the books on the sciences that would be the source of prosperity for the people and development for the country that we can all read?" This was an even more conspicuous problem when it was known that the basis of European sciences were the books Muslim Arabs had translated. Accusing those who knew European languages for translating stories and tales rather than books on science, he stated "They entertain us, instead of guiding us forward" ("Terakki Gazetesine" *Terakki* 124 26 April 1869 / 4 Muharrem 1286, 3).

The same argument can also be found in Talat's *Kasa*. In his condemnation of the translation of "children's tales" into Turkish rather than useful works, the author proclaimed: "Let us think not about the present but the future. Let us look at the West, the spring of achievement, and take warning. Isn't it a pity for us to write some ridiculous stories here while the Europeans contribute to... knowledge and the progress of the arts every single day?"[126]

We see a similar example in the chronicle of Ömer Faiz Efendi, the Mayor of Istanbul who had accompanied Sultan Abdülaziz during his visit to European capitals in 1867. According to Ömer Faiz, the illuminated streets of Paris had impressed the Ottoman visitors, as they appeared as if the lamp posts had stored sunlight in them. "We too have people interested in the light of the sun," Ömer Faiz stated. "They are our poets.... They resemble their beloveds to the sun that turns night into day. They

[126] "Gece Yolcuları" *Kasa* 2 1873-4/ 1290 p.30. The translation in question was from the popular French mystery novelist, Pierre Alexis Ponson du Terrail. It is striking that the author fails to notice that the author of the original text itself was a European.

write volumes of poems and songs. [People in Europe] are interested in the sun, too, but here they are their chemists, scientists. That's the difference between us and them" (Kutay 1991, 121).

While the 1860s and 70s witnessed the efforts of the Young Ottomans for restoring the prestige of traditional Islamic education, the criterion of "usefulness" was also employed in assessments of the *medrese*s. Furthermore, this criterion led even the passionate supporters of alternative approaches to harshly criticize the curricula and students of the medreses. According to an anonymous author of the newspaper *Terakki*, the true realization of human potential lay in learning and practicing "the most honorable and useful" of the sciences. In that case, "sciences that are interested solely in language, such as syntax and grammar," (*sarf ile nahv*) and those dealing with categories and representations, such as logic cannot be regarded as useful sciences. Learning Arabic grammar and syntax, the fundamental courses of *medrese* training, cannot be deemed useful unless it helps one to understand books on the truly useful sciences written in Arabic, according to this author. Languages – even Arabic, "the foundation of our language and religion" – should be learned only in order to make use of the works on sciences and knowledges written in them. Furthermore, the way the teaching was organized in the Ottoman *medreses* enabled the reading of antiquated texts, but not even contemporary Arabic newspapers. As a result, those who learned Arabic in such a fashion were unable to read what is really needed today and

"deal[t] with some issues in *kelam* (Islamic philosophy) that are entirely irrelevant for the circumstances of our time."[127]

While it was true that *kelam* would be able to fend off the undesirable impact of certain new ideas, a new *kelam* was needed. The author complained, "[t]oday's thoughts are different. Certainly the needs are different as well. The sciences learned do not serve our present needs, everything is in conflict with what is required." While he regarded studying all sciences in Arabic not particularly useful, he argued that sciences such as *fiqh*, ethics, as well as arithmetic had been discussed well in books written in Arabic, and in order to save *medrese* students from the miserable state they were in, it was such sciences that should be emphasized. Similarly, another author who wrote on the same subject claimed that many *medrese* graduates were unable even to perform basic arithmetic operations, thus betraying the legacy of the glorious Arabic scholars of the Golden Age of Islam.[128] In a poem he wrote in 1877, Abdülhak Hamid went so far as to refer to the medrese as a place where idiocy was taught: "People leave it more ignorant than when they first entered."[129]

Ahmed Midhat, on the other hand, was among the first to indicate that a reason behind this situation could be putting too much emphasis on early Islamic contributions to science. While he confessed that reading about the miserable state of

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[127] "*vakt ü hal icabatınca mütalaasından faide husulü inkar olunamayan (evrak ı havadis) okunmayıp da ilm i kelamda (havadis i yevmiyye) eşkalatı ve şu zamanda revafızdan başka bir kısmı bulunmayan fark ı zalenin tahkik i mezahibi ve ona müteferri olup da hükm i zaman icabınca asla lüzumu olmayan birtakım mesail i kelamiyye tafsilatıyla uğraşılıyor*" "**ولقدكرمنا**" *Terakki* 155 7 June1869 / 27 Safer 1286 pp2-4.
[128] *Basiret* 817 1 January 1873 / 2 Zilkade 1289, p.2.
[129] "*Anda keşlik öğretirler herkese / Halk ana cahil girip echel çıkar*" "Garam" quoted in Akı (1974, 36).

science in the Europe of past centuries put a smile on his face, he warned his readers not to

> conclude based on our precedence to the Europeans in science that we do not currently need them. Because we have entirely resorted to comfort and ease in the last two centuries and failed to be worthy successors to our ancestors, and in comparison to Europe, we are awfully backward. Hence at present we are obliged to achieve the progress that we need by borrowing it from them.[130]

For the Young Ottomans, the incompetence of *medrese* graduates was a pressing issue. While the need for them was remarkable, many among the *ulema*, Ziya Pasha wrote:

> ... cannot understand anything from [a contemporary Arabic newspaper] unless they study it for two hours with the help of a dictionary. They would admit to incompetence in *fiqh* if they were asked a question concerning it. Facing an argument on *akaid* (Islamic doctrine), they would grab a shield of bigotry and try to fend off their opponent by blaming them of blasphemy...
>
> If the discussion were on politics, they would be amazed at hearing that there exist countries like England, America, Japan or Morocco. If they needed to write a letter in Turkish, they would beg for help.

The real problem this caused, according to Ziya Pasha, was that *medrese* graduates could not be employed anywhere: "If it was said to them 'The government will offer you an official post... Choose whichever field your knowledge is useful in,' one wonders what their answer would be." Their knowledge of Turkish was insufficient, they did not know anything about fiscal and administrative issues, and they could

[130] "Osmanlı Kütüb-i Atikasını Karıştırdıkça Frenklere Gülmemek Elimden Gelmiyor" *Dağarcık* 1288, p.256.

never communicate with foreigners. As a result, they could not do anything "useful for the state and the community" but teach in mosques, thus rendering years of education more or less pointless.[131]

Ali Suavi devoted one of his best known essays to the same problem. In this essay where an imaginary *medrese* graduate discusses the training he received and its consequences, we see similar arguments on the incompetence of *medrese* graduates in all branches of learning: "I understand that these sciences are beneficial. But why haven't I benefited myself? ... I am scared even to say 'I became a scholar, this is how I benefited.' Because all my acquaintances know that I am unable to write two sentences in a clear manner, even in Turkish."[132]

The idea that the empire needed a new type of religious scholar became a leitmotif of the essays written in the 1860s. Hayreddin Bey argued that the amalgamation of the true Islam with mistaken ideas had led to the derision towards novelty and, consequently, to Ottoman decline. To demonstrate what the religion actually instructed, the Empire needed knowledgeable, reasonable and virtuous *medrese* teachers and preachers: "Had it been prohibited for us to receive and borrow the estimable ways that did not exist during the era of the Prophet and emerged later, be them European inventions, then we should have deprived ourselves of all the beautiful things of our era and contemporary progress, such as cannons and rifles, steamboats and cars."[133]

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[131] "Türkistan'ın Esbab-ı Tedennisi" *Hürriyet* 5 27 July 1868/6 Rebiyülahir 1285.
[132] "Maarif" *Muhbir* 8 27 January 1867 21 Ramazan 1283 (Kaplan et al 1978, vol 2 555-6)
[133] "Muvazene-i Din ve Akıl" *Basiret* 261 14 January 1871/21 Şevval 1287 p.3.

Sadly, he wrote, some ignoramuses were unable to differentiate darkness from light. Similarly, while most preachers were commendable according to an essay in the *Basiret*, there were unfortunately also those who told "stories containing delusions that reason and wisdom (*hikmet*) cannot accept."[134]

Thus, in the 1860s the criticism of *medrese* graduates became a key element of the discourse on science. Science was admittedly useful knowledge and those who knew the sciences were useful people, whereas the knowledge that *medrese* graduates possessed did not turn them into useful subjects. It should be remembered, however, that the Young Ottoman line of argumentation highlighted not only the inadequacy of *medrese* education but also the state's own negligence of the *medrese*s in general and the "traditional sciences" taught in these institutions in particular. This approach also insisted on defining useful knowledge more broadly: the new sciences of Europe could to some extent be taught at the *medrese*s, but the state also needed to make "use" of traditional Islamic sciences like *fiqh*. These sciences were not useless in themselves, they had become so only due to the betrayal of Tanzimat bureaucrats. Similarly, the reason behind the admitted and condemned "uselessness" of *medrese* scholars and students had to do with flawed state policy as well.

On 30 January 1873, an article published in the *Basiret* reflected on these issues and stated that there were suggestions that "sciences necessary for the present day" should also be taught among other courses in mosques. Such a demand was not

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[134] "Vaiz Efendiler" *Basiret* 1045 3 October 1873 / 10 Şaban 1290 p.1.

reasonable, however, as the *ulema* were already under significant burden.[135] Less than two weeks later, the newspaper published a letter signed by "people who spread knowledge in mosques" congratulating the *Basiret* for its fairness. "The sciences [we are asked to teach] are most likely mathematics, geography, et cetera," the *ulema* asserted, and argued that they too realized the need for teaching them. But while it would not be intellectually difficult for them to assume this duty, it was also obvious that they already did not receive all the support they deserved, and they were assured that the sultan would ameliorate the state the *ulema* were in. Unless their living and working conditions were improved, the letter implied, nothing more could be expected of the *ulema*.[136]

Bringing up the same issue one month later, the *Basiret* stated that their publications on the need for improving the state of the *medrese*s and their graduates had attracted a lot of acclaim, and elaborated on the issues they deemed crucial. The teaching of the "needed sciences" (*fünun-ı lazıme*) in the *medrese*s was among the top priorities. The reorganization of the curricula would be insufficient if it only focused on the classes traditionally taught: "other sciences that are required for the needs of the era, such as mathematics, physics, medicine, along with grammar and orthography, and other necessary sciences" should also be part of the *medrese* curriculum. It is interesting, though, that the newspaper suggested that these classes on the "needed sciences" be taught in mosques or large *medrese* halls by appointees from the Military

[135] "Herşeyi Ehline Vermek" *Basiret* 841 30 January 1873/1 Zilhicce 1289, p.2.
[136] "Varaka" *Basiret* 849 12 February 1873/ 14 Zilhicce 1289, p.2

Academy, School of Medicine, and civil offices.[137] *Medrese*s would thus be saved from oblivion and obsolescence, but by the services of the graduates of the new schools.

5. On Science, Language and Identity

Another ground of criticism directed at *medrese* graduates centered on language. Most classes were taught in Arabic in the *medrese*s, as the books studied were Islamic classics written in Arabic no matter what the native language of their author was (Baş 2006, 79-95; Atay 1983). Even advocates of the significance of Islamic contributions to science like Ziya Pasha and Ali Suavi were critical of the failure of *medrese* graduates at Turkish prose, as seen above. In his critique of *Mecmua-i Fünun*'s comments on the Library of Alexandria, Mehmed Mansur himself complained of the impact of Arabic on the spread of knowledge in the Ottoman Empire. Had the great Ottoman scholars of the past centuries used their own language, "they would have matched other Muslim scholars with respect to virtue and perfection and works, and they would have spread science and knowledge (*ulum ve fünun*) to the people in general, thus bringing the Islamic community, and perhaps the whole world, to an entirely different position" (Mansur 1882-3, 157-8). The Arabic as well as the European cases where the authors had for long written in their own language proved Mansur's point. "*Medrese* students are not a different type of person than the students of the Military Academy who learn sciences and write outstanding books in a short

[137] "Teşekkür" *Basiret* 872 12 Muharrem 1290 / 12 March 1873, pp.1-2.

time," he wrote. The only but very consequential difference lay in the languages of instruction.

This aspect of the debate on *medrese* education added a new dimension to the overall debate on science, ignorance and usefulness by hinting at an association between Turkish and the "new sciences" and Arabic with the "old." The importation of the new scientific knowledge of Europe into the Ottoman Empire was ultimately a process of translation: European concepts, categories, ideas were introduced into Ottoman discourse and re-interpreted in this new context. The entire reform era could be labeled as the "period of translators" due to the fact that knowing French was the fundamental criterion for being a prestigious member of the new generation of bureaucrats and litterateurs. After all, many intellectuals and statesmen of the era were products of the Translation Bureau itself.

But needless to say, translation is a process that involves decisions about the definition and boundaries of the target language as well. Especially in a multi-ethnic and multi-lingual empire where higher (*medrese*) education was based in Arabic and elite literature in Persian, the translation of texts on the new knowledges gave rise to passionate debates about what "Ottoman language" was and should be. As the centralization and reorganization of public education coincided in the Ottoman Empire with the importation of new sciences, there emerged a strong connection between efforts for the standardization of language and the spread of scientific knowledge. In short, educational reform in the Ottoman Empire involved both a new language and a new type of knowledge.

A most telling example of this parallel between science and language is Cevdet Pasha's speech regarding the establishment of the Ottoman Academy, as discussed in Chapter 1. This text from 1851 stated that "It is the sciences and knowledges it encompasses that bestows honor upon a language," and emphasized the need to transform the Ottoman language into a language of learning. If the aim is to spread knowledge, it should be expressed in a way that most people, not just the elite, can understand. Hence, the language of knowledge should at least be somewhat close to the language of the "common people."

A second component of the association between language and science had to do with the alphabet. That the version of the Arabic alphabet used for writing in Ottoman Turkish was inadequate and, as a result, hampered the learning of literacy was another argument brought forth by the advocates of the spread of science. Münif Pasha made a case for reforming orthography in his *Mecmua-i Fünun* in 1863.[138] Hayreddin Bey published an essay in the *Terakki* where he asserted that devoting years simply to teaching literacy was unacceptable:

> In that case, when will mathematics, philosophy, geography, chemistry and other sciences be taught? ... [W]ill there be enough time to teach the useful sciences that are demanded and needed by Turkey? Aren't letters the gate to the sciences? Why should the gate be so heavy that one needs to try constantly to enter? It is complained that Turks aspire to nothing but getting a clerkship. But if children are taught nothing but calligraphy, it is obvious that nothing else is pursuable. Let the letters of the Qur'an remain eternal, just as the truths it contains. But the letters used for sciences, administration and trade should be made easy and simple.[139]

[138] "İmla Meselesi" *Mecmua-i Fünun* July 1863 / 1280.
[139] "Maarif-i Umumiye" *Terakki* 192 31 Temmuz 1869 / 21 Rebiülahir 1286

Ebuzziya Tevfik responded to Hayreddin's suggestion with a detailed analysis, accentuating the parallels between the discourses on science and language. Wasn't it the same Arabs whose alphabet was under fire that had furthered the major sciences like mathematics, philosophy, geography and chemistry? "Were the Andalusians who reached the zenith of science and learning (*maarif ve fünun*) using a different alphabet?" he asked. Letters resembled the key to the gates of science, and Arabs had grasped the complex matters of science using the same key as the one used by the Ottomans. Therefore, it was the methods of instruction, not the letters that prevented the spread of "useful sciences and arts," and such a condemnation of the Arabic alphabet would imply nothing but the denial of the Arabic contributions to science.[140] Ali Suavi went further and asserted that it was all Muslim scholars, regardless of their ethnicity, that had contributed to science, even in Andalusia. As these scholars had written in Arabic for centuries, Arabic was both the language of Islam and the language of science for the Muslims: "[T]o those who ask us about our belles lettres and science, we shall present our works written in the language of Islam and science. Because it is we who wrote them. But, [it is said] they will think we are Arabs then. They will not be mistaken if they think that we are *Muslims*."[141]

Hence, the emerging portrayal was one that honored and claimed all contributions of Muslims to science regardless of ethnicity, but that also conceived of Arabs as, in essence, representatives of a different civilization than the Ottomans. A telling

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[140] "Hayreddin Bey'e Cevab" *Terakki* 2 August 1869. For a similar comment see Namık Kemal "Usul-i Tahsilin Islahına Dair" *Tasvir-i Efkar* 10 July 1866.
[141] "Lisan ve Hatt-ı Türkî" *Ulum* 3, 1286/1869.

example is a letter published in the *Basiret* stating that Yemen resembled European countries in that the customs regarding dancing and veiling were much looser, and invited Ottoman youth to this land. Ali Efendi's reaction was clear: civilization had nothing to do with these practices, just as it had nothing to with champagne or tight pants. "It is true," he wrote, "that Muslims are authorized to acquire those aspects of civilization that have to do with education and industry.... But we certainly ... are not required, neither by religion or civilization, to acquire things that have to do with false belief, misconduct, and corrupt morals and customs, be they from Arabs or Persians..."[142]

Debates about science were thus also debates about identity. They had as much to do with Europeanness as with Arabness, and language, religion and ethnic identity became inseparable components of the debate on the meaning of science. This dimension of the debate would be exploited further in the 1880s, as Chapter 3 will show.

6. Science and usefulness: For bureaucracy or industry?

While "usefulness" was thus certainly a criterion used to judge Ottoman subjects for all parties involved in the debate in the 1860s and 1870s, the new participants also emphasized another understanding of the concept, much more than the bureaucrats ever had. They problematized the usefulness of civil servants themselves: they may

[142] "Şehir Mektubu" *Basiret* 1201 11 April 1874/23 Safer 1291, 2. Reproduced in Basiretçi Ali Efendi (2001, 275-6).

have had a good education based in the new, "useful sciences," but were they useful themselves?

Indeed, one of the defining characteristics of the 1860s and 1870s is the increasing emphasis on the links between the new knowledge and the benefits of arts and commerce, rather than civil service. One fundamental thing that Ottoman manufacturers should realize was that the hardship they were experiencing because of the high quality European imports was due to the fact that Europeans "carry out even the most ordinary art with knowledge (*ilm*)," the daily *Basiret* wrote. Hence, the reason behind the decline of Ottoman industries, before anything else, was the lack of scientific knowledge.[143] Arts and crafts in the Ottoman Empire needed more knowledgeable people: just as in previous Islamic states, schools in the Ottoman Empire raised talented individuals, but arts and commerce were ignored. The wealthy had surrendered commercial activity to European capital while the skillful were left in ignorance, leading industries to decline.[144]

By emphasizing the role of the entrepreneur and the craftsman, *Basiret* problematized the prestige of civil servants. A member of the *ulema* joined the bashing with his own agenda. In a pamphlet written in the same period he argued that it was actually the new administrators who were incompetent. He stated,

> These men are not clerks but ignoramuses. Only those that come from the ranks of the *ulema* deserve to be called clerks. An understanding of knowledge (*ilm*) is acquired only through years of study and exertion in the *medrese*. They are men whose drunken souls have seized on the

[143] "Tahsil-i Maaş" *Basiret* 3 26 January 1870 23 Şevval 1286.
[144] "Mekteb-i Sanayi" *Basiret* 20 17 February 1870 16 Zilkade 1286.

> present opportunity and been spellbound by the spoils afforded by the state. (Quoted in Mardin 1962, 128)

Soon an anonymous clerk wrote a letter to the editors of *Basiret* where he argued that it had become popular to criticize bureaucrats for their inefficiency and dependence on state resources. Explaining how lower level bureaucrats like himself had very low salaries and rather precarious careers, he asserted that despite the lack of public gratitude, he was proud of being a member of the bureaucracy, the class who did the greatest "service to civilization." Similar letters that supported the clerk's views were published in the following issues.[145]

The newspaper *Hadika* which stated in its first issue that it would discuss the connections between sciences and arts published a lengthy introductory essay that was also composed as a passionate call for the progress of sciences and arts in the Ottoman Empire. Reason bestowed upon man by God had enabled the emergence of sciences and arts, and as the welfare and power of a state depended on these two factors, ignoring them would be equivalent to ignoring one's duty toward his country. The reason behind European progress was not that they were more intelligent than Ottomans, but that they had long been striving to learn sciences, as opposed to the lethargic Ottomans. But now that the exalted sultan had opened so many schools to spread the light of knowledge,

> why should we continue to meander in the valley of ignorance? This time of prosperity which is the origin of the light of knowledge and

[145] "Bir Varaka" *Basiret* 25 24 February 1870/23 Zilkade 1286. Also see the letters published in issues 30 and 36.

> wisdom and the source of happiness and comfort has opened all the doors to science and knowledge both for us and our descendants. Let us work day and night to counter those nations the natural advantages of whose lands are already much less than ours, and take steps to acquire our urgent needs for a life of contentment and comfort in this beloved country, so that the guidance of God Almighty will accompany us.[146]

The kind of work that the *Hadika* emphasized was crafts and manufactures. What is significant, though, is that while in the 1860s the idea that there was a relationship between science and industry came to be referred to more frequently, the exact nature of this relationship was never clarified. Furthermore, it appears to have been rather difficult for the Ottoman authors to imagine the "man of science" as anything but as "a man who knows." An article in the *Basiret* argues, for instance, that it had become quite popular to publish essays indicating the importance of the development of industry in the Ottoman Empire. "It is true that the acquisition of wealth depends on industries," the author states, but "that, in turn, depends on learning. (*maarif*)" While this was a common way to introduce texts on the shortcomings of the Empire's system of education what is striking is the way the author elaborated on this point: "Even if, say, a clerk working at one of the bureaus of the state has remarkable aptitude to learn natural sciences, ...it is almost entirely impossible for such a person to truly learn them."[147] Note that the essay that starts with an emphasis on the importance of sciences for the industry swiftly turns into one on the teaching of scientific subjects to civil servants. It is not surprising then that the author praises the Military Academy for

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[146] "Mukaddime" *Hadika* 1 8 February 1871 / 17 Zilkade 1287 p.2. For a similar text see "Şehir Mektubu" *Basiret* 1402 18 September 1874/9 Zilkade 1291, 2. Reproduced in Basiretçi Ali Efendi (2001, 358).

[147] *Basiret* 817 1 January 1873 / 2 Zilkade 1289, p.2.

teaching the sciences properly without discussing how this could be related to the growth of Ottoman industries.

It is not that the problem with this attitude went unnoticed. Indeed, the criticism of such ideas was a very common topic for newspaper essays. The *Basiret* published the following remark on 2 May 1873: "We have a rotten and harmful view. The lullaby we sing to our babies in their cradles goes 'My son will enter government service, he will be an *Efendi*.' We think to be an *efendi* one has to be a clerk. There are many among civil servants, however, who regret not having learned an art or got into commerce."[148] Ali Suavi's essay on education made the same point: The view that civil service was the only esteemed option for a literate person was the reason behind the state of the Muslim community of the Ottoman Empire, but this was due to a misconception about the meaning of education itself:

> If education is considered, like we do, as learning superficially some terms and arguments, it is impossible for industry to come into existence. Similarly, if education is believed to involve certain knowledges to be learned not for the practice and manufacture of arts, but for receiving an undeserved income from the Treasury, then progress is impossible.[149]

Nevertheless, how exactly the new knowledges would be transformed into developed industries remained an unanswered question. Ultimately, it should be noted that even the critics of official definitions were products of the same educational system, who were themselves raised to be civil servants or *ulema*. Despite their shortcomings, however, the new participants of the debate effectively challenged

[148] "Maarife Çalışalım" *Basiret* 915 4 Rebiülevvel 1290.
[149] "Maarif" *Muhbir* 8 27 January 1867 / 21 Ramazan 1283.

official definitions not only by asserting the relevance and usefulness of the Islamic sciences and by questioning the supposed links between the new sciences and moral virtues, but also by problematizing the very usefulness of the champions of the new sciences (i.e. "civilization) themselves. Theirs was an understanding informed by the hardship that lower level clerks, *ulema*, small merchants and craftsmen were experiencing in this period, and as Muslims were over-represented in these groups, their discourse on science, usefulness and virtuousness appeared at the same time a defense of Islam.

V. The Official Location of "Useful Sciences": The Revival of the University

While such alternatives were brought forth in the press, the official definition of "useful sciences" continued to appear in official documents, particularly regarding education. A typical example is a statement read during the Sultan's visit to the Sublime Porte in August 1864. It was asserted in this document that the purpose of the failed initial attempt for the establishment of the University was "the teaching and spreading of mathematical and other useful sciences" (Mahmud Cevad 2001, 80).[150] Thanks to the sultan's well-known enthusiasm for the spread of "the light of knowledge," it was decided to commence the construction of a new building for the University.

[150] "*Ulûm-ı riyâziye ve fünûn-ı nâfi'a-ı sâirenin neşr ve tedrîsiçün*"

The 1869 Act also stipulated that a University would be opened, and interestingly, referred to it as a "*medrese* of knowledge," (*medrese-i ilmiye*) (Article 79) thus appropriating one more word from the Islamic educational lexicon. The University would consist of three faculties: Literature, Law, and Natural Science and Mathematics. The curricula were comprehensive: both Arabic and French literature, both Islamic Law and French Law would be taught, along with the natural sciences taught in French universities (Articles 80-83). The medium of instruction would be Turkish, but in case of a shortage of qualified professors, it was allowed for professors to teach in French (Article 84). Those who wished to enroll were required to take an exam in Turkish, history, geography, arithmetic, geometry, algebra, physics and logic (Article 90).

Hoca Tahsin, one of the two people who had been sent to Paris twelve years prior in order to be employed at the University upon their return, became the director of the new institution. While many textbooks were ordered from Paris for the library, the current scientific periodicals on the list were later removed (Ihsanoğlu 1992, 413): science as accumulated knowledge to be learned was preferred to science as constantly changing, improving and expanding knowledge.

The new building of the University was also much smaller than the previous one. Lands obtained from demolished city walls were sold in order to cover the expenses of construction. Harshly criticizing this decision, the historian and member of the *ulema* Lütfi Efendi wrote a decade later: "It was not worth destroying the thousands of years

old ancient tower and gates for such a trifle benefit....Was there a shortage of *medrese*s?" (Lütfi 1988 v.10, 132).

Out of the 1000-odd people who took the entrance examination, more than 450 were admitted. By itself this rate of success is an indication that the standard was quite low; that many of those who passed were *medrese* students is further proof that the examination must have tested quite basic knowledge of the sciences listed, in addition to literacy. As it was established practice for *medrese* students to spend the holy months away from Istanbul, the opening of the university was delayed, and it was decided to revitalize the public lecture series of the previous University until the students' return. The lectures were on new topics, such as the development of industry, and the new sciences including biology, physics, and chemistry. I quote the schedule of the lectures directly from Lütfi's *History*, along with his own mocking comments in italics:

Lecturer	**Topic**
Cevdet Efendi	Magnetism *(Here is a new idea)*
Rıf'at Bey	Chain of animals *(What's in it, is in it)*
Tevfik Efendi	Machines *(Only for those concerned with them)*
Vahid Efendi	Graveyards and health (*So useful!)*
Münif Efendi	The progress of industry and sources of wealth *(How about that!)*
Emin Efendi	The atmosphere *(Full of hot air)*
Aziz Efendi	Unification of the forces of nature *(I don't know who it's good for)*
Selim Efendi	The planets *(Requires arms and wings)*
Aziz Efendi	Climes and traits *(Not simply necessary, but essential!)* (Lütfi 1989 v.12, 85)

It is apparent that this member of the *ulema* did not find the topics particularly significant, and, using the same criterion as the advocates of these sciences, "useful."

But another major reason behind Lütfi's criticism was that the lectures took place during the holy month of Ramadan. He was particularly annoyed with Hoca Tahsin's lecture on the universe and the concept of infinity. He wrote:

> It is such a shame to corrupt the faith of the people with nonsense of this kind on holy nights. Such classes on the mysteries of natural philosophy are exclusively for the elite, and it is astonishing that those who deem themselves people of wisdom act against wisdom themselves, and fail to consider that spreading them among commoners is unwise. (Lütfi 1989 v.12, 85)

Lütfi's objections may have been shared by many, as we also know that another lecture by Tahsin, this time on vacuum, that he colored with a demonstration where he removed the air in a jar, causing the pigeon in it to die, led to great public outrage, and Tahsin's removal from office. Similarly, the audience found Cemaleddin Afgani's lecture where he likened prophecy to art particularly offensive. But another problem with the lectures that we can identify is their style. An example is Tahsin's lecture on water that Aynî (2007, 22) quotes from in his classic study of the history of the University in order to demonstrate how simplistic it was. Yet what is truly striking about the tone of this lecture is its utterly convoluted and embellished style that resembles the style of traditional *medrese* books and bureaucratic texts that would hardly be comprehensible for the audiences the lectures were supposed to attract.

The University was officially opened on 20 February 1870 (19 Zilkade 1286) with speeches by Minister of Education Safvet Pasha, Head of Council of Education Münif

Efendi, Ioannes Aristoklis,[151] and Cemaleddin Afgani, the leading Persian advocate of modernizing Islam and the solidarity of Muslims.[152]

Safvet Pasha's speech was a potpourri of the themes that had definitely been established by 1870, with borrowings from the alternative discourses. Because the Qur'an encouraged the learning of the sciences, Safvet Pasha argued, Arabs and particularly "the Arabs of Spain" had contributed greatly to the sciences initially developed by the Ancient Egyptians and Greeks. The sciences he refers to in this context are medicine, arithmetic, algebra, astronomy, and the sciences of animals, plants and minerals.

> After the fall [of Arabs] knowledge and science (*ulum ve fünun*) moved to Europe and developed particularly within the last century. Many curious discoveries and inventions that astonish the mind have been made as a result... Remarkable inventions such as steam power, telegraphy, and electricity are among the great consequences of the progress of physics alone... While [such breakthroughs] reveal the power and grandeur of God, those living in the darkness of ignorance, unable to comprehend the mysteries of creation that men of knowledge are aware of, only gaze at what is perceivable....
>
> Just as knowledge adorns the natural constitution of man with many a virtue, it is clear that the civilization and prosperity of a country are equally dependent on it. (Pakalın 1943, 131-133)

In line with the convention, Safvet Pasha blames "the interference of certain impediments and difficulties" for the failure of the Ottoman Empire to keep up with the scientific developments in Europe.[153] The most detrimental aspect of this period of "seclusion" was the absence of spaces for the communication of ideas, which was

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[151] (1831-2/1891-2) A graduate of the Greek schools of Istanbul, he taught ethnography in the School for Civil Servants and the University. See Çankaya (1969 vol.2, 950-1).
[152] On Afghani see Keddie (1983).
[153] "*birtakım mevani' ve müşkilatın hayluleti*"

central for the progress of rational sciences in European countries. Safvet Pasha's example for the achievements of the new era in the Ottoman Empire is the emergence of such a space, but a quite unexpected one: the *rüşdiye*s, or the new style middle schools. Indeed, what he presents as analogous to the spaces in Europe where scientific ideas are discussed is Ottoman schools for the bureaucrats of the future. "Before these schools were opened," he argues, "there were no places for learning sciences and skills for those who wished to be employed in civil service and the offices of the Exalted Sultanate, and those who searched for other means of subsistence" (134). The University was the highest point of the new system of education: it was for those who, after graduating from the new high schools, "wish[ed] to further complement their scientific education and the diverse knowledge that they accumulated" (135). Fine arts and other crafts would also be part of the curriculum, however, and help those who rightly knew that state service was not the only means of subsistence.

Once again, however, the University did not live up to the hype and was shut down in less than two years. Textbooks proved insufficient, students unprepared, qualified teachers lacking. The system spelled out in so much detail within the French-influenced 1869 Regulations remained on paper, and the University did not evolve into anything other than yet another series of public lectures. Aynî (2007, 30) notes that the involvement of European university students in "rebellious" movements in 1848 always remained a cause of concern among Ottoman statesmen as well. The idea of a university clearly sounded good in theory, but it is also clear that the leading

Ottoman bureaucrats remained hesitant about the ultimate benefits and potential dangers of higher education. What exactly the teaching of the new sciences would help achieve remained vague, and with an educational system that hardly prepared students to a high school, let alone a European-style university, the efforts to found an Ottoman university appeared more as attempts to impress European powers. That the university never received sufficient funding is a clear indication of the priorities of the Ottoman bureaucrats as well.

Interestingly, another attempt was initiated in 1874, this time with no publicity, and almost as a confidential project. This time the university was designed essentially as the continuation of the most prestigious high school of the Empire, the *Mekteb-i Sultani* opened in 1868 in collaboration with the French government. Schools of law and engineering designed along French models constituted the new institution that attracted non-Muslims as well, but after seven years of intermittent instruction, very few graduates and records, the final attempt of the 19th century came to an end in 1881.

VI. Showcase of discourses: Science in the Ottoman Parliament

The first experiment with a parliamentary monarchy started in 1876 in the Ottoman Empire, after years of struggle. During this short-lived experiment, the issues of science, knowledge and ignorance became topics of heated debate. In a sense, the parliamentary debates of 1877-1878 represent the culmination of the decades of construction of discourse regarding the meaning and benefits of knowledge and the worth, duties and responsibilities of its possessors.

In his opening speech, Sultan Abdülhamid II himself indicated that the Parliament was supposed to focus on these issues. As it was only through science and learning (*ulum ve maarif*) that "the progress of agriculture and industry" could be achieved and "civilization and prosperity" carried to the highest level, the Sultan assured that law proposals regarding educational reform would be brought to the attention of the Parliament the following year.[154] The Parliament's official reply to the Sultan expressed the confidence of the legislative body that the opening of schools for spreading the "useful sciences and arts" would contribute to the growth of prosperity and welfare throughout the Empire.[155] When it was suggested that debates on education should be postponed until law proposals are received, the speaker of the Parliament Ahmed Vefik Pasha, a Tanzimat bureaucrat educated in France, objected stating that "[n]o country can survive without science. In a country without science, no knowledge, no skill can be found."[156] But truly enough, the first year of the Parliament was devoted to debates on administrative, military and economic issues.

On 14 January 1878 Abdül Bey, the deputy from Yanya (Ionnina, in today's Greece), made a long speech about the state of education in the Ottoman Empire. Attempts for reform were not taking hold, according to Abdül Bey, as the officials in charge were not well-educated themselves. Asking the deputies to be fair, he asked, "What schools do we have for the people, other than some disorganized *medrese*s and ... military schools of some success? ...How can we be civilized with so much

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[154] *Meclis i Mebusan Zabıt Ceridesi* vol. 1, p.11.
[155] (*ulum ve fünun ı nafıa*) *Ibid*., p.14.
[156] *Ibid.*, p. 45.

ignorance? How can we progress? How can we preserve our religion?" His suggestions were fundamentally about the sincere implementation of all the principles of the 1869 Regulations, including the opening of a "complete," "European-style" university making available all sciences, such as law, medicine, mathematics, and agriculture – in brief, an institution "nothing like our present university."[157]

Abdül Bey's remarks and suggestions appear to have fallen on deaf ears, however, as the reaction consists only of brief and insignificant comments. Ten days later, Mehmed Ali Bey, another deputy from Ionnina, made similar arguments:

> While it is pitiful that due to our ignorance of contemporary sciences we are unaware of the true nature of things and the state of the world, what is most distressing and worth our attention is the poverty and misery that ignorance leads to. The Europeans beautified and cheapened their commodities thanks to science, and we are now forced to import almost all our indispensable needs from Europe.[158]

Mehmed Ali's arguments were in reference to an article published in the *Levant Herald*, a newspaper published in Istanbul in English and French, criticizing the ignorance of the Ottomans as well as the Ottoman laws on the buying and selling of land. Agreeing with the newspaper's comments, Mehmed Ali suggested that the trade of land should be facilitated, because selling their land had become the only viable option for many Ottoman subjects due to the poverty brought about by ignorance.

In these arguments we see the combination of a number of key factors that shaped the way in which "knowledge" and "ignorance" were perceived in the Ottoman

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[157] *Meclis i Mebusan Zabıt Ceridesi* vol. 2, p.145.
[158] *Ibid*., p.207.

Empire of the 1870s. Most noticeable was the "Europeanness" not only of science itself, but also of many of those who spoke in its name, even if they were Muslim Ottomans. Furthermore, in this specific instance, Mehmed Ali Bey's suggestion that land laws based on the *sharia* should be changed was directly linked to the ignorance of Ottoman subjects in European sciences. Hence, the reaction to his comments was, unsurprisingly, recourse to the alternative discourse on science and ignorance perfected in the 1860s and 70s.

Asserting that laws based on the *sharia* could not be changed, Sadi Efendi, the deputy from Aleppo (in today's Syria), also proclaimed, "We shall never accept the statement 'the people of the well-protected domains[159] are ignorant.'... Nobody can deny that Europe borrowed the philosophical sciences initially from the Arabs. I believe that the Imperial Domains has all the schools and knowledges, since the beginning of the Tanzimat."[160]

Other deputies such as Mustafa Efendi of Adana and Mecidiye Efendi of Konya made similar arguments. In addition, Hacı Ahmed Efendi of Aydın stated that while "it has become a fashion in our country to wish that education should progress," no reasonable suggestions were put forward. That *medrese*s were the problem was preposterous, as most the teachers of even the new schools still came from the *medrese*s.

In response, Halil Ganem of Syria made the following remarks:

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[159] The commonly used Ottoman phrase to refer to the Empire.
[160] (*ulum ve fünun ı hikemiyye*) *Ibid*., p.208.

> The gentlemen say we have the *sharia*, not ignorance. We have science, we have schools. Indeed, we have schools, and science, to some extent... But do we have well-organized schools?... We need science, we need arts. So the Europeans borrowed them from us. I do not deny that, this is a historical fact. But our ancestors were rich, we are destitute. What does this indicate? And then they refuse the civilization of Europe. The civilization of Europe is undeniable. There are two civilizations in Europe. One is that of the youth, the fop. Puts on nice European clothes, does his hair and the like!... [But] there is also another civilization. That civilization is... law, order, industry, literature, wealth, and the science of wealth... That is the civilization that we need.[161]

Ganem's support heartened the deputies from Ionnina. Mehmed Ali Bey argued that he did not comment on the issue relating to the *sharia*, and that he did not attribute absolute ignorance to the Ottomans. It was ignorance of contemporary sciences that was indisputable. Abdül Bey's speech was more passionate:

> It was said "we do not admit ignorance, our civilization is perfect." Yes, now that we are a nation that originated from the Arab nation, we certainly are civilized. And just as we took knowledge and civilization from the Greeks, Europeans took it from us. But they took it in such a way that they left nothing for us! We studied history as well, and we know what our past and our present are like.... I am faithful to my word: we have no schools.... In my opinion, there are no schools, not only in Albania, but the entire Well-Protected Domains, even in that civilized Arab continent. There are *medrese*s, but the sciences [taught there] are deficient. Are the sciences taught at the schools of Baghdad and Damascus six hundred, a thousand years ago still taught at the *medrese*s? I don't think they are, otherwise we would have seen the graduates of the present medreses in a different way.
>
> We are unable to bring forth anything on our own. If reform is demanded, then we should borrow and implement what Europeans first took from the Asians and then developed.

[161] *Ibid*., p.210.

While Abdül Bey thus underlined that *medrese*s no longer taught the "needed" sciences, Hacı Ahmed Efendi in his response indicated that *medrese*s were for religious sciences. What he called "civilizational knowledges" (*ulum-ı medeniyye*), on the other hand, were needed for this world, and had indeed been neglected due to the constraints of the times. Sciences such as medicine and mathematical sciences did not conflict with the *sharia*, so should be fostered, Ahmed Efendi argued. This could be done, but only if the real problem, that is, the constant interference of European ambassadors in the affairs of the Ottoman Empire, was prevented.

The debate continued in other sessions. In another memorandum on ignorant civil servants, Abdül Bey suggested that foreigners be employed in some public commissions. Sadi Bey of Aleppo was furious:

> This debate on skill and knowledge that has been going on for a while is a stale one. When two people meet on the street, they say the same things. However, our country is not in a state of ignorance as presumed. It cannot be stated that we have no skill and knowledge in our country. There are only certain things, called industrial goods, that are manufactured with machines in foreign countries. [A few years of peace is enough for us to have them], as there are more skilled people in our country...
>
> As for sciences and arts, in Arabia and other territories we have schools for all sciences, like philosophy (hikmet), logic, letters (adab). We have schools even in villages... Yet this report portrays our ignorance at such a level that even in our parliament it seems necessary to have some men from foreign countries!

Ohannes Efendi of Istanbul, an Armenian deputy, took Abdül's side, stating that the Ottomans needed "new knowledges," not "old things" like logic. While stating that

his hometown of Beirut was not in such ignorance, Abdurrahim Bedran of Syria also concurred with Abdül. In his clarification, he discussed the issue in detail:

> Our education amounts to the sciences of grammar, syntax, logic, rhetoric. We have many men of knowledge, too. Yet these sciences are not beneficial for us, for this world. What is needed and beneficial is mathematical sciences. It is mathematical sciences that invented the telegraph. They found the power of steam with mathematical sciences. These cannons, rifles were produced with those sciences. I said we have schools in Beirut; yes, we do, but they are there thanks to foreigners. Protestants of America, and then the Jesuits came and opened them, that's why we have a few schools.[162]

Never underestimate the sciences of the Europeans, he concluded: "Nobody can ever deny the science and industry of Europe."

The debate did not last long, however, as sultan Abdülhamid II shut down the parliament indefinitely on 14 February 1878 on the pretext of the Russo-Ottoman war. Nevertheless, that the issues were brought up in parliamentary debates in ways almost identical to the various representations in official documents and newspaper articles demonstrates how established the alternative discourses were by the end of the decade. The tone of the debate reveals that establishing the meaning of science and defining the characteristics of those who learned the new sciences were crucial, as the debate was essentially about who the Ottomans were and who they should be.

VII. Conclusion: Science, Religion and Community

The 1860s and 70s witnessed two parallel developments. Leading bureaucrats of the era such as Münif and Safvet Pashas and the contributors to the Journal of Science

[162] *Ibid*., p.266.

reinforced the discourse on the unique benefits of the new sciences and the characterization of those ignorant of these sciences as parasites with no real understanding of how the world actually worked and no means for self-dependence. Science was defined as a sphere distinct from other spheres like politics and religion, and while the idea of an inevitable antagonism between science and religion was never part of this discourse, traditional religious sciences like *fiqh* or *kelam* were never treated as deserving the same esteem and attention as the new sciences like zoology or geology. Useful sciences were those useful for the material world, and religion was referred to primarily as a provider of incentives for pursuing these useful sciences.

The alternative discourse that was constructed in these decades by figures like Namık Kemal, Ali Suavi and Ziya Pasha, on the other hand, was one that fully acknowledged the significance of the need for the new sciences, but that also demanded the same appreciation for the "old" sciences taught at the medreses. The category of science should continue to contain the old sciences as they not only constituted the fields Muslims had developed, but they were still beneficial. It was their negligence by the estranged new bureaucrats that had rendered the old sciences inadequate: they appeared not to be useful anymore simply because the administrators did not make use of them anymore. This attitude had also given rise to the emergence of a new type of individual who believed that memorizing some words and parroting European authors was sufficient for being considered a knowledgeable, wise, respectable man. So this alternative discourse was not critical of the new sciences, it simply demanded that those speaking in the name of the new sciences be "authentic"

Ottoman subjects. Their life styles, consumption patterns and aspirations should not differ from the established norms. Simply put, science should not be represented by "snobs."

While the common perception of science was thus to a considerable extent based on those who spoke in its name, i.e. "fops," we should also note the European representatives of science within the Ottoman Empire as well. A remarkable case concerns the opening of the Imperial Meteorological Observatory in 1868, under the administration of the French engineer Aristide Coumbary. Coumbary, who was in the Empire for the maintenance of telegraph lines, also made astronomical observations that he reported in European journals both before and after assuming this post.[163] While this observatory is referred to as one of the important steps in the importation of European sciences by the Ottoman Empire (see, for instance İhsanoğlu 2000, 40-1), its benefits and purpose appear not to have been clear, at least to the Muslim community of Istanbul – in a way reminiscent of the reaction toward the public lectures at the University. Newspapers did report the information sent by the observatory regarding solar and lunar eclipses and the weather (Dizer 1993), but they also published pieces criticizing or making fun of the observatory. The observatory was the subject of many essays in the humor newspaper *Diyojen*, including at least one written by Namık Kemal.

[163] Some examples of the many texts by and about Coumbari are his letters published in *Comptes Rendus* 29 May 1865, which is discussed in detail in Phipson (1871) *Meteors, Aerolites and Falling Stars* London: Lovell Reeve, pp. 207-9, and in *Nature* 24 March 1870, p.579.

The theme of these criticisms was that the institution failed to provide the most basic service Muslims needed: the firing of the cannon to declare the end of the daily fast in the month of Ramadan (Kuntay 1949, 132). That both Kuntay and Davison (1990, 150) mistakenly refer to Coumbary as an Ottoman Greek rather than a Frenchman seems indicative of how he was perceived at the time by Muslim Ottomans themselves. It was probably assumed that non-Muslim Ottomans were the natural intermediaries between the Empire and European centers in scientific matters, just as in commercial ones.

Clarifying this perception are two pieces Ali Efendi published in the *Basiret*. The first was a dialogue between himself and an acquaintance of his whose "Ottoman light has been peeled off" and who was adorned with "Frankish gild." While this "fop" extolled the observatory, he blamed "us Turks" for not appreciating it enough, even though, according to Ali, the so-called Observatory was but a chronometer the holder of which was paid sums he did not deserve.[164] In another piece that is based on probably a fictional discussion at an Istanbul coffeehouse, he pointed out that the cannon fired from the observatory was intended to tell the time, but in terms of the European, rather than the Ottoman system. It was particularly confusing in the month of Ramadan, as people thought it was the end of the daily fast. Ali's opinion is possibly the one he sarcastically has one of the patrons express: this was not a major problem, as conversion tables were published in the French newspapers of Istanbul, and "the state spends around ten thousand *kuruş* a month for the salary of Coumbary,

[164] "Şehir Mektubu" *Basiret* 482 29 September 1871/14 Receb 1288, 1-2. Reproduced in Basiretçi Ali Efendi (2001, 61-2).

...[as well as] the expenses of this observatory, and the ads in the newspapers."[165] While the state spent so much money on a scientific institution at a time of immense financial hardship, no one but "the Franks" benefited from its services, and only the "fops" appreciated it simply because it was an institution imported from Europe and run by Europeans.

The alternative discourse that emerged in this period is thus the expression of the overall dissatisfaction and feeling of estrangement of a sector of the young and educated class along with the lower *ulema* with the Tanzimat regime that had delivered much less than it had promised, rendered some groups obsolete and caused a broad sentiment of demotion among the Muslim community. While it was absolutely not a discourse on the dangers or harms of the new scientific knowledge of Europe, it embodied a comprehensive criticism of the type of individual with whom these new sciences were associated. Hence, anybody who wished to make a case for the new sciences also had to demonstrate that he was not like the "fops" that the Tanzimat had produced and empowered. It was less the arguments about science than the personality of their maker that was criticized in the environment of the 1860s and 70s. One's opinions about science had implications for his membership in the community.

[165] "Şehir Mektubu" *Basiret* 506 28 October 1871/13 Şaban 1288, 2. Reproduced in Basiretçi Ali Efendi (2001, 69-70).

CHAPTER 4: 1878-1900

SCIENCE, ISLAM, MORALITY, AND THE SULTAN: DISCIPLINING THE "MAN OF SCIENCE"

I. Introduction

The historian Selim Deringil (1991, 1998) argues that in order to understand the reign of Abdülhamid II (1876-1909) one needs to see how, as the Ottoman Empire was transformed into the "sick man of Europe," the lack of real power gave rise to an increasing emphasis on symbols of power, and in particular, symbols with Islamic significance. Particularly after the Empire lost most of its territories and most of its non-Muslim citizens in the Balkans as a result of the 1877-78 Russo-Ottoman war, the Sultan started to "stress the Islamic religion as a new bid for unity against what he saw as an increasingly hostile Christian world" (Deringil 1991, 346). Unlike previous sultans, Abdülhamid II frequently used the title "the caliph of all Muslims." During his reign, many "Holy Relics" were "discovered" and brought to the capital with extravagant ceremonies, and similar spectacles accompanied the departure of the sultan's gifts to the holy cities of Mecca and Medina.[1]

[1] See Chapter 1 of Selim Deringil *The Well-Protected Domains: Ideology and the Legitimation of Power in the Ottoman Empire, 1876-1909* (London and New York: Tauris, 1998) for more examples. The Ottoman Empire had, certainly, always been an Islamic empire, but Abdulhamid's reign is a period in which this identity, rather than being taken for granted, was forcefully asserted and made visible. In this respect, as Fortna (2002, 23) rightly observes, the process is similar to what Eickelman (1996) referred to as the "objectification of Islam" – the reconstruction of Islam in modern Muslim societies as a well-bounded, fixed "thing" that is separate from the lived world, with specific instructions on specific questions that can be learned. This, of course, is a key aspect of the way secularization has been defined since Weber. Hence, by attempting to make the Empire more explicitly Islamic, the Hamidian regime contributed to the secularization of the Ottoman Empire.

It may appear interesting to observe that while the identity of the Empire was defined ever more overtly as "Islamic" during Abdulhamid's reign, this period also witnessed an unprecedented rise in the number of Western-style schools all around the Empire. The increasing number of young, literate and curious Ottoman men also gave a fresh impetus to the Ottoman press, and many short-lived periodicals emerged in this period. As the following sections will illustrate, the popular newspapers were also filled with the essays, letters and polemics of these young men.

Yet what is also crucial to note is that the change in the Ottoman educational system was not only quantitative but also qualitative, as the entire system was also reformed with an emphasis on Islam. Fortna (2000, 375) argues that while Ottoman educational reforms of the early 19th century were essentially about "imitating the best attributes of Western European education," Hamidian reforms involved adapting these Western-style schools to the specific needs of late 19th century Ottoman Empire. Thus, while the form of the educational system remained based on Western models, the content went through significant change. Clearly, the increase in the number of young and aspiring men – and to a lesser extent, women – was a double-edged sword, and ensuring their loyalty to the throne became a central concern for the Palace. What we observe during Abdulhamid's reign, then, is the emergence of another "problem character" that would come to accompany the "fop" as a token of "wrong Europeanization": the "materialist" man of science who was brilliant in the new sciences, but who ignored the religion and values of his own society.

As a primary step in his educational reform program, Abdulhamid II established several curricular reform commissions starting in 1885. According to the report that the commission produced in 1887, the new schools led students to take an extreme interest in Western ideas which, in turn, gave rise to disloyalty to the throne, immorality and ignorance in Islamic matters. It recommended adding Arabic language courses to the curricula, increasing the number of classes pertaining to Islam, and monitoring schools very closely in order to "fend off the danger [posed by students'] being occupied with Western works and writings that are harmful to Islamic morals and to the exalted sultanate" (Fortna 2002, 215). A similar report from 1900 asserted that students needed to learn all the essential scientific knowledge, but they should also "obtain intellectual incisiveness and religious firmness [and] be faithful to the sublime sultanate and endowed with sound morals" (Fortna 2002, 219).

What troubled the palace perhaps even more than the "harmful effects of Western works" read by the "confused" students of the elite schools was Western encroachment via the Christian missionary schools all around the Empire. These schools were both better equipped and staffed than the new schools of the Ottoman Empire and they were ubiquitous, which contributed to their popularity. But secessionist nationalist movements of the non-Muslim communities that were leading to the disintegration of the Empire were considered by the Palace a result of missionary activity, and, according to official reports, Muslim students' attendance in missionary schools could "[damage] their national and religious training, and, God forbid, may even result in their abandoning their religion" (Deringil 1998, 117). A

special investigation on the state of missionary schools in the Ottoman Empire was carried out in 1893-94 by the Minister of Education Zühdü Pasha who stated in his report that the schools were a great threat because "the foreigners realized that they can achieve their political objectives by corrupting the minds of the students of these schools and leading them astray" (Reproduced in Çetin 1981, 196).

As the previous chapters have shown, the chief concern throughout the 19th century was that students of the new schools – the future elite of the Ottoman Empire – be both moral and knowledgeable individuals. As a result, the debate was essentially about whether knowledge made one moral as well, or whether morals should be inculcated separately. It was in Abdülhamid's reign that the latter became the official view, and was put into effect much more rigorously. Similarly, that Islam was the sole reference in defining morality had been the case in previous decades as well, but the school curricula of the final two decades of the 19th century made this connection more explicit than ever before.

What should also be noted, however, is that Abdülhamid's efforts to win the "hearts and minds" of the students of the new schools and render them obedient did not simply involve teaching them Islamic morality. The reduction of Islam to a collection of moral instructions – a process commonly associated with secularization – was not regarded as appropriate or sufficient, as we can observe from the policies of the period. That European science was in harmony with Islam, a theme also developed in the previous decades, almost became an official mantra in the 1880s and 90s. As we observe in the official documents some of which have been referred to above, the line

of reasoning was as follows: If the authority of the state and the authority of religion were one, and if religion was the sole source of moral values, then the idea that religion and science were in conflict could lead to a decline in faith, and, consequently, to disobedience to the state. As a result, Abdülhamid encouraged authors to prove that Islam and science were harmonious, and he was rather generous to those who "proved" this argument.

We can see many examples of this in the writings of Ahmed Midhat Efendi who was, in the words of Findley (1998, 21), the "collaborator and speaker" of the sultan. As early as 1883, Midhat clarified the key point very effectively in an essay he wrote against European thinkers who argued that Islam and science were antagonists:

> Had [a European author] argued not that Islam and science are in conflict but demonstrated that Islam *is* science, then he would have brought forth an argument that is truly worthy of investigation for serious men of science. …The belief "religion amounts to a few issues about morality" is now common in Christianity, and has led to the decline of this religion; yet if it can be shown that, in contrast, "religion means the totality of scientific judgments," then this will attract everybody's attention to this novel argument. And the relation between Islam and science is precisely that "religion means the totality of scientific judgments."[2]

Further attempts to strengthen this identity forged between Islam and science include Ahmed Midhat's translation of and commentary on J.W. Draper's *History of the Conflict Between Religion and Science* published in 4 volumes between 1895 and 1900, and the works of the Lebanese author Hussein al-Jisr who was rewarded by

[2] *Tercüman-ı Hakikat* 1493 30 May 1883/23 Receb 1300, p.2.

Abdülhamid in 1891 for his efforts to demonstrate the harmony between Islam and science (Ziadat 1986, 95).

While this attention of the palace to science indicates a strong reaffirmation of the state sponsorship of science in the Ottoman world, it also further clarifies how the boundaries of science and the actions and personal characteristics of men of science were similarly policed by state authority. We learn from the memoirs of his daughter that Abdülhamid used to tell his children to believe in both religion and science (Osmanoğlu 1960, 22), but certainly this was a science that was in harmony with Islam, and represented by decent, humble men of science. And, more than anybody else, it was the job of Ahmed Midhat Efendi to construct and test the boundaries of the official discourse as sanctioned by the sultan. Hence, in the following sections I will frequently use Midhat's texts and the essays he published in his newspaper as guides for locating the main themes of the late 19th century Ottoman debates about science.

II. Debating the Boundaries of the Official Discourse: Ahmed Midhat Efendi and his Critics

The young author Ahmed Midhat had been sent into exile in 1873, due to his dispute with Harputlu Ishak, and his association with the Young Ottomans, some of whom shared the same fate with him. He was guilty of "publishing harmful material." But he was forgiven after Abdülhamid II ascended to the throne, and upon his return to Istanbul in 1876, he managed to gain the sultan's trust. Moreover, he was commissioned to write a treatise on the recent past as well as the first year of

Abdülhamid's reign. The result was a two-volume work Midhat named "The Basis of Reform" (*Üss-i İnkılâb*). As Ulutaş (2005) remarks, Abdülhamid's intention was probably to present himself as the "true reformer" whose reign should not be the victim of fierce criticism as that of his predecessor.[3] Midhat thus appears to have been allowed to voice, quite freely, his criticism of the sultan that had sent him into exile.

Most important for the purposes of this dissertation is Midhat's chapter on the state of educational reform in the Ottoman Empire, which is an outstanding illustration of the shape of the discourse on science at the time of beginning of Abdülhamid's reign and touches upon some key themes that would be developed in the following decades.

In this chapter, Midhat deems it indisputable that the Ottomans had ignored the sciences for centuries, and that the "scientific and intellectual progress" of the Europeans was the sole reason behind their superiority. In addition to the dismissal of the new sciences by the court, "public opinion" had always approached European ideas with suspicion, and when new military schools were finally opened, they had met with the question: "Will these geometric lines do the fighting now?" (Ahmed Midhat 1877-8, vol.1, 119)[4] In the meantime, not only the Europeans, but the non-Muslim communities of the Ottoman Empire had "opened their eyes" via education.[5]

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[3] The criticism of the previous sultan, Abdülaziz, had not remained on newspaper pages: he was dethroned and died under dubious circumstances. His immediate successor Murad V was mentally unstable, so Abdülhamid II assumed the throne soon afterwards.

[4] Midhat seems to be referring to Seyyid Mustafa's Diatribe. See Chapter 1.

[5] Note how this depiction alludes to the rise in political and economic power of non-Muslim communities in the 19th century that caused dismay among Muslim Ottomans. When discussing the context within which the new sciences were praised and imported and the various perceptions of science and men of science emerged, it is essential to direct attention to this association of science not simply with Europe but with non-Muslims within the Empire. This association is most likely a reason behind the suspicion toward the identity and faith of Muslim Ottoman men of science.

Muslim Ottomans had to realize that the new sciences were incomparable to the old ones, and "a man who would be considered the most learned man of the time four centuries ago would be among the most ignorant vis-a-vis those who immersed themselves into the new books of today" (Ahmed Midhat 1877-8, vol.1, 121).

Yet what the Ottomans actually possessed was nothing but the works of Muslim scholars of many centuries ago, which they kept in libraries and treated as antiques, as the sciences they were about were no longer in demand anyway. Hence, while he did not state it clearly, Midhat's comments were a reaction against the discourse eulogizing the Muslim scholars of the "Golden Age": the works of those legendary names were obsolete.

What needed to be done first, however, was to construct a common language for the Empire by simplifying the Turkish that the clerks used. The problem of science was thus first and foremost a problem of language, and the formation of a language that "anybody can understand" depended on the freedom of press. It was understandable for a state to censor views that threatened its very existence, Midhat argued, but the reign of Abdülaziz had taken this principle to an extreme and approached even educational works with suspicion. Discussions on science were thus declared to be harmless for the state by Midhat, while he was open to negotiate the freedom of other published material. In a sense, while carving a niche for free expression for himself, Midhat was appropriating Münif Pasha's statement regarding the task of the *Mecmua-i Fünun*: science, but not domestic politics. While the Young

Ottomans had reacted against this very policy, Midhat would also appropriate the barrier they had suggested: science, but not "European life styles."

Notwithstanding this acknowledgement of restriction, Midhat's comments were still quite critical. One cannot be a great ruler only with military exploits, he wrote, as had this been true, the likes of Genghis Khan and Tamerlane should have merited this title. The truly great rulers were those like Louis XIV and Peter the Great who, despite their flaws, would always be remembered with admiration thanks to their endorsement of arts and sciences (Ahmed Midhat 1877-8, vol.1, 125-6). Presenting these European sovereigns as models was certainly a bold move, as this criterion also put into doubt the worth of many Ottoman sultans during whose reign sciences had been ignored. Indeed, Ahmed Midhat stated clearly that Abdülaziz himself could not be counted among such great rulers. Much had been said about education during his reign, but the education budget had never been sizable, and educational reform had always followed European pressure. The only area where there had been some progress was military schools, but this was due to the necessity of strengthening the military, rather than for the sake of scientific progress (Ahmed Midhat 1877-8, vol.1, 127-8).

Midhat thus conceded that science resided only within texts in the Ottoman Empire. While he was critical of the sultans and statesmen who were too worried about the consequences of "opening the eyes" of the people through education, however, he also defined science as knowledge that would not lead to disobedience and rebellion, *a la* Münif Pasha. Journalists like himself should be allowed to write freely, as long as they discussed matters such as science that had no political

implications. As the question of science was ultimately a question of language, moreover, it was the work of these journalists that would bring about scientific progress in the Ottoman Empire.

In sum, Ahmed Midhat's manifesto clearly delineated the fundamental points that Ottoman debates on science had always revolved around, i.e. state, obedience, morals, religion, language and identity. Due to his close relationship with the sultan, Midhat's remarks are, by and large, effective indicators of what the official discourse could and could not contain. Furthermore, thanks to his impact and popularity, Ahmed Midhat's newspaper *Tercüman-ı Hakikat* also became the leading center of debate in the 1880s and 90s, and articles published there commonly instigated heated discussions – including many about science, state, and society.

While it also operated within the limits of censorship, the newspaper *Vakit* emerged as the main rival of Midhat's *Tercüman* in the early years of Abdülhamid's reign, and emphasized "Islamic concerns" even more forcefully than Midhat did. In an essay published on 14 March 1878, for instance, it reiterated the point that the civilization of the Muslims had always been supportive of science, and the Islamic "tree of knowledge" only needed to be "grafted with a few branches" from European sciences. It would only take fifteen or twenty years for this graft to take hold. But the essay also hinted at the links between European imperialism and the spread of European science in a way that issued a striking warning to Muslims:

> Interestingly, we are still under the influence of our old learning that is still in our memories, and believe that civilization is essentially a brotherhood of humanity. We assume that the civilization that Europe,

> which is superior to us in this respect today, invites us to join is similar, and that it does not harm the community and religion of other nations. Yet we see that wherever European civilization sticks its nose in, it does not build anything there before destroying everything first, and what it builds afterwards is simply "Europeanness."[6]

Once again, what we see is an advice for young Muslims who are interested in the sciences of the West: the sciences should be imported, but not under terms set by the Europeans. Furthermore, careless eagerness in learning these sciences may lead to "Europeanness", which entails the corruption of "community and religion." The young advocate of the sciences of the Europeans is invited to prove that he has not fallen prey to this trap.

Vakit was also particularly critical of Ahmed Midhat's comments on the novelty of the new sciences. In a review of "The Basis of Reform," Vakit stated that if Midhat's argument was indeed that contemporary scientific progress made the great scholars of the past look like ignoramuses, then this amounted to a claim that Midhat himself was more intelligent than glorious Muslim scholars such as Zemahşeri, Gazali, Ibn Sina and Ibn Rushd, as well as Ptolemy and Copernicus, simply because he was born later. The argument was followed by questions on mathematics and astronomy for Midhat to answer and prove his point.[7] Midhat's response was simple: his claim was that anybody could access knowledge that the ancient masters lacked, not that anybody could be a great man of science (*alim*). Those who attacked him were plainly sworn

[6] "İslamiyet ve Medeniyet" *Vakit* 859 14 March 1878/8 Rebiülevvel 1295 p.3.
[7] *Vakit* 1383 27 August 1879/10 Ramazan 1296 p.3.

enemies of Europe.[8] *Vakit* rejected this accusation, and argued that Europeans themselves would scoff at the likes of Midhat. The quarrel continued for a few issues and when Midhat argued that the authors of *Vakit* could not solve those problems, either, *Vakit* declared itself the winner by asserting that they had never made such a claim anyway.[9]

While *Vakit* thus exposed how the new European sciences were seen by advocates like Ahmed Midhat essentially as accumulated knowledge that is to be possessed, it also demonstrated that the "glorious ancients" could not simply be thrust aside. Indeed, what exactly was to be done with the "Islamic contributions to science," a discourse formed particularly with the contributions of the generation of the Young Ottomans, remained a question of heated debate in the rest of the century as well. What counted as scientific contributions was too important a subject to concern historians or scientists only, as it was a question of identity and self-perception.

III. Debating Science, Defining Community

The clash between Midhat and *Vakit* resurfaced precisely on this matter when Midhat's newspaper *Tercüman-ı Hakikat* published a harmless looking essay on the science of pedagogy. Briefly discussing what this new science engaged in, the essay recommended that the Ottomans learn and make use of this science that was not well-known "among us."[10] *Vakit*'s reaction was blunt – whether or not this statement was

[8] *Tercüman-ı Hakikat* 29 August 1879/11 Ramazan 1296.
[9] *Vakit* 31 August 1879/13 Ramazan 1296 and 2 September 1879/ 15 Ramazan 1296.
[10] *Tercüman-ı Hakikat* 409 27 October 1879/11 Zilkade 1296.

true depended on who "we" were: "If, with 'the Ottoman world' he means that [pedagogy] is not known in Turkish, I have nothing to say. But if he means that it doesn't exist [among Muslims], then I reject that." A science of raising children based on Qur'anic principles had always existed among Muslims, according to the author, and it was "pitiful" that such comments that "insult[ed] the nation" were made by those who read only European books.[11]

The response of *Tercüman-ı Hakikat* made it strikingly lucid what this discussion on a new branch of science was also about, even with its title: "So what do the Arabs have?" The noble nation of Arabs were Muslims, of course, but visiting the Arab lands would suffice for realizing that even the way they prayed at the mosque was different, according to the article. It was indisputable that Arabs, along with Greeks and Romans, had made the biggest contributions to civilization, but it was not "us" who presently made use of the books written by the great Arab scholars. It was the Christians in Syria who knew Arabic, simply because "we" did not speak Arabic. What is more, there were very few "wise men among us who realize that we are a different nation than the Arabs and thus we need different books."[12] This misguided presumption that Arabic works constituted a scientific legacy that Ottomans (that is, apparently, Turks) could claim was leading many to turn down the attempts to import and spread the new sciences. "What is truly pitiful is empty boasting... When we say 'we don't have this science' this is not an insult, it is expressing to our compatriots a

[11] "Leh ve Aleyh" *Vakit* 1445 29 October 1879/13 Zilkade 1296 p.3.
[12] "Araplarda neler var imiş?" *Tercüman-ı Hakikat* 412 30 October 1879/14 Zilkade 1296 p.4. The following quotations are from the same page.

truth." Those who were proud of Arabic works should write treatises and contribute by letting us learn the sciences Arabs have, *Tercüman* concluded.

But *Tercüman*'s response did not end there. Five days later, it published parts of a letter from a reader which, according to Ahmed Midhat's note, could not to be published in its entirety due to the harshness of its comments. The reader's criticism was directed unequivocally against "the newspaper of the men of the *medrese*" (*medrese-nişin varakası*) that pointed towards a time six hundred years back, and did this to a nation that was already passionately anticipating the future centuries. *Vakit*'s reference to the Islamic scientific legacy was ridiculed in a most ruthless fashion: "We have two-wheeled ox-carts for covering distances, too. Then is it an insult to the nation if the *Tercüman-ı Hakikat* says "We don't have trains. We should rush to make them"?" It was true that the Arabs had written many invaluable books, but it was the Europeans who were presently making use of them. Yet this was done in order to determine the level of knowledge that Arabs had once reached, not because the present level of science and knowledge was similar to what could be found in those books.

> The author [of the essay in *Vakit*] does not know that the people have a new awareness now... In countries whose products of knowledge astound our sight, they prefer to books written six hundred years ago those that were written just one year later. This preference stems from the hope that the more recent one contains something new. When freshness in learning is appreciated so much, the only impact of the words of the critics is to bewilder the people and make them ask: "Are we moving forwards or backwards?"[13]

[13] "İlerliyor muyuz, geriliyor muyuz?" *Tercüman-ı Hakikat* 416 4 November 1879/19 Zilkade 1296 p.3.

What needed to be done was to translate Arabic works and turn them into "Ottoman works" in order to truly appreciate the past glory of the Arabs, along with the translation of the contemporary works of the Europeans.

For late 19th century Ottoman authors, then, defining science was also a question of defining and coming to grips with a legacy, and, ultimately, a process of self-definition. The debate regarding whether scientific works written in Arabic could be seen as the common heritage of all Ottoman Muslims made it possible to articulate the statement that Arabs and Ottomans were different, and religion alone could not imply community. Furthermore, while the idea that Muslims in general and Arabs in particular had made so many contributions to science had been a crucial tool for the promoters of the new sciences, it also carried with it the association of "Arabic" with the "old," with all its negative connotations in an age of "progress."

The same year as the dispute between *Vakit* and *Tercüman*, the Albanian Ottoman author and journalist Şemseddin Sami published his book *Islamic Civilization* (*Medeniyyet-i İslamiyye*) and started to construct his body of work that would epitomize the position of the critics of the discourse on "Islamic contributions to science." Identifying civilization with the use of reason and its products, like Münif Pasha, Şemseddin Sami based his account on European historiography and argued that the pinnacle of the period between Ancient Greece and the European Renaissance was the rise of the civilization of Islam. He was not hesitant to confess the source of his narrative, either: "We must not forget that it is European scholars themselves who show us the level Islamic civilization had reached and that contemporary civilization

was born from it, and who even put before our eyes many works of our ancestors that we are unaware of" (Şemseddin Sami 1879, 14). Needless to say, this confession also problematizes the legitimacy of the Ottoman entitlement for the Islamic legacy: how could Islamic contributions to science be considered the tradition the Ottomans could be proud of, when they learned about those very contributions from European authors?

Also crucial is the place ascribed to Islamic civilization in this linear progress that Şemseddin Sami spells out: Islamic civilization was superior to the civilization of the Greeks, "just like contemporary European civilization is superior to Islamic civilization" (13). Finally, one thing was certain: Islamic civilization was not Arab civilization. Pre-Islamic Arabs were not civilized and occupied themselves only with poetry; the sciences were developed only after the birth of Islam. Furthermore, the majority of Muslim scholars were not even Arabs, and of the greatest scholars of the Islamic civilization, Ibn Sina was Persian and Farabi was Turkish.

Şemseddin Sami developed these arguments in a series of articles on civilization he published in the journals *Hafta* (The Week) and *Güneş* (The Sun).[14] While in *Hafta* he elaborated on the Eurocentric history of civilization, his lengthy essay published in *Güneş* in 1884 focused on the question of "transferring the new civilization to the Islamic peoples." He asserted in the latter that Islamic civilization had declined to such

[14] "Medeniyet" *Hafta* 1:9 13 October 1881/19 Zilkade 1298 pp.129-32; 1:10 20 October 1881/26 Zilkade 1298 pp.145-9; 1:11 27 October 1881/3 Zilhicce 1298 pp.161-165; "Medeniyet-i Cedidenin Ümem-i İslamiye'ye Nakli" *Güneş* 1:4, 1301, pp.171-185. These articles were recently transcribed into the Latin alphabet and published. See Zeynep Süslü and Ismail Kara (2003) "Şemseddin Sami'nin 'Medeniyet'e Dair Dört Makalesi" *Kutadgu Bilig* 4, pp.259-83. The English version of the last one translated by Şükrü Hanioğlu can be found under the title "Transfering the new civilization to the Islamic peoples," in Charles Kurzman, ed. (2002) *Modernist Islam, 1840-1940* New York: Oxford University Press, pp.149-51.

an extent that the current state of the Muslim world made one doubt that the Muslims had ever been civilized. Contemporary European civilization would not experience the same decline, however, as it had "protectors like the press, steam power, railways and telegraphy."[15] Islamic civilization was great indeed, but due to the absence of the printing press, even during the times of great scientists (*mütefennin*) like Ibn Rushd and Ibn Sina, peasant masses were entirely unaware of their works and esteemed sorcerers and healers instead (176). Furthermore, as sciences were not utilized in industry, the only patrons of men of science were the rulers, which made the progress of science subject to their whims. Freedom of thought and expression which is crucial for scientific progress was abandoned by scholars who wished to please their patrons. It was true, as commonly believed in Muslim countries, that moral corruption among ruling classes led to the decline of scholarship and civilization. But the relationship was only indirect, as it was obvious that debauchery was not making such an impact on the progress of civilization in contemporary Europe. The fundamental problem was leaving civilization only to the protection of rulers, as only under that condition would their corruption also lead to the decline of civilization. It was only when "half-savage" groups with no appreciation of science and knowledge came to dominate the Islamic lands that civilization decayed. These new rulers separated religious sciences from rational and natural ones, and wished to protect only the former. But as the religious sciences of Islam cannot be truly understood without knowing all sciences, bigotry and ignorance had taken over the Islamic civilization for centuries.

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[15] "Medeniyet-i Cedidenin Ümem-i İslamiye'ye Nakli" *Güneş* 1:4, 1884/1301 p.173.

Muslims had to admit the fact that their glorious civilization was now obsolete:

> When there is the constantly growing products and illumination of contemporary civilization, referring to those ancient works or satisfying [ourselves] only with them is like facing the sun but trying to make use of the wick of a candle... Truly, national zeal encourages one to make do with that candle lit by his ancestors, but reason and wisdom should prevail over this sentiment. Today the amount of effort and money we would need to spend to revive ... the medicine of Ibn Sina, the philosophy of Ibn Rushd, the chemistry of Câhız, to retrieve their books from under the dust of libraries and translate them from Arabic to other Islamic languages, and to construct schools and *medrese*s to teach them is the same as what we would need to spend to bring into circulation the most perfect science books of our era. But just like we cannot prevent malaria with Ibn Sina's medicine, we cannot move a locomotive or a steamboat with the chemistry of Câhız and the philosophy of Ibn Rushd. Hence, we should leave the study of the works of Islamic scholars to historians and archaeologists, and we should acquire sciences and knowledges from the contemporary civilization of Europe. (179-81)

It was wrong to think, like some among both the elite and the commoners in the Ottoman Empire did, that the current civilization of Europe had to do with Christianity. But it was equally wrong, even with the best intentions, to try to counter this misconception by emphasizing that the sciences of the Europeans were but the sciences developed by the Muslims. While such efforts did indeed reduce the number of people who associated European civilization with blasphemy, they also created new groups who came to hate Europeans thinking that they had stolen their civilization from Muslims.[16] They did learn a lot from us, Şemseddin Sami admitted, "but none of the things that they have today was stolen from our ancestors." Europeans had once

[16] For a similar argument, see Ahmed Rasim (1888/9).

taken an oil lamp from Muslims, and discarded it once they had entirely illuminated their surroundings.

> There is nothing here that we can be proud of. We should be ashamed of this. Because we dropped that lamp and caused it to die down, and now when we see the sun of civilization shining right before our eyes, we still don't want to take advantage of it. We choose to close our eyes and remain in darkness, with some of us saying "that's not the sun but an illusion" and others saying "that's just an imitation of our lamp that faded"! (183)

Şemseddin Sami's blunt declaration that "Islamic contributions to science" belonged only in the museum and the history book thus had two dimensions. First, while they were Islamic contributions, they were written in Arabic even though the majority of their authors were not Arabs, hence the legacy, even if it were still beneficial, had to first be translated into the Ottoman language, i.e. Turkish, to be utilizable. Second, ultimately, however, the existence of a legacy did not really matter, as Muslim societies, including the Ottomans, were virtually at point zero vis-à-vis "contemporary civilization." By suggesting that even the so-called religious sciences could not truly be developed in isolation from the "rational and natural sciences," Sami thus granted the title "science" to Islamic branches of knowledge, but also proclaimed them and those who studied them worthless in their current state. Furthermore, by arguing that Islamic sciences themselves could only be understood by those who studied the new sciences, he made a case for both the need for, and the "fidelity" of the new men of science. If the old sciences were no longer valid, the possessors of the old knowledge were no longer what the Empire needed, and if

understanding the sciences of Islam itself depended on grasping the new knowledge, then those who learned it would also be closer to comprehending the knowledge of Islam itself, there was no need to be alarmed about them.

While this was a more direct and uncompromising expression of the discourse of earlier Tanzimat bureaucrats, his statements regarding the actual significance of claiming a legacy that comprised books in Arabic rather than Turkish were very closely related to a broader debate about the identity of the community at the time.

New works on rhetoric, as well as a new method for teaching Arabic developed by Hacı İbrahim Efendi, an *alim*, was the focus of this debate, but science, religion and identity were once again brought into the conversation as tightly related concepts.[17] Commenting on Ibrahim's endeavor, Ahmed Midhat published an essay in his newspaper where he reiterated the argument he had made in his "Basis of Reform" (*Üss-i İnkılab*) and stated that if something needed to be done in the area of language, it was composing a dictionary of the Ottoman language, with particular attention to scientific terms, rather than worrying about the teaching of Arabic grammar:

> Even nations whose level of progress is higher than ours or that of the Arabs act in this manner. Even though words like "telephone", "microphone", "telegram" were not in their *dictionnaire*s up until yesterday, now linguists include such words in their lexicons, as if they were their own words... If our critics will lament us, calling us the imitators of Europeans, they are free to do so. When it comes to service, we don't see a difference between imitating Europeans or Arabs.[18]

[17] For a detailed account on this extensive debate with particular emphasis on the arguments regarding Ottoman rhetoric see Yetiş (2006). Aksoy (2005) is an analysis of Hacı İbrahim's life and writings.
[18] "Belâgât-ı Osmâniye" *Tercüman-ı Hakikat* 1110 27 February 1882/8 Rebiülahir 1299.

Abdurrahman Süreyya published a similar essay arguing that without a language containing the names of new scientific inventions, it would be too difficult to make any scientific progress.[19] Hacı İbrahim, on the other hand, asserted that the Arabic language could never be treated so lightly, as "it is the very Arabic words in it that made our language a language." Those who intended to construct a new lexicon and ignore Arabic syntax and grammar would unavoidably fail, as Arabic constituted the core of Ottoman language. Ignoring Arabic grammar and similar branches of knowledge, creating a new dictionary and progressing in science was also unacceptable as a policy, when even the French continued to teach their children Latin.[20] Hence, Arabic was the core of the civilization Ottomans belonged in, just like Latin was for the *other* civilization. For Midhat, this basically amounted to a gross unawareness of the new world:

> Yes, we say, "let us facilitate the instruction of the language, and then occupy ourselves with the other sciences and follow the path of progress." This is because we see all nations on this path. Our erudites cannot reach their goal and stop us by uttering buffooneries like "You idiots! What you call the path to progress is [inventing new words]. That cannot be allowed." Because we understand that progress has nothing to do with that.
>
> We see progress where Krupp cannons, gatling guns, torpedoes, hot air balloons, telephones, microphones, phonographs are invented… There they occupy themselves with miraculous endeavors like hearing the sounds of ants using microphones, conversing between the two sides of the world using telephones, preserving sounds for years using phonographs. Their twenty-five year old engineers are trying to have trains traverse the English Channel… Progress is precisely these. And these can be achieved by first having a language.[21]

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[19] *Tercüman-ı Hakikat* 1117 7 March 1882/16 Rebiülahir 1299.
[20] *Tercüman-ı Hakikat* 1124 15 March 1882/24 Rebiülahir 1299.
[21] *Tercüman-ı Hakikat* 1131 24 March 1882/4 Cemaziyelevvel 1299.

When Ahmed Midhat underscored that it was the grammar and vocabulary of Ottoman Turkish that was needed to progress in science, not the teaching of Arabic grammar, İbrahim's reaction was clear-cut:

> [Midhat] should not deny that Arabic is ... the language of our religion, letters, and science (*ilm*)... Arabic, our language of science and letters has such a great wealth that it lent words to Spanish, Portuguese, Persian, Hindi, French, Italian, and so on. It generously offered them sciences and knowledges.... [Hence] breaking and bending the rules of this language and changing its words with the excuse to compose a lexicon on sciences and industries are unacceptable.[22]

What made it inconceivable was also clear: the Arabic language was the language of the Qur'an, the foundation for understanding "religion and the world, wisdom and letters." As a result, the Sultan, being the protector of religion, would also be the protector of the language of religion.[23]

Even though his remarks were seemingly moderate, Ahmed Midhat found it appropriate to conclude the debate at this point in order to avoid further criticism in this vein. Indeed, just like his dispute with Harputlu İshak several years prior, Midhat's debate with İbrahim, too, had ended with his opponent's reference to religion and the sultan.[24] Examples such as these are significant in their demonstration of how science and identity were such closely associated matters in late 19th century Ottoman Empire, and how, via religion and morality, debates on these concepts ended with a reference to the authority of the sultan.

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[22] *Tercüman-ı Hakikat* 1138 1 April 1882/12 Cemaziyelevvel 1299.
[23] *Tercüman-ı Hakikat* 1146 12 April 1882/23 Cemaziyelevvel 1299.
[24] The debate rekindled with the participation of many more authors and was focused increasingly on the old and new literature in subsequent months. See Aksoy (2005).

As these texts attest, by the 1880s science had clearly turned into a subject that could not be discussed without an open reference to identity – religious, and increasingly national. The man of science was not to be a "fop," but it was also clear that he was increasingly defined not only in relation to "Europeanness" but also to "Turkishness" and "Arabness."

In 1882 the celebrated poet Muallim Naci published a poem that appears to have been worded particularly to emphasize the *Arab*ness of the scholars of the past: "We are proud to be the beneficiaries / of the good works of the Arabs.../ It is from them that Europe attained learning / and now is busy selling it back to us" (Muallim Naci 1997, 49).[25] The journalist Ebuzziya Tevfik, on the other hand, wrote in the same year that his only source of pride was the Turks, even though he himself came from an Arab lineage: "Because it was the Turks who made the Ottomans the shining light of glory in the East and in the West, not the Arabs. It was the Turks who protected the Arabs by taking them under their mighty banner."[26]

In 1897 Musa Akyiğitzade, a Tatar Turk published a book entitled *A Glance at European Civilization* where he proudly restated the idea that the contemporary civilization of Europe was built upon the contributions of the Muslims, but also that this civilization was not that of the Arabs. The great physician and philosopher Avicenna, for instance, was "the Turkish son of a Turk." Halid Eyüb espoused the same approach in a series of articles on "Islam and Science." Based on the works of orientalists, he discussed the works of Muslim scholars in chapters devoted to

[25] From the poem "Musa bin Ebi'l Gazan, yahud Hamiyyet."
[26] *Tercüman-ı Hakikat* 1251 13 August 1882/28 Ramazan 1299.

astronomy, geography, philosophy, chemistry, and the "applied sciences." The book emphasized that not all Muslim scientists were Arabs, and counted even the Mongols, along with the Turks, among rulers that supported scholarly activities (Halid Eyüb 1898, 13-15).

Even more significantly, the first book dedicated exclusively to "The Services of the Turks to the Sciences and the Arts" was published in 1898. Mehmed Tahir, the author, was most disapproving of European authors who insisted on portraying the Turks only as warriors, and attributing the scientific and religious works of Muslim scholars to Arabs, simply because they were written in Arabic. An analysis of the genealogy of these scholars revealed that a third of Muslim philosophers and scientists were Turks. Furthermore, in the field of religious sciences, Turks constituted almost half of the great Muslim scholars. Even this was not enough for Mehmed Tahir, as he indicated that most Arabic and Persian men of science had lived in regions under Turkish control and been able to produce their works thanks to the patronage of Turkish rulers. Hence, they had, in a sense, been "Turkified."

But as we shall see in the following sections as well, it was particularly the graduates of the new schools where instruction was in Turkish that reacted against the emphasis put on Arabic by medrese students and graduates, and it was this process that gradually strengthened the associations between Turkish and "the new," and Arabic and "the old." A remarkable example can be found in the newspaper *Tarik* that published in 1898 an article entitled "Arabs have many sciences we can benefit

from."[27] The author, an *alim*, noted the importance of the Arabic language for all Muslims and the Ottomans, and focused mostly on linguistic and literary arts and sciences, but also mentioned the names of other sciences that Arabs had contributed to, such as astronomy, geography, and medicine. Soon afterwards, a graduate of the School of Administration, the young journalist Hüseyin Cahit published his response in the same newspaper. Written with an unmistakably sarcastic tone, the essay stated,

> If we are supposed to be grateful to Arabs for those sciences, we can proclaim without fear our indifference. The feeble astronomy, mechanics and medicine of the Arabs are now but a plaything compared to the progress in today's binoculars, machines, geological discoveries, and anatomical investigations. If the books of the Arabs on these sciences have any worth, it is historical. If we want to become a man of our age, we leave those books alone and embrace the books of today to fill our minds with the sciences of today. And we find those books in the west, not in the Arabs.[28]

The reaction to this essay was, once again, expressed in the form of a discourse linking science to the identity of the community. Mustafa Sabri, a religious scholar, wrote: "Cahit says 'Let us not worry about the sciences of the Arabs, let us look at ourselves.' But who are we anyway? We are a perfect totality of components with an essence fashioned by Islam." As a result, regarding Arabic sciences like an outsider would was the mistake: they were *our* sciences, *our* civilization. "I do not deny the need for European sciences," Sabri continued. But these sciences were needed only in order to deal with the difficulties the Empire was facing; they could not become an

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[27] Bahai "Arabdan Pek Cok Istifade Edeceğimiz Ulum Var" *Tarik* 4621 15 November 1898/ 3 Teşrinisani 1314, p.3.
[28] *Tarik* 4630 9 December 1898/27 Teşrinisani 1314, pp.3-4.

essence for the Ottomans like Arabic, that is, Islamic sciences. It was the latter that would guarantee the future of the Ottomans.

Hence, the identity of the man of science, what he knew and whom he respected became an ever more crucial question in the 1880s and 90s, as the debate about science was ultimately about the type of person that the Empire needed. But inseparable from this question was also the issue of "useful knowledge" that had already been strongly established in the previous decades. The "problem" with Arabic grammar was not that it was Arabic, it was that it was not "useful."

IV. Useful Knowledge, Useless Groups: Defining the Good Citizen

A. On Science and Literature

1. Setting the Terms

In the journals and newspapers of the 1880s and 1890s one comes across many polemics regarding literature, and some of these polemics have been examined by historians of Turkish literature. What have commonly gone unnoticed, however, are the countless references to science in these debates. Indeed, it appears to have been hardly possible to discuss a literary topic without referring to science. The reason is clear: these debates were ultimately about the "good citizen" that the Empire needed, and science and literature were commonly defined as two alternative routes toward its construction. Furthermore, as the following examples will illustrate, the connection (or lack thereof) between science, literature, and virtue and vice were constantly brought up in these debates.

Literary arts, and linguistic topics like Arabic syntax and grammar had always constituted a core aspect of medrese curricula, but such classes were offered – to a lesser degree – in the new schools as well, as raising new bureaucrats with a good command of the intricate Ottoman official jargon had been such a key objective of 19th century Ottoman educational policy. In this respect, criticisms directed against those whose most valuable "talent" was in literary arts can be argued to be as much against many civil servants as against men of literature. Arguments about the former group will be discussed in more detail in the next section, but this fact is important to keep in mind while analyzing criticisms such as:

> The nineteenth century is a genius, hence it wants as companion nations that have progressed and acquired the sciences. … The absence of science in our country is dripping from the pens of litterateurs. A man who wants to show off as a litterateur should, let alone knowing the contents of sciences, at least know the uses of sciences. Devoting one's life to learning Arabic, Persian, French and other languages, and turning oneself into a pile of grammatical and syntactical rules, and now calling oneself a litterateur … Of what use is that![29]

While attacks against litterateurs in general are common in this period, the most heated debates tended to be about poets in particular, and it was poets themselves that contributed most to these criticisms. A most influential work that ridiculed traditional Ottoman poetry with references to science was published by the prolific intellectual and poet Namık Kemal. In *Tahrib-i Harabat* and its sequel, *Takib-i Harabat* published in 1884, he criticized an anthology of classical Ottoman poetry, *Harabat*, by his former comrade, Ziya Pasha. The basic principle behind Namık Kemal's

[29] "Gayret-i Ciddiye" *Afak* 2 12 November 1882/1 Muharrem 1300 p.62.

condemnation of the kind of poetry glorified by Ziya was made clear by Kemal also in verse form:

> Aren't Nedim and Nef'i enough already?[30]
> Is poetry of any use to us?
> The brightest one is the biggest of lies,
> Find a true one if you want to convince me.
> …
> I haven't seen a poem in Turkish,
> Five verses of which were in harmony with science.
> Its metaphors are delusions, fancies,
> Compared to reason, they are insanities. (Namık Kemal 1989, 4)

In these polemical works, Namık Kemal advocated a new idea of poetry which would not be filled with tired metaphors, but would be based on scientific findings. Yet this was not for the sake of being scientific, as the verses above indicate: the ultimate purpose was to make poetry *useful*.

The leading newspapers of the period also started to publish texts assessing the relative merits of science and literature, and, inevitably, of their representatives. A letter sent to the *Tercüman-ı Hakikat* – and appreciated by the publisher – complained that more pages were devoted to literature than to science, and argued that "Science is the nurse of literature. Literature, without science, is like a child without a governess."[31] This patronizing attitude toward literature along with the identification of science with reality and literature with childish fancy was common in the literary columns of the newspaper *Saadet* (Bliss) as well. Particularly important for the editors was to illustrate the "problems" with traditional Ottoman poetry and the traditionally-

[30] Nef'i (1572-1635) and Nedim (1681-1730) are two of the most well-known representatives of classical Ottoman poetry.
[31] "Varaka" *Tercüman-ı Hakikat* 1438 27 March 1883/18 Cemaziyelevvel 1300.

inspired poems of contemporary romantic poets published in the literary journals of the period. A poet who wrote about the "blood in [his] veins [that] dried up" was ridiculed for his ignorance of "laws of nature," for instance.[32] Similarly, a poet whose poem referred to the "endless stillness of the night" was accused of insanity, as it was clear that nature never ceased to function according to its unchangeable laws.[33] Rather than succumbing to mysticism in the face of nature, the poet was recommended to "work for the eradication of ignorance, like the learned men of our century."[34]

But these criticisms were commonly amalgamated with criticisms regarding the "degeneracy" of the adherents of traditional mystical Ottoman poetry, with its many references to wine and carnal love, as these poems were "causes of moral corruption and devoid of any use."[35] These depictions of love and pleasure were meaningless in the contemporary era, as "the entire nation [was] now the lover of the beauty called progress" and the lover needed to hear about its beloved – its benefits, beauties, and the pleasures of the path to its attainment.[36] Poetry, like Namık Kemal had also stated, now needed to be *useful*. Moreover, that traditional poetry was criticized both due to its "unscientific" imagery *and* its glorification of "immoral" activities presents another indication of the inseparability of science and morality in Ottoman discourse in the second half of the 19th century.

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[32] "Edebiyat" *Saadet* 212 5 Zilhicce 1302 / 14 September 1885, p3.
[33] "Edebiyat" *Saadet* 215 7 Zilhicce 1302 / 17 September 1885, p.2.
[34] Ibid. "*…asrımızda mevcud olup alimîn sıfatını ihraz eden zevat-ı kiram kadar izale-i cehle himmet buyura idiniz*"
[35] "Edebiyat" *Saadet* 235 10 October 1885/ 1 Muharrem 1303. Also see "Teşrih-i Eş'ar" *Saadet* 229 5 October 1885 / 25 Zilhicce 1302.
[36] "Edebiyat" *Saadet* 224 30 September 1885 / 20 Zilhicce 1302. "*aşıka yarinden bahsetmeli ve mahbube-i Saadet-medarının hasenat ve fevaidinden ve haclegah-ı visalindeki lezaizinden bast ü hikaye eylemelidir.*"

Saadet made this connection clear with a brief statement on what useful poetry actually consisted of – a statement which would lead to the beginning of perhaps the most comprehensive debate regarding science and poetry in the 1880s and 90s. "We are not against all poetry," *Saadet* proclaimed in this statement directed at young poets, "but now that you have the temperament of a poet, why do you busy yourselves only with one aspect of poetry and ignore others, thus failing to strive to compose philosophical, scientific, moral pieces?"[37]

In the next issue of the newspaper, however, *Saadet* itself was put to the task by a reader who asked what exactly a scientific poem would look like. *Saadet*'s reply, though puzzling, may be regarded as indicative of the vagueness of the idea of "scientificity" in Ottoman discourse: science was always praised, but rarely defined. "Indeed, just as you did not understand what a scientific poem would be like, we do not understand with what inattention we wrote that phrase."[38]

But *Saadet*'s reversal was vehemently criticized by a young military officer named Beşir Fuad who argued in his letter to the editor that scientific poetry was not only possible, but most admirable. This kind of poetry was not about writing poems on chemistry; the idea was simply to avoid contradicting scientific facts in poems. Furthermore, Fuad argued, those who praised philosophical and moral poems should remember that philosophy and ethics were now sciences themselves.[39] *Saadet* conceded that Fuad was right. Yet the debate was not over, as soon afterwards a new

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[37] "*Edebiyat*" *Saadet* 238 13 October 1885/4 Muharrem 1303.
[38] "Varaka" *Saadet* 239 14 October 1885/5 Muharrem 1303.
[39] "Aynen Varaka" *Saadet* 240 716 October 1885/ Muharrem 1303.

article entitled "Scientific Poetry" was published in the *Saadet*. This satirical piece was about a fictional poet who wrote poems about the sciences under the pseudonym "The Scientific" (*Fennî*). One of Fennî's poems on chemistry, the author wrote, went "What are the components of the pure water you drink? / They're oxygen and hydrogen, oxygen and hydrogen!" The article concluded with another, much longer "mathematical poem."[40]

This mockery did not indicate a shift in *Saadet*'s approach, though, as in the same issue, a detailed criticism of another romantic poem was published. The author Faik Hilmi's target was a poem by Mehmed Celal containing a verse about how "springtime has left the universe." This fierce criticism discussed in fascinating detail how "scientific books" described the changing of the seasons, the movement of the planets and the laws of attraction, all of which contradicted the poet's statements. "If the poet who is a lover of springtime can gather the amount needed to travel around the world, and tries to gain some familiarity with geography and cosmography, he [may be] able to spend his entire life in springtime," Hilmi concluded.[41]

Celal's reply to this pedantic criticism by "a lover of science" was brief. Celal argued that any reader could understand the metaphors, except "men of science who aren't familiar with the pleasure of poetry." The conclusion was simple: "Science and

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[40] "Latife-i Edebiyye: Şiir-i Fennî" *Saadet* 281 2 December 1885 / 24 Safer 1303

[41] Untitled. *Saadet* 281 2 December 1885/24 Safer 1303. Faik Hilmi published short articles on new scientific developments in the journal *Armağan Dağarcığı,* and is also the author of a short novel named *Cep Defteri* "The Pocket Book." In this novel, the protagonist, who, as a child had learned "the new chemistry" talks condescendingly about his father who spent his time with mysticists, thought chemistry was the same as alchemy, and that Avicenna was an alchemist. See Faik Hilmi (1888, 7-13).

poetry are entirely different things!"[42] Yet while Celal did easily fend off the criticism regarding the content of his poems, it is worth noting that Hilmi's criticism, like many others published in the Saadet, is as much about poems as it is about the persona of the poet – a man who is commonly defined using words like insane, drunk, or hysterical. The contents of the poems were unscientific, as poets themselves were irrational people with no benefit to society. Men of science, on the other hand, were sober, virtuous, and useful.

2. The Debate Heats Up: Beşir Fuad as the "Poster Child"

These associations were a product of the debate of the 1880s initiated by Beşir Fuad in *Saadet*. Fuad also discussed his views on poetry and science in his monograph on Victor Hugo published in 1885-6 – Hugo, the chief inspiration for many Ottoman authors, was portrayed by Fuad as a symbol of the key problem with Ottoman thought: a romantic negligence of science. Fuad wrote: "Bring the shiniest images of the greatest poets side by side with, say, topics from astronomy. You will see that those bright images are too dim when compared to the truth… If the works of the most famous poems were combined into one, the result would not be as amazing as even the branch of anatomy regarding the nervous system."[43]

Hugo's work did contain scientific truths, Fuad admitted, but emphasized that while the most miniscule fact uncovered by science led to thousands of uses, pure

[42] Untitled. *Saadet* 283 5 December 1885 / 27 Safer 1303.
[43] Beşir Fuad "Victor Hugo" in Beşir Fuad (1999, 145)

imagination had never been useful for humanity. Similarly, fiction could be beautiful, yet the products of science were both useful and awe-inspiring.

Menemenlizade Mehmed Tahir, an old friend of Fuad's, reviewed *Victor Hugo* in his literary journal, the *Gayret*. While appreciating the work, Tahir argued that science and poetry were both useful: science made life more comfortable and enabled people to spend their lives in peace, while poetry filled hearts with joy and bliss, like a natural beauty.[44] Fuad was unequivocal in his response: even if both science and poetry should be seen as useful, the benefits of science could not even be compared with those of poetry. Indeed, Fuad wrote, the only useful parts of poems were those based in scientific fact, and thus, "as science itself is a source of light, it resembles the sun, while the light in poetry is but a reflection, hence poetry is like the moon." Furthermore, Fuad continued, science was not simply about material progress, as material progress also gave rise to new ideas the likes of which poets could never have fathomed. The question was simple: "does intellectual progress occur in places where there are lots of poets, or places that produce many scientists?"[45]

Hence, the debate about the merits of poetry and science was a debate about the merits of *poets* and *scientists*, defined as two different kinds of people. While Fuad insistently defined poets as dreamers with little attachment to what truly mattered, i.e. "the truth," Tahir rejected this portrayal of the poet as a parasite upon society and

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[44] M.M. Tahir "Biraderim Fuad Beyefendi" *Gayret* 6, 7 Şubat 1301. Also in Beşir Fuad (1999, 169-70)
[45] Beşir Fuad "Gayret'in 3, 4, 5, 6 Numrolu Nüshalarında Münderic 'Victor Hugo' Unvanlı Makale-i İntikadiyeye Mukabele" *Saadet* 478, 4 August 1886. Also in Beşir Fuad (1999, 187-8). While not related to this topic, it is worth noting in passing that Beşir Fuad, who in Turkish intellectual history has been branded as a Europhile critic of Islam, devotes several pages to the "conflict" between Christianity and progress, condemning "Christian slanders" that Muslims burned down the library of Alexandria. See Beşir Fuad (1999, 90-92).

strived to prove that poets were also useful: they were creators of beauty. In turn, Fuad's definition of the scientist expanded to include this criterion as well: scientists not only found facts, but the facts were beautiful in their own way, and in a higher sense than the beauty of a dream. Hence even if the usefulness of objects or ideas should be measured in reference to their practical use or beauty, scientists would emerge as their true producers.

Tahir's final salvo against realism in literature and Fuad's emphasis on "facts" was in reference to morals, and brought forth the idea that romantic depictions of human misery were more influential than realist ones in helping inculcate moral values.[46] This effort to at least save claims of moral superiority from the imperialism of Fuad's definition of the "scientist" was also denied by Fuad who argued that romantics only depicted unattainably ideal characters whereas realists described in minute detail the wrongs that should be avoided.[47] By examining vices in such detail, realists served the elevation of a society's morals, just like scientists who, by uncovering the causes of illness, helped ameliorate public health. It was the ideas and actions of scientists that should be emulated if moral decline was the concern.

But this was not the end of this debate which would turn into one of the most heated debates of the 1880s. Tahir's criticisms of Fuad culminated in a poem entitled "A Scientist and a Poet" that ridiculed the arrogance of an imaginary scientist, and

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[46] M.M. Tahir "Beşir Fuad Beyefendi'nin Victor Hugp Unvanlı Eserine Dair Yazdığım Makaleye Mukabil *Saadet* Gazetesiyle Neşreyledikleri Varakaya Cevaptır" *Gayret* 30-31 3 September-17 September 1886 / 22 Agustos, 5 Eylül 1302. Also in Beşir Fuad (1999, 198-202).

[47] Beşir Fuad "Menemenlizade Tahir Beyefendi'nin Gayret'in 29, 30, 31, 33 Numrolu Nüshalarındaki Makale-i Cevabiyeye Cevab" (Beşir Fuad 1999, 227)

accused scientists of being naïve and devoid of sentiment.[48] Fuad's response was in the form of a sarcastic dialogue between himself and a "moonstruck" (*mecnun*) friend of his who "used to read... poetry while we studied our lesson in school."[49] It was poets who were arrogant, Fuad stated in this dialogue, as scientists, due to their loyalty to the truth, were aware of their own shortcomings. Furthermore, due to their comprehension of the way nature worked, scientists were much closer to a true understanding of the "Creative Might."[50] Rather than adoring and spreading myths, poets "should admit their true place in society" and start trying to illuminate minds.

As the debate got increasingly bitter, Fuad furthered his efforts to expand the boundaries of the authority of scientists. Sociology and ethics were two *sciences* that identified the obstacles against and conditions for progress, therefore men of science *had* the right to judge which poems were useful and which were not. A scientist could criticize poets without being able to write a poem, whereas a poet could not criticize scientists without a sufficient knowledge of science.[51] While the debate then assumed the form of a knowledge contest with references to names like Pythagoras, Archimedes, Newton, Lavoisier and Watt, the allies of both sides also joined in. Fuad's critics ridiculed his "ignorance" regarding literature and argued that, if they were followers of "the truth" as Fuad claimed, men of science could not be forgiven for any error they made, even when discussing literature. Even Namık Kemal himself,

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[48] M.C. "Bir Mütefenninle Bir Şair" *Gayret* 26, 9 July 1886. Also in Beşir Fuad (1999, 243-4).
[49] Beşir Fuad "Yetmiş Bin Beyitli Bir Hicviye" *Saadet* 493-4 22-23 August 1886. Also in Beşir Fuad (1999, 246).
[50] "Kudret-i Fatıra" – a term used to refer to God in Islamic texts.
[51] Beşir Fuad "Çevir Kazı Yanmasın" *Saadet* 509-11 13-15 September 1886. Also in Beşir Fuad (1999, 266).

as one of the most respected poets of the era, intervened and published a letter criticizing the attitudes of those who "made a habit of leaning towards European ideas," and wishing that new works emerged that would truly enhance the minds and morals of society.[52]

Ahmed Midhat himself took the side of Fuad, albeit not vehemently, while at the same time presenting quite a rigid definition of science: "As science (*fen*) means reality, and poetry is about description, 'scientific poetry' is not like those works of insanity [that characterized old poetry], but is about uncovering the beauty of the reality that the poet writes about."[53] In other words, scientists were to find out facts, and poets were to express these facts in a beautiful way, rather than write about imaginary entities and impossible events. Inspired by such comments, a student by the name of Tahir Kenan sent an essay on electricity for publication in the *Tercüman*, and noted sarcastically in his introduction that his aim was to give poets some basic information on ideas they carelessly referred to in their poems.[54]

Soon a poem was published in the *Saadet* that condemned those "charlatans" who "imitated Voltaire," to which Fuad responded with his first and only poem that commended Voltaire and his followers, just to show that anybody could write one, and challenged his critics to write a scientific article.[55] Yet another critic argued that

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[52] Namık Kemal "Ebuzziya Tevfik Bey Biraderime" *Mecmua-i Ebuzziya* 52 1887/1304. Also in Beşir Fuad (1999, 312).
[53] Ahmed Midhat "Fen ve Şiir, ve Şiir-i Fenni" *Tercüman-ı Hakikat* 2464 1 September 1886/2 Zilhicce 1303.
[54] Tahir Kenan "Vukuat-ı Elektrikiyye ve Ahval-i Bedriyye" *Tercüman-ı Hakikat* 2465 2 September 1886/ 3 Zilhicce 1303.
[55] Salahi "Nazire" *Saadet* 618 18 January 1887; Beşir Fuad "Nazire" *Tercüman-ı Hakikat* 2590 29 January 1887. Also in Beşir Fuad (1999, 334-5).

Fuad's knowledge of science amounted to a familiarity with the French language, and his appreciation of Voltaire, "an atheist," was despicable.[56] This was the end of the debate, as Fuad committed suicide soon afterwards.

The details of Fuad's suicide, one of the iconic events of 19th century Ottoman intellectual history, are outside the scope of this dissertation. It is worth noting, however, that due to his interest in hereditary illnesses, Fuad was utterly worried about losing his mind like his mother had had, and in his suicide note addressed to Ahmed Midhat, stated that this was the reason behind his decision. He noted that he also hoped to make of his suicide a contribution to science, and indeed, was able to write a few sentences about his body's reactions after he slit his wrists. While he considered Fuad a very bright mind, however, Ahmed Midhat turned this incident into an example of how a boundless appreciation of everything European and estrangement from religion led to the downfall of young, well-educated Muslims in a book he published soon after Fuad's death. This narrative remains dominant in historiography as of this day, and Hanioglu (2005) discusses Fuad's story as that of a radical scientistic critic of religion – which was becoming a fashionable position in this period – who had committed suicide in the name of science.

Yet even though Fuad's importance in the 19th century Ottoman debate on science cannot be overestimated, it appears more as a sign of the precariousness of the position of the ardent advocates of science than that of their triumph. It is striking that in these debates few voices were raised in support of Fuad, and while his arguments about the

[56] Zülfikar "Aynen Varaka" *Saadet* 631 2 February 1887. Also in Beşir Fuad (1999, 338).

superiority of scientists to poets were opposed, the ultimate point in these criticisms tended always to be the claim that Fuad was an atheist, an arrogant young man who was not only ignorant of but hated the traditions of his own society, an unsalvageable Europhile. The weakness of Fuad's voice in the debate, and the constant pressure on Fuad to prove his adherence to the moral values, religion, and tradition of his society are rarely discussed in these works on Fuad and his suicide. It is highly striking that Ahmed Midhat, who had been declared a "cane-carrying" enemy of religion following his brief remarks on evolution in 1874, portrayed Fuad as a "lost soul" some ten years later. That an admirer of European science had to prove that he was not a Europhile fop was already an established principle by the 1880s, and after Fuad's death, the figure of the "lost materialist" would come to accompany "the fop." It was not as much the boundaries of science or literature that mattered as the proper conduct of a man of science.

Columns published after Fuad's death are indicative of the way young advocates of science like him were perceived. Indeed, this suicide appears to have been an excuse for many Ottoman authors to reassert the importance of order, obedience and religion as the only route to morality. Many journals published at least a letter commenting on Fuad's suicide, and argued that the reason why "materialists" like Fuad could commit such a horrible sin was their ignorance of their own religion. The weakness of their faith rendered them particularly vulnerable to "harmful" European philosophies which constituted a significant peril for the Empire. A letter published in Midhat's *Tercüman* stated that it was essential to provide those learning the sciences

with a proper discipline, not simply education: "If a man of science is regarded by the public as immoral, it does not matter in the least whether that person knew the sciences or not…. If a man of science attracts the detestation of the people, it will not be him that is condemned, he will be insulted only indirectly, as people will first and foremost say 'Shame on those sciences!'"[57] The author stated repeatedly that "discipline and good morals" should always come first, including in schools where the sciences are taught.[58]

But as a respected publisher and popular author of the period who also knew Beşir Fuad personally – remember that Fuad's suicide note was also addressed to him – it was the writings of Ahmed Midhat on this suicide that definitively set the terms with which the generation now represented by Fuad would be understood. In a series of essays on Fuad he published in his newspaper immediately after the suicide, Midhat perfected the image of the "educated but confused young man" that then became the new figure the man of science would be defined in reference to. Midhat wrote that when he met Fuad, he admired this young man's erudition, but advised him to "write about things that would be in harmony with the philosophy as well as interests of Muslims and the Ottoman Empire." The true service of an author was to avoid writing heated patriotic texts that would agitate the youth as well, for Midhat, and patriotism would be best served by authors who simply provided sound information to young generations. Only such an author could be defined as a "hard worker of the world,

[5757] A.F. "Terbiye – Tahsil" *Tercüman-ı Hakikat* 2621 7 March 1887/11 Cemaziyelahir 1304. The word "Terbiye" in the title indicates upbringing, providing good morals, and discipline, in addition to mere education. I translated it as disciplining like Somel (2000), but that it indicates *moral* education should be emphasized.

[58] For similar examples that criticized Fuad more directly, see Okay (1969, 96-100).

lover of his country, grateful to his nation, servant of his state" whose efforts would be useful to the state and the nation (Ahmed Midhat 1996, 14-5).

Fuad was a great candidate for being such a man, Midhat writes. His knowledge of European languages and the new sciences were absolutely unique, and his ability to learn remarkable. Yet he was almost utterly ignorant in some other things, like Arabic and Persian, and the religious sciences. In fact, he had read the Qur'an only from an abbreviated French translation, and his knowledge of the works of Muslim scholars was also based on European sources (Ahmed Midhat 1996, 23). The association he appeared to see between science and irreligiosity, inspired by materialist philosophy, was due precisely to this ignorance (Ahmed Midhat 1996, 69).

As Midhat's analysis makes clear, the idea that "men of science" like Fuad could end up choosing "wrong ways" is not simply about the "errors" of some recent philosophical trends, or about the wrongness of suicide. The "interests of the Ottoman state," a young man's requirement to be of "service to the nation and the state," and the dangers of "agitation" are concerns that all "men of science" are advised to take into account. The debate about science and poetry, or science and "tradition" is more about the presumption that familiarity with and appreciation of the sciences, philosophies and life styles of the Europeans could corrupt these young men and lead to the collapse of the "Sublime State." Moreover, as Midhat's assertions also indicate, in this perspective "useful" means "useful for the state and the nation," and this is the way in which possessors of "useful knowledge" are to define themselves.

During Abdülhamid's reign this principle was made clear on countless occasions. In 1887, it was proclaimed from the palace that "the graduates of certain schools" demonstrated a weakness of faith, which made it essential to introduce religious courses into the curricula of these schools. Furthermore, it was also declared that anti-religious remarks would never be allowed (Okay 1969, 99). In the archives we come across many statements about this "danger" and the ways to deal with it. In May 1892, the palace requested the names of military and medical students in Europe who did not "observe proper morals."[59] A document from 1893 states that students sent to Paris exhibited a decline in morals, hence students would be sent to Germany and Austria instead.[60] In 1895, it was instructed that whatever is needed to "teach religious sciences and improve morals and discipline" should be done in schools.[61] In August 1895, the Ministry of Education was notified that "the morals of the students sent to Europe are corrupted" – this time a wholesale condemnation of the policy, rather than one that blames the influence of a particular country – so the funds used for this purpose should be allocated to bring competent teachers of these sciences to the Empire.[62] The importation of books on science and religion was also monitored carefully.[63]

Yet even in such a context, it cannot be denied that some among the new generations of students and graduates – especially from the military, medical and

[59] BOA IDH 1278/100584 (13 Za 1309).
[60] BOA DH MKT 51/37 (13 Za1310).
[61] BOA MF MKT 272/44 (15 M 1313).
[62] BOA Y A HUS 334/103 (29 S 1313).
[63] See, for instance, a document about the Venetian author "Iskalcotis" (?) whose book on religion and science should not be imported, whereas another book called "The Harmony Between Religion and Science" could be allowed. (BOA MF MKT 190/100 (13 C 1311)).

administrative academies – continued to make a case for their intellectual and moral superiority, albeit less provocatively than Fuad. Soon after Fuad's death, another young officer with the name of Nabizade Nazım published a few articles espousing Fuad's views in such a milder tone. In an article also designed as a dialogue and entitled "On Poets," Nazım wrote that only "true" poetry (*şiir-i sahih*) – poetry that did not contradict facts – could be deemed useful, and only their creators could be deemed respectable. Nevertheless, the dialogue also made clear what was most respectable: "Poetry as we know it … has rendered many men … unable to serve the public, to serve knowledge. Had Nedim, for instance, used his mind in the name of science and knowledge (*ulum ve marifet*) instead of devoting his life to poetry, he would have been a man of science… What kind of a service is it to produce a *divan*?"[64]

It was the works of men of science that truly served the public, and Nazım did not hesitate to use striking comparisons to make his point: "I wouldn't trade a single page of [Laplace's] *Celestial Mechanics* for the great Divan of Nef'i. I can't consider a hundred Divans of Nedim equivalent to a single chapter of Duhamel's *Treatise on Infinitesimal Calculus*." Most remarkably, Nazım argued that poetry ruined young people's lives, as imagination was harmful to the nervous system. Young people should devote themselves to science, which was what the Empire needed, and classical Ottoman poetry was nothing less than a public health hazard. Indeed, in a more formally written sequel, Nazım reiterated that it was science, not poetry, that would

[64] "Şairiyyet" *Manzara* 4, 27 April 1887/15 Nisan 1303. A *divan* is a collection of a poet's poems written in different forms.

save the Empire. Possibly as a reaction to those critics who argued that the newfangled men of science did not know enough about their language and literature, he noted that it was in fact European philologists – i.e. men of science – that truly knew and wrote about the intricacies of Ottoman Turkish, not Ottoman poets. The condescending attitudes of Ottoman poets were a sign of nothing but "immorality."[65]

Nazım's emphasis on service and morality are impossible to miss. But note also that while his views on science and poetry were similar to Fuad's, in his journal Nazım also published a piece on "Islam and Science" in which he mostly quoted the views of Charles Mismer, the author of a book that made a case for Islam and was quite popular in the Ottoman Empire.[66] In other words, once again, we see a "radical" who, despite his criticisms of Ottoman litterateurs, "proved" that he was not an "immoral Europhile atheist."

A few years later Mehmed Celal took up the issue in the journal *Maarif* (Education). In two articles entitled "Science in Literature" and "Literature in Science" he reminded his authors of the "Oxygen and Hydrogen" poem, and criticizing such "excesses," stated the argument that indicated the moderate point that now appeared as the dominant view: men of literature should not contradict scientific facts in their works, while men of science should not demean literature, and learn from

[65] "Şairiyyet" *Manzara* 8, 27 June 1887/15 Haziran 1303. Fuad's main opponent, Menemenlizade Tahir, on the other hand, reiterated his position in the introduction his collection of poems *Yad-ı Mazi* published in 1888. Tahir (1888, 3) noted that while Ottoman literature *should* change, it did not mean that it would be nothing but "scientific."
[66] "Islamiyet ve Fünun" *Manzara* 10 27 July 1887/15 Temmuz 1303.

literary works the intricacies of their language in order to communicate their knowledge more effectively.[67]

Interestingly, in another article on the same subject Celal stated that the new era was that of scientists, not that of litterateurs.

> Even though I prefer literature to all sciences, I say: the era of imagination has ended, the era of truth has started... Fiction cannot maintain human existence… I do not think that a poet can be as worthy of appreciation in the eyes of a person who is able to distinguish good from evil as Pasteur can… Allow me to continue to talk about flowers, butterflies, leaves, the deep, dry coughs of a girl with tuberculosis. But how can I respond, my poet friends, if a man of science (*sahib-i fen*) asks me what genus the flowers are a member of, what can be seen in the wings of butterflies under a microscope, how many veins there are in a poplar leaf, what causes lead to those coughs?[68]

Celal conceded that it was men of science who were indeed useful for the well-being of human societies, and while literature was essential, it could not claim priority over science in the "new era." This statement constitutes another association between science and "usefulness" as well as truth, and defines scientists as people whose service to humanity are more considerable than that of poets. But also crucial was Celal's warning, similar to that of Nabizade Nazım, that literary works and the images they contained could confuse, and lead astray, young people and women of all ages –

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[67] "Edebiyatta Fen" *Maarif* 27, 25 February 1892/13 Şubat 1307, "Fende Edebiyat" *Maarif* 29, 10 March 1892/ 27 Şubat 1307. Note that Celal's suggestions to men of science are built on the well-established idea of a man of science essentially as a man who learns and teaches, not as a man who invents, investigates or builds.

[68] "Roman Mütalaası" *Maarif* 159, 29 November 1894/17 Teşrinisani 1310. That science was the future and literature the past appears to have been a view that gained popularity in this period. We learn from the memoirs of the 20th century politician Ali Münif (1996, 14) that in the 1890s his father, even though he himself was a poet, discouraged him from writing poetry, saying "You should occupy yourself with issues that have to do with the means of progress. Leaving science aside and busying yourself with literature is like using a flintlock rifle when there exist modern weapons."

only adult men should read fiction. Reading serious – possibly scientific – works would give women a more decent sort of pleasure, and avoiding fiction and poetry while focusing on scientific works in their youth would enable men to be wise and acquire the knowledge that would help him earn his life. In other words, learning the sciences *did* make one more likely to remain moral than reading poetry could, at least at a young age.

Warnings for youth regarding this subject can even be found in textbooks. A collection of readings for high school students contains a piece entitled "Poetry and Science." This brief essay cautions its readers about "would-be philosophers" (*mütefelsif*) and "would-be poets" (*müteşair*) who despise what each other do and fail to understand that there need not be a contradiction between poetry and science, as phenomena can be described both scientifically and poetically. The emphasis is on moderation and the need for both (Reşad and Ibrahim 1895a, 67-70).

It is also worth noting that Şerafeddin Mağmumi, a graduate of the Medical Academy and later one of the leading members of the Young Turk movement, also revived Beşir Fuad's criticism of poets in the introduction of his work on physiology. His criticism, in the well-established manner, indicates that dreams, i.e. poetry, were still preferred to "serious works," i.e. science, in most parts of the world, including the Ottoman Empire. But it presents this problem as a consequence of human nature which causes people to "prioritize the need of pleasure over true needs" (Mağmumi 1892, 10). In other words, while poets' works satisfy a base, and thus more easily

perceived, need, it is men of science who do the "serious" work – a characterization that ranks poets and scientists using criteria that have strong moral overtones as well.[69]

B. Science and the Medrese

While the portrayal of medrese students as those who were ignorant of useful knowledge had started in the previous decades, the 1880s and 90s witnessed even more direct attacks on them. Importantly, however, we also see that these criticisms are at least partly directed against civil servants as well. The more the association between the new sciences and the new industries is emphasized, the more parasitic civil servants appear. Medrese graduates, on the other hand, are a target of attack both because being a civil servant is their only option anyway, and because they are claimed to be entirely unaware of the new sciences.

Şemseddin Sami, in one of his numerous essays on science, argues that the as the collaboration of arts and sciences have led to great levels of productivity in industry, "today, a man who is familiar with arts and sciences appeals to nothing but arts and sciences." Contemporary science is not "simply about writing a couple of sentences or playing some tricks in texts…. Times that had once been devoted to syntax and grammar are now devoted to mathematical sciences."[70] This is of course more significant if one remembers that Arabic syntax and grammar (*sarf ü nahv*) were central to medrese curricula.

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[69] Hanioğlu (2005) refers to Mağmumi's works as well, but focuses mostly on the "scientism" they embody.

[70] "Semerat-ı İlm" *Hafta* 19 23 December 1881/1 Safer 1299 pp.291-2.

A more striking example can be found in three issues of the *Tercüman-ı Hakikat*, Ahmed Midhat's hugely popular and influential newspaper. Midhat introduces this long text entitled "Learning" and written by Samipaşazade Abdülbaki – the son of Sami Pasha, a leading statesman of the era who had private tutors educate his children and whose mansion resembled an Enlightenment *salon* – with the statement that while a lot of essays have been published with this title, he decided to publish Abdülbaki's as well, as it was of particular merit.

Abdülbaki starts his essay with key definitions: nature, he argues is based on laws, just like a state, and these laws were instated by God. Learning (*maarif*) is about uncovering these laws, and ignorance is failing to study and live according to them. With an interesting twist, he then states that "these laws, which are called knowledge and science (*ilm ve fünun*)" had been uncovered first by early Muslims, and then by Europeans. Yet, even though their religion itself advised against such attitudes, Muslims had later started to oppose progress and glorify the past: "Had being a Muslim simply meant praying, fasting, and living like Adam, then there would not have remained on earth an Islamic government, the Ottoman state, or even a single Muslim." Hence, it was now time to remember what learning was all about, and re-invigorate it. Abdülbaki's depiction of the purposes of learning should not be surprising at this point: serving the happiness of humanity, enhancing morals, and satisfying the needs of individuals and families.

"Now," asks Abdülbaki, "… which of these purposes do the sciences taught in our schools and medreses serve?"[71] The courses taught in medreses, while up-to-date in the past, and thus the reason why Muslims produced so many great scholars, are no longer sufficient. After spending perhaps twenty years as a student, the medrese graduate is ignorant of the useful knowledges, unable to sustain himself, and can only rely on the state to have a job. Indeed, a medrese graduate "does not know as much about the new sciences as even an eight year old European schoolboy does." Realizing that this has been the case for three or four centuries now and that so many generations have thus been wasted "can drive one insane," Abdülbaki argues, and attributes nothing less than the "backwardness" of the entire Muslim world to the ignorance of medrese graduates.[72] But probably his most "outrageous" remarks are the following:

> Even though for centuries the non-Muslims under our rule were much inferior to us in terms of learning, arts, trade and population, they too have realized the importance of education and opened their own schools, changed and reformed the sciences they taught … and succeeded in improving their learning. And for that reason, they took control over almost the entire Ottoman industry and commerce… In the meantime, the so-called greatest *ulema* of Istanbul and the arrogant *hodja*s … or some *bey*s and *pasha*s who won't even greet you because they have such and such rank in officialdom … are busy trying to get an advance on their July paycheck or pawning the chain of their watch…[73]

Abdülbaki is certainly aware that the new schools where the new sciences are taught also fail to produce anything other than civil servants, and his remarks occasionally do touch upon the new schools and their bureaucrat graduates, yet his

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[71] "Maarif" Tercüman-ı Hakikat 1005 26 October 1881/ 2 Zilhicce 1298, p.2.
[72] "Maarif" Tercüman-ı Hakikat 1007 27 October 1881/ 3 Zilhicce 1298, p.2.
[73] Ibid. Compare this with Midhat's remarks in the "Basis of Reform."

emphasis is on the medreses. A reason he gives for that is that medrese graduates are unable even to translate "the exquisite books of Muslim scholars on the sciences and the improvement of morals" from Arabic into the Ottoman language, whereas the young students and graduates of the new schools have at least been translating books from European languages on the useful sciences. The failure of the scholars of Islam is particularly appalling, Abdülbaki argues in a provocative way, when Christians have made so many great contributions to science, even though their religion does not even encourage it. As a result, "Muslims are among the most ignorant, wretched and backward nations on earth."

What is to be done, then? Most crucially, for Abdülbaki, many more students should be sent to Europe. Furthermore, bureaucrats should start teaching literacy in mosques, and special rooms should be available to the public where machines, binoculars, maps, scientific experiments are demonstrated. Finally, a true journal of science should be published and sold for a very low price.[74]

Of course, even though Abdülbaki concluded his series of essays by asserting his allegiance to Islam and the Sultan, a letter signed by forty-eight ulema was received by the *Tercüman-ı Hakikat* in response. Interestingly, Ahmed Midhat, who had introduced Abdülbaki's essays with nothing but praise, introduces the letter of the ulema by saying that the ulema had replied with a very polite response to an attitude that deserved a much harsher one.

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[74] "Maarif" *Tercüman-ı Hakikat* 1008 28 October 1881/ 4 Zilhicce 1298, p.1.

But the reply of the ulema is also a much shorter one than Abdülbaki's, and does not necessarily tackle all the points raised by his critique. The central argument is that the sciences taught in medreses – which are acknowledged by Abdülbaki himself to have raised great scholars in the past – are timeless sciences, as their subject matter is not one that can age. But most significantly, these sciences are *useful* as well, and useful in a unique way, as the religion these sciences are about is "the true basis of the Muslim community." Similarly, sciences about the Arabic language taught in medreses are about the language of these religious sciences. "So," the ulema ask, "which one is the mistake? To teach religious sciences in Muslim lands, and in particular, the center of the Caliphate, or to call this very education a mistake?"[75]

The ulema also argue that the financial difficulties of the Empire had impacted the medrese system as well, and explain in great detail that training in medreses did not take as long as Abdülbaki claimed – certainly not longer than the time it took a student of the Medical School to become a true physician.

What is impossible to ignore in this reply is once again how entangled ideas on "science-as-useful-knowledge," religion and community are. The common criticism that numerous medrese courses on the intricacies of Arabic syntax and grammar are not actually of any use is countered by the argument that a reaction against the teaching of Arabic is nothing but a reaction against the language of Islam. Similarly, the response to the idea that the religious sciences taught in medreses cannot save the Empire from collapse is that religious sciences are essential as it is religion that keeps

[75] "Redd-i Bâtıl ve Isbat-ı Hak" *Tercüman-ı Hakikat* 1013 7 November 1881/14 Zilhicce 1298, p. 2.

the community intact. Arguments about useful knowledge and the needed sciences are not distinct from arguments about the identity of the community. Moreover, they are also about who is fit to lead this community. The ulema proclaim in this respect that "those [like Abdülbaki] whose knowledge and understanding are inadequate and whose arguments are false should now understand that they cannot be the leaders and guides of a great Islamic community."[76]

V. How "confused" were the "Confused Young Men"?

It is undeniable that those who made the most passionate arguments about the uniqueness of the new sciences and the value of young Ottoman "men of science" are students and graduates of the Imperial Military and Medical Academies. Yet the wholesale labeling of these young men as confused youths who were ignorant of Islam and "vulnerable" to European philosophies, as well as prone to immorality, and in particular, disobedience to the sultan appears to be a hegemonic, disciplining representation that ignored the multiplicity of positions taken by these "men of science."

A letter sent to the *Tercüman-ı Hakikat* in 1881 by several students of the Medical Academy is a case in point. The letter states at the outset that "the bliss and well-being of our nation depends on good morals" which is provided by religion, as "all that is good in the world is borne out of religion, and all that is evil is a result of the negligence of religion." The students of medicine continue by making the by now

[76] *Ibid*. p.3.

commonplace argument that in the contemporary era, sciences and arts are essential for a nation's welfare, but for Muslims, learning the sciences is a religious obligation. The perfect teaching of the tenets of Islam was crucial for a nation of Muslims, the students stated, but they complained that in some mosques preachers discouraged Muslims from caring about worldly bliss and recommended worrying only about the afterlife. For the students, it was essential to remind people that the world could not entirely be abandoned, and the way to make bliss possible in this world was to learn the sciences, as Islam itself instructed.

Now while this argument appears to be a continuation of the "Islamic legitimation of science" discourse that came into being in the previous decades, what is worth underlining is how the students describe a preacher that they see as a most learned and judicious preacher of Istanbul.

> [He] is a person who etches these points in Muslims' minds and strives to serve the bliss and well-being of our nation. He is a person who enlightens those young men who think studying the sciences is in contradiction with the *sharia*, and those who, while entirely ignorant of religion and its instructions, have learned some sciences, and pretend to be philosophers. He shows them that sciences are not in conflict with Islam, and that if these sciences progress and expand a little more, they will prove to be no more than the wisdom of Islam itself… Hence, he saves them from the path of ignorance and corruption that they are on, and leads them towards the straight path of the *sharia*.[77]

Hence, it is students who study the "dangerous" sciences themselves who blame others of ignorance in Islamic matters, and argue that preachers' efforts can save them from the "dangerous" path they are on.

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[77] "Mekteb-i Tıbbiye-i Şahane talebesinden birkaç zat imzalarıyle matbaamıza tebliğ olunan varakanın aynıdır" *Tercüman-ı Hakikat* 940 9 August 1881/13 Ramazan 1298, p.2.

Another example that challenges the too easily accepted idea of the "materialist Medical Academy" is Doctor Hüseyin Remzi (1839-1898) – a graduate of the Medical Academy who served in the Ottoman military as a physician, and later worked as a lecturer in many of the new elite schools of the Empire.[78] Furthermore, in 1886 he was one of the three men sent to France to meet Louis Pasteur and learn about his cure for rabies. In 1887 he became the zoology teacher of the recently opened Veterinary School, and in 1892 opened the *Telkihhane* – an institution that manufactured vaccines. Now while this Ottoman man of science is famous for his works on zoology, microbiology, history of medicine and public health, he is also the author of a pamphlet on *morals* as well as a book called *İlmihâl-i Tıbbî* ("Medical Catechism"). The latter which was first published in 1887 and went through several publications afterwards is a work that demonstrates how the instructions of Islam are in harmony with the findings of modern medicine. What is probably more important is the way science, religion and civilization are defined in the introduction of this work.

Remzi's emphasis is on the notion of "truth" in this text. The knowledge of truth enables people to understand and live with one another, hence truth is what makes humanity, order, and thus, civilization possible. At the same time, truth is what "men of science strive to reveal day and night." And finally, Islam is the essence, as well as the criterion of truth. Thus, Hüseyin Remzi (1888, 5) concludes, "Truth, humanity, civilization, Islam are one and the same thing." The true foundation of truth is the Qur'an, which is the word of God, and as a result, it should be the guide of everyone

[78] On Remzi see Unat (2003).

whose purpose is to understand the truth. However, "[a]s some blasphemers who fancy themselves Muslim and similar deviants happened to come across the Qur'an without any effort of their own, they act like a son who isn't grateful for the fortune he inherits, and they fail to appreciate Islam, which is the source of all truth" (Hüseyin Remzi 1888, 9).

Anybody who fails to affirm that the truth searched by men of science resides in the Qur'an is thus a blasphemer. Also worth noting is that Remzi uses the word "fen" for knowledge that can change, knowledge that is the initial step to reach truth, which he calls "ilm." Thus, sciences like biology, of which he is an expert in the Ottoman Empire, are essentially the path toward the truth, and, if we follow his reasoning, it is not before their findings are in perfect harmony with the Qur'an can they be called "ilm", or "truth." The complications of the definitions aside, Remzi's effort to portray science essentially as the hand-maiden of Islam, and his unhesitating labeling of those who do not approach Islam the way he does presents us with a more complicated picture of the so-called "materialist man of science" that is commonly referred to in the Ottoman media of the 1880s and 90s.

As Remzi's work indicates, professors and students of the new elite schools were also among the staunch propagators of the "Muslims as the true founders of modern science" discourse. The physician Mehmed Fahri (1860-1932), a graduate of and later a lecturer at the Medical Academy, wrote a similar book on "The Healthiness of Fasting and Other Foundations of the Religion of Islam" where he made the comment that "research on the harms of germs for the human body" uncovered the "religious

and scientific truths in the glorious sharia of Islam" (Mehmed Fahri 1890-1, 5). Islam, with its emphasis on cleanliness, was the route to improving public health. In addition to his books on medicine, Fahri also wrote religious poems that he published under the title "Yadigar-ı Hâkim" several years later.

An Ottoman physician who had accompanied Hüseyin Remzi and met with Louis Pasteur, Hüseyin Hulki (1862-1894), had also been sent to Berlin to meet with the other prominent microbiologist of the period, Robert Koch. Hulki, lecturer in dermatology and syphilitic diseases at the Military Medical Academy, also published not only on medical issues, but on "Islam and science." Hulki's work on fasting and health had a different take than Remzi's and Fahri's, however. For Hulki, it was simply wrong to argue that the benefits of fasting had been proven by modern science, as such arguments belittled Islam: "For us, the holy instructions of religion do not need the approval and recommendation of science… Seeking [to prove] the splendor and holiness of Islamic commandments in reference to their harmony with contemporary sciences, or their health and worldly benefits, cannot be a token of devoutness" (Hüseyin Hulki 1893, 4-5).

In other words, for this leading Ottoman microbiologist, the authority of science could never even be compared, or considered complementary to, the authority of Islam.[79]

[79] Hüseyin Hulki also translated Nurican Efendi's *Aperçu historique sur la médicine arabe*, and wrote to this work on Arab medicine a passionate introduction about Arabs' contributions to science. For Ottomans, Hulki wrote, it was the greatest honor to be co-religionists with the Arabs, and that no effort to praise the Arabs could be considered sufficient. See Nurican (1883).

Young Ottoman physicians had complaints about the moral state of the Empire as well, as a poem by Mehmed Cemil (1860-?), another graduate of the Medical Academy, illustrates. In this poem with allusions to a famous poem by Ziya Pasha, Cemil wrote:

> I passed through Ottoman lands; don't assume I saw mansions
> I saw decaying, ruined houses of worship.
> No sign of progress; some lands with no knowledge and learning…
> Tradition and morals entirely corrupted, all out of joint.
> Alas, no schools or medreses in sight; but drinking houses, I saw.
> (Kurdoğlu 1967, 273)

Another example is a general who wrote books both on the "military sciences' and on morality, Mustafa Şevket Pasha. In *Burhan-ı Hakikat*, Mustafa Şevket argues that all departments of a state are interdependent, but collectively, their proper functioning depends on one key factor: learning (*maarif*). Yet learning itself can be appropriate only if it is based on "good morals, which, in turn, depends on religion." Hence, if a state aspires to achieve progress, it should focus on these three components simultaneously: "Good morals cannot lead to irreligiosity. Some kinds of knowledge can, but that is not useful knowledge. Without knowledge, one cannot benefit from religion; nor can he find the path to good morals. Without good morals, one cannot serve learning or religion." (Mustafa Şevket 1881/2, 9) With this somewhat cryptic explanation, Mustafa Şevket demonstrates that good morals, religion and learning are all interconnected, and clarifies in subsequent pages that with "learning" he refers both to "religious sciences" and the "rational sciences." While the virtues of the religious sciences are clear in Mustafa Şevket's portrayal, the way in which he characterizes the

virtues of the "rational sciences" is another clear indication of the inseparability of science and morality:

> If the rational sciences are neglected and all efforts are spent on the religious sciences, it is obvious that this will contribute immensely to the national spirit and the protection of religion. Yet nations that concentrate on the rational sciences will, in the meantime, bring about new inventions, and using these, gradually appropriate the wealth of the nations that ignore these sciences, and make the latter dependent on themselves.... This material decline will unavoidably influence the soul (*maneviyat*) of the latter, and their morals will also start to degenerate. This, in turn, will lead to the abandonment of religious faith. (Mustafa Şevket 1881/2, 38-9)

Of course it is important also to note that Mustafa Şevket Pasha, like most authors this dissertation has referred to, approaches the question entirely from the point of view of the state, and his emphasis on science, religion and morals is only because they help a state survive. In other words, the state needs religious people with proper knowledge and good morals.

In literature, too, we see a proliferation in poems critical or suspicious of the claims of science, or more precisely, of men of science. Ali Ruhi (1854-1890) wrote, for instance, in 1886, that

> No one among those on earth know the beginning
> Neither those who have left this finite world.
> Is there anyone who has discovered the facts of creation?
> Men of science, too, can only assume, I assume.
> (Inal 1939 f.8, 1532).

Hüseyin Nazım Pasha (1854-1927), a bureaucrat who had studied law in France wrote,

> Can the mystery of the Almighty be discovered?
> O God! What boldness, what revolt!
> You, the ignorant of science, monger of heresy,
> The science you brag about is but a result…
> Studying the sciences each and every moment,
> And saying "In the universe phenomena are numerous,
> And God is great"… Alas!
> Can His greatness ever be expressed in words?
> Can God ever be comprehended?...
> Can the Knowledge of the Creator ever be assessed,
> Even if learning is expanded? (Inal 1938 f.6, 1150)

Bıçakçızade Hakkı (1861-?) made similar remarks:

> There is, indeed, a secret truth like the Phoenix,
> I don't trust the witness and evidence of those who say "I know what it is!"
> All myths and tales, with no accord
> I don't trust Darwin, Hermann, or Leibniz. (Inal 1932 f.3, 507)

But an examination of the arguments of the young, educated critics of young men of science would not be complete without a discussion on one of the longest debates that occupied the columns of the *Tercüman-ı Hakikat* and the *Vakit* in the 1880s. On its surface, it is a debate about the merits of "the old" and "the new," but clearly, the more substantial debate is, once again, about virtuousness and the type of person the Ottoman Empire really needs in the late 19th century.

The debate started on 6 August 1882 when an author who defined himself only as "A Student," published an essay entitled "The Superiority of the Virtues and Merits of the Moderns over the Ancients" in the *Tercüman*.[80] The main argument of this brief essay was that the logic developed by pre-modern scholars was no longer of much

[80] Bir Mektebli "Müteahhirinin Mütekaddimin Üzerine Olan Fazl ve Meziyyeti" *Tercüman-ı Hakikat* 1245 6 August 1882/21 Ramazan 1299, 2-3. It is important to note that "mektebli" is the word used for the students of the new schools, not the medreses.

merit. In the next issue, the author revealed that he was Abdülhekim Hikmet, a student of the Medical Academy, and indicated that contemporary scholars had refuted the assertions of the ancients in many other fields as well, including astronomy and chemistry. But in the Ottoman Empire, Hikmet complained, the scholars of the past were still overly respected, which impeded progress.

As in most disputes of the period, it was the *Vakit* that opened its columns for the response to the provocative essay published in the *Tercüman*. The authors Mahmud Esad and Ali Sedad argued that it was conceited of Hikmet, a student, to assume he could so easily thrust aside such greats as Socrates. He simply did not have the right to do that. [81]

Hikmet's response to the reaction of these two law school students clarifies that his intention was not to belittle the ancients but to underline that their perspectives had been surpassed. As for the question of conceit, Hikmet's position was clear:

> To improve the material and non-material conditions of the nation is the duty only of those like us who are in the lofty field of medicine, as they are well-informed about the material world, and the facts and issues that are considered to be the chief source of inspiration for contemporary thinkers. … Those who can assess [whether or not men like us have the right to do something] are only those who are physicians themselves, or people who are also knowledgeable about the

[81] *Vakit* 2441 17 August 1882/2 Şevval 1299. Mahmud Esad (1857-1917) the son of a prominent *ulema*, was a former *medrese* student who was at the time a student of the School of Law (Mekteb-i Hukuk). He later became a leading educator, bureaucrat, and a member of the Ottoman Parliament after 1908. Thanks to his familiarity with both the religious and the "new" sciences, he wrote many texts on both and became a proponent of the "Islam as a pro-science discourse." Ali Sedad (1859-1900) was the son of Cevdet Pasha, one of the most influential statesmen of the Tanzimat Era and the author of a book on classical logic dedicated to his son, among many other works (see Chapter 1). Sedad was educated mostly by private tutors, and in 1886 he published the first book on logic in Ottoman Turkish that discussed contemporary debates.

> material world. As even commoners know, a physician can be a philosopher, but a philosopher cannot be a physician.[82]

Esad and Sedad, in their reply to "a fellow student" note that contemporary scholars owed most of their discoveries to the work of the ancients. They also protest the argument that only physicians were responsible for the welfare of the nation, and state that "we do not even consider worthy of a reply an argument that insinuates that we are ignorant of the natural sciences."[83] Hikmet, in turn, sharpened his remarks by sarcastically referring to Sedad's father Cevdet Pasha's work on logic as proof that works on classical approaches were indeed unaware of the new physics.[84]

Esad and Sedad's response, in turn, highlights a major assertion that they had briefly touched upon in previous essays: the main source of inspiration of Hikmet's articles was actually a text by an American missionary – more specifically, Cornelius van Dyck's essay with the very same name, "On the Superiority of the Moderns over the Ancients."[85] Thus, the authors proclaim, their addressee is no longer Hikmet, but van Dyck. The argument that the sciences did not exist before the contemporary era could only be uttered by a person like van Dyck, whose emphasis is on Europe, Esad and Sedad state, and underline that in the East sciences had flourished long before they did in Europe. As for logic, "a science approved of by our religion," the authors argue that they know it "much better than those whose interests it does not serve." In this

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[82] Abdülhekim Hikmet "Varaka" *Tercüman-ı Hakikat* 1260 27 August 1882/12 Şevval 1299, 3.
[83] Mahmud Esad and Ali Sedad "Varaka" *Tercüman-ı Hakikat* 1265 2 September 1882/18 Şevval 1299, 3.
[84] Abdülhekim Hikmet "Varaka" *Tercüman-ı Hakikat* 1269 6 September 1882/22 Şevval 1299, 3.
[85] Cornelius van Dyck (1818-1895) was a missionary in Syria most of his life. He taught at the Syrian Protestant College, translated the New Testament into Arabic, and published many essays on the sciences. This particular essay written in Arabic was published in 1852 in the Transactions of the Syrian Society of Arts and Sciences.

reply, Esad and Sedad also direct attention to an issue that appears to have been another cause of concern for them: how can ancient scholars be considered inferior to the modern ones with respect to "merit and virtue"? Using these words in such a context could be excusable for van Dyck, a foreigner, and apparently Hikmet did not understand the significance of these terms, either, due to his ignorance of the language. Otherwise, he would known that simply because they knew new things, the ancients could not be declared inferior in "merit and virtue."[86]

When, in response, Hikmet reiterates that Sedad and Esad are ignorant not only of the new sciences, but also of the fact that van Dyck was an expert in Arabic language, the authors' reaction further assumes the shape of a diatribe against an ignorant, "confused youth." Van Dyck's Arabic was *not* perfect, and in any case, it was "our" duty to be more sensitive when using terms borrowed from Arabic, "our language of religion and literary arts." Furthermore, the progress of the sciences of the Europeans was due to the legacy of Muslim scholars, "our prides." Assuming that contemporary men of science were superior to the ancients would lead to such preposterous conclusions as that a doctor in contemporary Istanbul should be superior "to our Ibn Sina."[87]

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[86] Hikmet's essay's title refers to "Fazl ve Meziyet" which can be translated as "Virtue and Merit," but the choice of these particular words is a further indication of the significance of the question regarding knowledge and virtue. While the connotation of "meziyet" is closer to "merit," the word "fazl" is defined in the quintessential dictionary of Ottoman Turkish, the *Kamus-ı Türki*, as "worth, merit, maturity, knowledge and erudition along with the right morals and faith." In other words, even if what is intended is superiority with respect to erudition, connotations regarding faith and morality are impossible to avoid if these words are used. This, it appears, is a reason behind the reaction of Sedad and Esad.

[87] Mahmud Esad and Ali Sedad "Varaka" *Tercüman-ı Hakikat* 1294 4 October 1882/21 Zilkade 1299, 2. The contemporary doctor that the authors refer to is Doctor Zambako Pasha (1832-1913), an Ottoman Greek educated in France, who was rather popular in Istanbul in the 1880s and 90s, and served as the

As the questions of identity and loyalty were thus introduced into the debate, the tone of Hikmet's response also went through some transformation, as the following passage demonstrates: "Our Sultan, the Refuge of the World, is the successor of so many sultans from the House of Osman, and thus is superior to them. This is because the progress of science and knowledge during his imperial reign which was devoted to learning is unprecedented." Similarly, the laws made during the reign of Abdülhamid were "the true basis of the material and spiritual bliss of all subjects of the Sublime State."[88]

Clearly, in this text that contains many elaborate phrases of this type unlike his previous essays, Hikmet intended to manifest his loyalty to the Sultan and the state: he was not a blind follower of an American missionary. Yet he did not repeal his main assertion: it was indeed true that Dr. Zambako knew more about medicine than the great Ibn Sina had; Ibn Sina's death had been due to an illness that Zambako, today, could have easily cured. Hikmet concluded with the remark that he would not be able to comment further as he was studying for his graduation exam – i.e., he had more important things to do than argue with some ignorant men.

In response, Esad and Sedad, too, made it clear that their opponent's remarks were "due to the influence of a missionary." His comments about Ibn Sina were things that could be said only because of "a pathological crisis." "One wonders," they wrote, if

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private physician of Abdulhamid II as well. Essentially, what the authors find preposterous is comparing a great scholar to but a physician. But even if their primary intention may have been indicating only that, the fact that the physician in question is a non-Muslim Ottoman and the great scholar is Muslim clearly adds another, and more provocative dimension to their argument, particularly in an essay that is full of references to "us."

[88] Abdülhekim Hikmet "Varaka" *Tercüman-ı Hakikat* 1308 22 October 1882/9 Zilhicce 1299, 2-3.

"Zambako, and *vice-docteur-en-médecine* Abdülhekim Hikmet himself" will not die in the end; "maybe because they are doctors, they will die of diseases that cause the patients to have astounding shapes, like elephant disease or lion disease."[89] These allusions to Hikmet's *French-style* training, and his alleged self-importance are quite clear references to the "fop" discourse that had by now been firmly established.

This essay led to a severe escalation of tension, and other students of the Medical Academy started expressing their support for Hikmet. One of these, Refet Hüsameddin, wrote that while Muslims had laid the groundwork for contemporary science, what existed today was a product of the Europeans, and was indeed superior. Furthermore, "the individual who our opponents call a missionary … teaches Logic in Syria… and his work written in Arabic is an example of contemporary progress." The opponents of Hikmet had no knowledge of medicine, and they had no right to talk about issues they were utterly ignorant of.[90]

Similarly, Mehmed Fahri was revolted by the "*vice-docteur-en-medicine*" remark, and argued that such attacks were directed against all students of the Medical Academy. Şakir Pasha, a teacher at the Medical Academy, had been a student of Claude Bernard, and Hikmet was Şakir's assistant, which proved Hikmet's merit.[91] After these letters Hikmet published a brief note indicating that his opponents were nothing but charlatans, and, as he was not idle like them, he would no longer reply to their allegations.

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[89] Two conditions referred to in traditional Arabic and Persian medicine that are commonly associated with leprosy.
[90] Refet Hüsameddin "Varaka" *Tercüman-ı Hakikat* 1322 11 November 1882/29 Zilhicce 1299, 2.
[91] Mehmed Fahri "Isbat-ı Hakikat" *Tercüman-ı Hakikat* 1325 15 November 1882/4 Muharrem 1300, 3.

Esad and Sedad's final response emphasized once again that van Dyck, a missionary, was a lecturer at a "Bible College." They also stated that if nobody would be allowed to speak about issues of which they were not full-blown experts, Hikmet should also stop imagining himself to be an Auguste Comte, or a Herbert Spencer, and never assume that just because he knew about physiology he could also talk about divinity, literature, or philosophy.[92]

Once again, the debate ended with the intensification of remarks questioning the faith, morality and loyalty of those *French-speaking* physicians who were influenced by *Christian* missionaries.

VI. Science and Morality: Direct Engagements

A. The Press

The books, newspapers and journals of the 1880s and 90s thus demonstrate the ever strengthening association between learning, science, and morality defined in Islamic terms. Most importantly, names that are commonly referred to in contemporary historiography of 19th century Ottoman thought as examples for the infatuation of "Westernized" Ottoman intellectuals with science are also among those who wrote on the connections between science and moral values. Şemseddin Sami, for instance, whose scathing criticisms of those who continued to exalt medieval Islamic science are frequently referred to in this respect, and who indeed wrote many pieces

[92] Mahmud Esad and Ali Sedad "Varaka" *Tercüman-ı Hakikat* 1333 24 November 1882/13 Muharrem 1300, 3.

on the uniqueness of modern science, also wrote the following in his journal *Hafta* (The Week):

> Learning (*marifet*) awakens one's intellect… Don't we see that man … now overwhelms nature, transforms land into sea and sea into land, moves above waves and below mountains and turns the world upside down, is able to understand the properties of the substances in the core of the earth, the greatness and the movement of the stars in the sky, and the many secrets of nature? … But learning … also provides great services to humanity for the purification of souls. The survival or fall of a society depends on the improvement or deterioration of its morals and the improvement of its morals can be achieved only through learning and education.[93]

While the examples Sami provides are indicative of the kind of learning his emphasis is on, he makes the idea more explicit in the rest of the essay, by referring frequently to "European learning." Also worth underlining is Sami's division of the means for "the progress of learning" into two: a. new inventions and discoveries, b. spreading the knowledge on new inventions and discoveries. In its current state, Sami contends, the Ottoman Empire cannot produce inventors and discoverers, and the mission of educated Ottomans can only be the translation of "European books on various branches of science" and popularization of science via newspapers and books. In sum, while Sami's appreciation of European science, and his association of "learning" with new discoveries and inventions are striking, it cannot be ignored that he also regards the spread of these products of the new sciences as a way to enhance morality. The definition of the new sciences as knowledge, and unawareness of them as ignorance *per se* is reiterated forcefully by Sami – who goes even further and states

[93] "Terakki ve Maarif" *Hafta* 1 18 August 1881/22 Ramazan 1298. p.4.

that "those who are oblivious to chemistry and natural philosophy, no matter what other sciences they do know, are to be considered ignorant" – and this statement is, as discussed in previous chapters, a way of setting a direct link between the new sciences and morality.[94]

At this point it should not be surprising that in another issue of his journal Sami devotes an entire essay to "General Morality," and complains about the decline in the moral qualities of Ottoman people. Interestingly, though, in this article he argues that "learning and civilization" may not necessarily stop the deterioration of morals – in fact, as the histories of Ancient Rome and the medieval Arab Empire suggest, progress in civilization may simultaneously *lead to* immorality. It is immorality before anything else that causes the decline of the Empire, Sami argues, and proposes the enhancement of morality courses in schools – precisely what Abdülhamid's policies aimed to achieve.

Is the connection between science and morality only that science is knowledge *per se*, and that ignorance is a vice? While this remains the dominant reasoning throughout the 19th century, in this decade we see more references to another connection as well: science not only discovers facts, but puts them to use, so in both of these aspects, it is closely related to hard work as opposed to lethargy. This connection is clearly illustrated in an article by Mehmed Nadir in the journal *Mirat-ı Alem* (The Mirror of the Universe). Discussing in detail how every object in one's room was manufactured

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[94] "Hikmet i Tabiiyye ve Kimyanın Mahiyet ve Ehemmiyeti" *Hafta* 18 August 1881/22 Ramazan 1298. p.9.

by hard-working men in different parts of the world, and how one can read the works of Galileo, Newton, Lavoisier and Buffon and "attain human perfection" thanks to the inventors of the printing press, Nadir argues that it is scientists, inventors, discoverers, manufacturers that should be glorified and inertia that should be damned.[95] In this account, sciences and arts are "good" because they save one from lethargy.

When "Europeanized" intellectuals like Sami or Nadir discuss science in such close connection to morality, it should come as no surprise that journals published by more conservative figures make similar arguments. *Hadika-i Maarif* (The Garden of Learning), a short-lived journal published by Imadeddin Vasfi, argues in its first issue that learning is essential in order to fend off moral degeneration. Yet not all branches of learning lead to the moral improvement of the people, and some sciences are useful only for particular purposes: "medicine is useful only for the ill, geometry is useful for construction, and astronomy is useful for discovering stars and determining the time." It is only good morals that are useful for humanity as a whole, and, the editor notes, his journal will focus primarily on this issue, with additional texts on sciences that can also be illuminating in this respect.[96]

In such a context, it is also not surprising to come across many journals that define their objectives in their first issue as "ameliorating morals" and "spreading the sciences."[97]

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[95] "Fennin Asar-ı Celilesi" *Mirat-ı Alem* 16 1299/1882, p.254.
[96] "Mukaddime" *Hadika-i Maarif* 1 1299/1882, p.5.
[97] See, for instance, the first issues of *Manzara* 1 13 March 1887/1 Mart 1303, and *Umran* 1 3 October 1887/21 Eylül 1303.

B. Advice for Ottoman Youth

As the discussion so far has shown, texts about science consistently referred to morality in the 1880s and 1890s, even more commonly than in the previous decades. As Fortna (2000) demonstrated, further, the reign of Sultan Abdulhamid II (1876-1909) is characterized not only by the increase in the number of European-style "secular" schools throughout the Empire, but also, very importantly, by the increase in the weight of courses related to Islam and morality in school curricula. How did school books on morality, similar textbooks, and other books addressing Ottoman youth refer to science, then?

It is worth emphasizing that all books on morality refer to the acquisition of knowledge and science. Also important to note is that while the traditional, broad term "ilm" is commonly used in these texts, the equally common references to the recent rapid growth in "ilm" clarify the kind of knowledge alluded to.

A work from 1881 entitled "Advice to Youth" states in the introduction that manners, decency and good morals are essential for people who wish to be respected and appreciated. "In each era," the author asserts, "people who, thanks to their mental skills and knowledge, made discoveries in sciences and arts were people adorned with good manners, decency and sound morals, and avoided indecent attitudes and deeds" (Ahmed Hamdi 1881, 4).

In a high school textbook on "The History of the Arts" dedicated to a discussion on painting, etching and architecture, the author Mahmud Esad devotes the final chapter entirely to science, as "the 19th century is a century of science." After a

passionate exposé of the achievements of scientists, Esad concludes by arguing that "[science] now guides industry and commerce, even starts to organize politics. Furthermore, it has become the means to train the intellects and better the morals of all classes of society" (Mahmud Esad 1892-3, 504).

After praising Abdülhamid's services to education in its introduction, the translator of the Arabic work *Mikyasü'l-Ahlak* (Criterion of Morality) from 1897 argues, on the other hand, that education is the basis of everything, and knowledge and science (*ulum ve fünun*) are the means toward all kinds of progress. It is the sciences and knowledges that they possess that make nations glorious. However, Mustafa Zihni, the translator, continues,

> Education, knowledge and science have a fundamental basis… as well. This basis is morality. … If immorality spreads among the members of a nation, and God forbid, the number of immoral people surpasses the number of people with good morals, then that nation, no matter how many products of civilization, and even knowledge, it may possess, cannot avoid falling from the high summit of civilization with the speed of a train. It is also possible that its political existence itself will be extinguished. (Mustafa Zihni 1892-3, 6-8)

Zihni's suggestion was clear: works on morality should be translated into Ottoman Turkish along with European works on the new sciences. While Europeans' works on ethics were also important, Zihni contended, it would be more appropriate to translate Arabic works on morality, as morality "is based on religion." This, once again, indicates how interwoven arguments on science, morality, language, Arabs, Ottomans, and Europeans were in late 19th century discourse.

Another book on morality, *Nuhbetü'l-Fezail* (The Highest of Virtues) from 1895 does not refer to "progress" like *Mikyas* does, and instead, starts with an introduction stating that the worth of any branch of knowledge (*ilm*) is determined by its subject matter, and that this is sufficient proof that the science of ethics is the most valuable of all. Ethics, for Sadreddin Şükrü, the author, is primarily about the duties of individuals toward God and one another, and most strikingly, "the primary duty instructed by the science of ethics is obedience" – obedience to God, to the teachings of the Prophet, and to the Sultan (1895, 6). The same argument is made in another textbook, *Fezail-i Ahlak* (Virtues of Morality), that defines ethics as the highest science, and obedience as the highest virtue (Rifat 1893, 9).

While such comments were made in books for high schools and above, textbooks for elementary and secondary schools also discussed science, morality and religion in similar tones. A poem on the importance of science and several branches of it (including religious sciences) in a book on morality states the following:

> Have knowledge of the science of medicine,
> So you can protect your health.
> Learn it soon in the proper manner,
> And appreciate the science of anatomy.
> Yet when you learn sciences,
> Do not distort the Word of God. (Eğribozi 1894, 76-7)

In this book that emphasizes that the definition of "ilm" includes religious sciences as well, some benefits of learning are also listed as follows: "It is knowledge that saves us from the darkness of ignorance, delivers us to the world of civilization, prevents us from evil deeds and gives us sound morals, enables us to understand the

might of God and strengthens our love and obedience toward him…" (Eğribozi 1894, 28).

A very popular book of readings for high schools (*idadi*s) also includes an essay on the virtues of knowledge, and the relations between knowledge and virtue. This essay uses the word "ilm" as well, but makes explicit allusions to the importance of sciences such as geology, astronomy, and chemistry. The conclusion this text on "The Pleasures of Knowledge" reaches, however, is also related to morality:

> A man who finds the greatest pleasure of his life in learning science will, on the whole, not try to harm others. Let us think about the thing that he considers his sole activity in life. Who would such a man harm? … A man who devotes his life to learning science will immerse himself in a world of pure, spiritual pleasure and never tend toward worldly pleasures … that usually lead only to a guilty conscience…. The more one loves science, the more he loves the absolute innocence, highest virtue, and pure devotion to God (*ibadet*) that is essential for humanity. (Reşad and İbrahim 1895b, 12-13)

While the way science is linked to virtue and devotion to God could imply that the sciences in question are overtly religious ones, it is worth emphasizing that the essay starts with references to the "new" sciences. Moreover, another essay in this collection refers to names like Pythagoras, Kepler, and Newton as great discoverers of truth in a discussion on "intellectual pleasures." Thus it would be safe to assume that the sciences the learning of which keeps one from evil deeds do include European sciences.

Finally worth noting is an essay in another collection of readings, the *Mekteb-i Edeb* (1890). In an essay entitled "Learning the Sciences," the author invites the youth

to learn the sciences in order to make a living and acquire happiness after the precious years of youth are over. Yet in harmony with many of the texts discussed in this dissertation, the essay only emphasizes *reading* about the sciences, and concludes by saying that one should read not in order to look like a man of knowledge, but "to be a better, more virtuous, more mature person" (Muallim Naci 1894, 63). The ultimate purpose in reading about the sciences is to be more virtuous.

In the press, we come across similar arguments in newspapers and journals published specially for "the future generations." In one of the earliest newspapers for young readers, *Etfal* (Children), the introductory essay states that it is now time to acquire knowledge and the state is doing everything it can to spread education. Yet, argues the editor, the sciences learned in school may not be enough, and newspapers and journals should supplement the training. Furthermore, "even though the paths toward sound morals and good manners are also taught in schools," the press should be helpful in this respect as well, and publish stories with morals.[98] In sum, the duty of the press is defined as providing scientific knowledge and morality tales: two things that the new generations need the most.

Vasıta-i Terakki (Means of Progress) from the early 1880s talks about science and morality in an essay entitled "Greatness," and states that to be a "great man," what one needs is "first and foremost, good morals, and after that, acquiring science and knowledge."[99] These comments are addressed to "[t]he last hopes of the nation" – the nation whose "high positions of service and officialdom" are awaiting the new,

[98] "Mukaddime" *Etfal* 7 4 June 1875/23 Mayıs 1291.
[99] "Ulviyyet" and "Çocuklara Mütalaa" *Vasıta-i Terakki* 1. 10 May 1881/10 Cemaziyülahir 1299.

educated youth of the Empire. The path for the young Ottoman is clear: acquiring sound morals and some knowledge of science, and finally, a position in civil service.

In *Çocuklara Mahsus Gazete* (Newspaper for Children), a long-lived newspaper filled with didactic texts on science, religion and morality, an essay entitled "Acquiring Science and Knowledge" states the following:

> It is science and knowledge that teaches humans their humanity… Can there be a better capital for us than acquiring science and knowledge? In order to be content in this world, one should perfectly attain all ranks of education. Learning good habits and avoiding bad ones is a consequence of this accomplishment, because all bad habits are due to ignorance. … Amelioration of morals can be achieved only through science and knowledge. In the deep darkness called life, it is only science (*ilm*) that is the bright sun that shows man his humanity, his own self, his entire world.[100]

Yet following this quite standard association between learning and morality, the author argues that the most important virtue is having sound morals, as those with low morals can never be respected, "no matter how much knowledge and science they know." While there appears to be a contradiction between these two subsequent paragraphs, what is more significant is that learning, science, knowledge appear impossible to discuss without a reference to morality. It is not as much the exact nature of the connection between science and morality that matters as the basic idea that science and morality emerge as an indivisible couple in the 1880s and 90s.

Perhaps what best illustrates this is another collection of readings for first grade students. Here is a list of the titles of the first six readings that this work by the future novelist Ahmed Rasim (1888/9) contains: **1.** "Allah", **2.** "Science: Our home, the

[100] "Tahsil-i İlm ü Marifet" *Çocuklara Mahsus Gazete* 47 11 February 1897/9 Ramazan 1314, p.1.

Earth", **3.** "Prayer," **4.** "Science: The Sea", **5.** "Morals: Our duties toward our fathers", **6.** "Science: Agriculture." After this point, the texts alternate between "Science" and "Morals."

But it is also important to note that statements that brought God, the Sultan, and science together that had always been the case in the 19th century were also strikingly common in this period. Consider the following speech by an imam at the opening of a high school.

> God Almighty is ordering us to improve ourselves by learning the religious and the practical sciences. Our Sultan is spreading education even to the villages of his Well-Protected Domains. Our Prophet obliges us to go even to the farthest lands of the East in order to study the sciences. Our Glorious Master is gathering the sciences and knowledges of the entire world in His domains… Thus, is there any other way for us to express our gratitude than educating our children and making them learned people?[101]

Similarly, even in the introduction of a book on the phonograph and the newly discovered methods of recording sound, Ahmed Rasim (1884/1885) the translator, quotes a saying by Ali, the son-in-law of Muhammad and the fourth caliph of Islam, on the importance of knowledge and the dangers of ignorance. He also notes that thanks to the sultan who was an advocate of progress the Ottomans were going to reach new heights.

Indeed, most textbooks from this period start with convoluted praises to the Sultan. As previous chapters have shown, this was an established pattern in earlier periods as

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[101] *Tercüman-ı Hakikat* 29 June 1889/1 Zilkade 1306. For very similar remarks made by students or educators at such ceremonies, see *Vakit* 1796 18 October 1880/14 Zilkade 1297, p.3; *Tarik* 45 7 May 1884/11 Receb 1301, p.3.; *Tarik* 85 16 June 1884/22 Şaban 1301, p.3; *Tarik* 455 28 June 1885/15 Ramazan 1302, p.1.

well, and the idea of science as a boon bestowed upon the subjects by the Sultan was already entrenched. So while it is hard to say that Abdülhamid's rule brought about a qualitative change, it remains the fact that these introductions proliferated due to the increase in the number of textbooks, and somewhat enriched with stronger references to the "glory of the Sultan" in the 1880s and 90s. Necib Asım's *Kıraat-ı Fenniye* (1305) ("Scientific Readings") starts with an introduction that refers to the sultan as "the greatest patron of knowledge and science" and prays that his reign is filled with new victories. Ismail Cenabî (1312, 2), the translator of a general work on "The Physical Sciences" states that Abdülhamid's reign was such an era of progress that everybody strived to bring about something to serve general interest. Ömer Subhi who translated Archibald Geikie's *Physical Geography* noted that the sultan had declared war on ignorance and opened many schools, as a result of which the only duty of "the faithful members of the nation and those loyal to the state and religion" was "to translate and write as many useful works as possible and produce sources of knowledge and learning" (Ömer Subhi 1301, 2-3). Captain M. Münşi, in his *Bedraka-i Mühendisîn* (1302, 1) ("Guide for Engineers") refers to Abdülhamid as "the sun of learning" who "emit[ted] the light of knowledge."[102] Besim Ömer (1301, 2), a graduate of the Medical Academy, starts his work on dentistry with a 2-page eulogy for the sultan thanks to whose reign "the children of the nation were illuminated by the light of learning."

[102] For further examples, see, among others, Mehmed Rakım and Mustafa Nail (1306), Haydar Daniş (1307), and Nişan Berberyan (1309).

The following poem published in the journal *Gülşen* in 1886 is also typical in this respect:

> The greatest bliss for man
> Is learning knowledges and sciences
> You, zealot, the source of ignorance,
> Your ignorance is like insanity!...
> The reign of Sultan Hamid the Second,
> Built schools all over the land.
> Live forever, o magnificent ruler,
> It's your graces that revived this universe![103]

VII. The Result: Portraying the Ideal Man of Science

Ottoman literature of the 1880s and 90s contains several examples of the ideal man of science, or even, the man of science as *the* ideal man, based on these criteria.

A key character can be found in Mizancı Murad's didactic novel *Turfanda mı Turfa mı?* (1890/1) (usually translated as "First Fruits or Forbidden Fruits?" or "The Early or the Spoiled Seed?"). Mansur, the protagonist, is a young man who studies medicine and political science in Paris, and returns to Istanbul, hoping to use his useful knowledge in the service his nation. Upon his return, he is extremely disappointed to realize the dominance of non-Muslims and Europeans in all affairs of the Ottoman Empire, and the corruptness of the civil servants. As a man of science, he sets up a laboratory in his apartment, starts working at the Medical Academy, and, thanks to his family connections that he unsuccessfully resists taking advantage of, he is also appointed to a post in the Foreign Secretary. Yet the ignorance and indifference of many of the scribes and the lack of dignity he observes repulses him. When he

[103] Mehmed Izzet "Mekteb" *Gülşen* 3 25 February 1886/13 Şubat 1301

receives a promotion also due to family connections, he refuses to accept, stating that he "regard[s] service to the state and religion as holy duties" and that he will have to resign if he is rewarded for no real achievement (Mizancı Murad 1308, 124). He also cannot prevent himself from slapping an interpreter from a European embassy due to his disrespectful attitude (130-1). The novel also contains many monologues of Mansur advocating the spread of education throughout the Empire, and criticizing all nationalist movements that threatened the future of the Muslim world.

We can find another physician as protagonist in Hüseyin Rahmi's *İffet* (Decency) from 1896. This work is particularly worth considering, as it clearly shows what kinds of figures the man of science, and a "materialist" one at that, is defined in contrast to, and how, this makes him the model man. The protagonist "Mr. N.", a physician, first recounts to his friend, a litterateur, an incident from earlier that day:

> In order to avoid contracting the patients' diseases, we put on "eau phenique," that is our lotion. I got on the trolley to go to Aksaray. Sitting next to me was a fop. And what a fop! A true snob indeed! … I didn't understand why he was looking at me with such disdain. As it turns out, the gentleman was disturbed by my smell. With a scornful face, he said "You physicians smell like itinerant hospitals. This … strong smell will kill not just the germs but the people unlucky enough to sit next to you." … I just glared at him and said "Delicate people like yourself should travel in private cars, not in trolleys."(Hüseyin Rahmi 1896, 12).

The physician is thus not a "delicate" fop, he truly understands how science works. Additionally, in absolute contrast to a fop, he knows exactly the state common people live in; he is a true, sincere, loyal member of his society rather than a blind imitator of the West. As the following dialogue between the two friends indicates, this

is the reason the physician is also unlike a litterateur who lives in a world of dreams and fiction. Note, finally, that as a physician, Mr. N talks in the name of science, not simply medicine:

> - I am one of those people whose work is serious. I am … infuriated by those poets who write gibberish … all day about clouds, seas, winds, nightingales, and who think this is service to humanity.
>
> - So in your opinion those who did not study medicine are worthless, huh?
>
> - Not at all! I don't claim that the sciences taught in the civilized world amount to medicine only …. All sciences are essential for humanity. And humanity should be grateful to everybody who engages in science. Civilization relies on science, science relies on civilization. I appreciate sciences that deal with the material world. I don't appreciate metaphysical ones. And I regard our poetry and novel writing as nothing but metaphysics. (Hüseyin Rahmi 1896, 13-4)

Mr. N. then argues that nobody should consider writing a novel before reading "serious" scientific books on a particular topic. But he also implies that the man of science, because he both reads about the material world, and particularly in the case of the physician, encounters the world in its materiality, will always know more about the world than the poet or novelist. Furthermore, as a physician's everyday work involves dealing with real people, he knows his society better than the poet as well, and the actual story takes off when, in order to prove his point, the physician takes his friend to the home of one of his patients.

A final example comes from the work of Ahmed Midhat Efendi. Midhat's novel *Acaib-i Alem* (Wonders of the World) is about Suphi Bey, a young man ridiculed by people for his intense love for "laws of nature." Suphi is a recluse who lives a modest life, in a house filled with books, curiosities, collections and scientific instruments. In

a conversation with his friend Hicabi, Suphi explains what his fascination is truly about: “I believe that if there is a purpose behind our coming to this world, it is admiring the might and mastery of God, the Creator of all, the Great Maker, through studying nature. This is what pleasure is all about” (Ahmed Midhat 2000 [1882/3], 19). Selling all his collections, Suphi, along with Hicabi, embarks on a journey to Northern Russia in order to observe the effects of the earth’s shape and rotation in areas closer to the poles. During the journey, he meets “Miss Haft,” an English woman, who admires the morals and manners of these Muslim Ottoman men. In a letter to her mother, she writes, “Suphi Bey and Hicabi Bey are fluent in French and German, respectively, and they are competent in European sciences. But they themselves have not become European. They are pure, true Ottomans.” (192) In the novel’s finale, Miss Haft proposes to Suphi. When her aunt hears the news, she exclaims, “Oriental lands and the Orientals are full of mysteries. What they know aren’t like our sciences and knowledges. I am worried that this Turk confused you with some sort of magic!” (319) Miss Haft, smiling, tells her aunt that the magic involved is Suphi’s “terbiye” – the word which, with denotations like education, decency, morals and discipline, encapsulates the ideal Ottoman synthesis.

CHAPTER 5

CONCLUSION

The word "spread" is used with increasing caution and respect for its limits when describing the processes through which the ideas, objects and institutions of modern science have come to assume an apparently universal character. As opposed to the automatic, peaceful osmosis the word "spread" implies, current research focuses on the impact of colonialism and imperialism on these "not-entirely-voluntary" transfers. Similarly, the active participation of "non-Western" societies in these processes and the complexities of their importation, or rather, appropriation of scientific ideas and institutions are brought to the fore more often. The 19th century Ottoman case is a clear example of how local and global forces influence the way in which science comes to be defined, perceived, and institutionalized within appropriating societies.

Among the consequences of such conflation of influences in the Ottoman case, I contend, is that the idea of the autonomy of science – and the related assumption that the man of science needs at least some intellectual freedom – did not resonate in the Ottoman world. It is true, of course, that the idea of autonomy was not dominant in Europe in the 19th century, either. But if we take into account the highly troubled history of the university in the post-Ottoman Turkish Republic, we can suspect that the Ottoman experience had a long lasting impact independent of the developments in Europe. As the previous chapters have shown, analyzing the ways in which science, and particularly, "men of science" were perceived and defined in the Ottoman Empire

can shed light on the reasons behind this indifference to, if not outright rejection of, the idea of autonomy.

The context within which an encounter with science takes place can have lasting influences on the way science is perceived, as scholars working in the field of Public Understanding of Science (PUS) have demonstrated (Wynne 1992; Irwin and Wynne 1996). Certainly, the context of appropriation of the new sciences of the Europeans had a defining impact on the way science, and those who spoke in the name of science, were perceived and portrayed in the Ottoman Empire of the 19th century. Who were the most visible representatives of science in the Ottoman world, then? What were the consequences of this particular representation?

As the standard narrative about the Ottoman encounter with modern science goes, the Ottomans started to be intrigued with the new knowledges and arts of the Europeans at a time when the Empire's military capability and economic stability appeared more and more suspect. Related to this were the transformations in status of the two major groups within the Ottoman ruling class. The "men of the sword" were clearly no longer effective, and to make matters worse, the Janissaries constituted a constant threat to central authority. The "men of knowledge," the *ulema*, on the other hand, not only maintained a significant degree of financial autonomy but occasionally mobilized the Janissaries and supported their rebellions against the palace. Hence, it was remarkably difficult for the Ottomans to compete with the efficiency and resources of the increasingly more centralized and stabilized European states. Consequently, the 19th century of the Ottoman Empire starts with the reign of two

sultans, Selim III (1789-1808) and Mahmud II (1808-1839), who aspired to strengthen their authority by bringing about major changes within this mechanism. Key to the changes was the transformation of the third leg of the ruling class: the "men of the pen" would gradually turn into a bureaucracy with fixed wages, and that was entirely dependent on – and thus, loyal to – the sultan's authority.

What distinguished the new bureaucrats was their increasing familiarity with the internal affairs of Europe, based primarily on their knowledge of European languages – French, in particular – and/or their practical experience in the newly opened Ottoman embassies in European capitals. And it was precisely these new bureaucrats who, more or less, monopolized the representation of everything European in the Ottoman Empire particularly in the first decades of the 19th century. Science, a quintessential European novelty, would unavoidably be represented primarily by members of this group as well. This fact is key to understanding the formation and contents of both the official and the alternative discourses about science that emerged in 19th century Ottoman Empire, and this dissertation focuses on the so far inadequately analyzed implications of it.

A second group whose members spoke in the name of science was the students and graduates of the new elite schools of Istanbul. These young men also learned French, and the textbooks, classrooms, and teachers they encountered were progressively more different than those with which *medrese* students were familiar.

How did these groups represent science and what did these representations imply? As Chapter 1 has shown, even in the earliest decades of the 19th century we come

across portrayals within which familiarity with scientific knowledge is a fundamental mark of distinction. Not only do the groups with some rudimentary acquaintance with European science start representing themselves as those who "really" know, but this knowledge emerges as the justification for a particular sense of entitlement.

It is quite striking to observe the ubiquity of the word "ignorance" in Ottoman texts of the entire 19th century, but texts from the early 1800s are where we can see the emergence of the idea of "ignorance as a state issue." The standardization of education and homogenization of the population was certainly a concern for all 19th century states aiming to strengthen central authority. Yet in the Ottoman case, this also entailed a transformation of how knowledge and ignorance themselves would be characterized: the Ottoman population was not simply ignorant due to the disorganized system of education; it was deemed ignorant by the rising statesmen also because, even if people had some knowledge, it was "old knowledge." In short, the Ottoman Empire no longer had a proper class of "knowers." What needed to be done entailed, as a result, constructing a new, more efficient and effective educational system, *and* importing a "new" type of knowledge.

A basic implication of this reasoning is that members of that small minority who claimed to already possess this new knowledge were those who were now the "truly knowledgeable" Ottomans, and as the "new world" was based in this "new knowledge," it was those who possessed it who could enable the Empire to survive. Therefore, the striking prevalence of the word "ignorance" in Ottoman texts – some key examples of which were discussed in this dissertation – should be interpreted not

only as an indication of the "will to centralize," but also as the insistent assertion of distinction by these new groups.

Needless to note, "knowledge" and "ignorance" are not simple categories; the establishment of the boundaries around these categories has significant implications regarding the establishment of social boundaries between particular groups. In the early 19th century Ottoman Empire, we observe the formation of *official* definitions of ignorance and knowledge – an issue that is not sufficiently referred to in contemporary sociological studies on science. Moreover, while the importance of religious knowledge is consistently stressed in relevant texts, it is impossible to ignore that this portrayal not only relegates religious knowledge to being but one type of knowledge, but implicitly defines it as knowledge that is "old," and even as "not-so-useful-anymore." The implications of this logic for the representatives of "old knowledge" are clear.

A crucial difference between the possessors of "old knowledge" and the members of the rising civil and military bureaucracy that came to define themselves as the "knowing class" was clearly the original source of the knowledge they claimed. For the *ulema* and, indeed, for the lower bureaucracy, traditional Islamic learning represented by a number of key texts taught at the *medrese* maintained its import. Yet for the new elite, it was increasingly French newspapers and books that represented the most prestigious, reliable sources of knowledge. Additionally, thanks to their increasing, stable wages, they were able to live and consume in a way that was quite alien to not only the *ulema*, but to most Muslim subjects of the sultan. Their

"possession" of science was, in a sense, comparable to the pianos they purchased, or the French expressions they used in their everyday speech. Moreover, it is also worth emphasizing how the key duty of the new top bureaucrats in the early decades of the 19th century was mediating the demands of the European powers from the Ottoman Empire. They were hardly able to set the terms during their negotiations with European diplomats, and appeared to the public as nothing but mouthpieces of the Europeans. As a result, the representatives of the "new knowledge" were, from the start, suspect figures – a fact that should always be taken into account when interpreting the various representations of science in this period and the following decades.

In addition to being a token of distinction, science, for the new elite, was the way they themselves knew it: an accumulation of knowledge that can be learned from the right books. While we do see many references to "science as the source of European progress" in their texts, we fail to find specific information about the link between scientific knowledge and material progress, and even when we do, the recipe for *Ottoman* progress does not amount to anything more than "learning." Indeed, as Chapter 1 has also shown, for the new bureaucrats, perhaps the fundamental characteristic of scientific knowledge was that it was actually a route to patriotism. Learning the new knowledge produced by the Europeans was defined to be a way to better understand the world as well as the workings of the Ottoman state. Scientific knowledge, in this portrayal, teaches one the way the world works and the rationale

behind the actions of the holders of political power, and therefore, leads people to respect their state more. In short, it brings about an obedient people.

This association between learning the "new knowledges" and respecting the state is very significant, but not necessarily surprising, as it indicates the aspiration of a newly emerging ruling class for constructing a public that respects it and finds its rule legitimate. Many documents that were examined in previous chapters suggest that the members of this ruling class sincerely hoped that learning the basics of the new European knowledges (presented as fixed, incontrovertible knowledge) would not only let the learner know and accept his own place in society, but also lead him to be grateful to those who enabled him to learn, and appreciate their actions. Note that in a context such as outlined above, the new bureaucrats were operating within a suspicious, if not overtly hostile, environment. Their power and prestige depended entirely on their holding of state offices, and within this setting, they increasingly identified themselves with "the state." The respect for the state that they wished to develop was, in this sense, their effort to legitimize their own power, and the more the knowledge they associated themselves with was identified with "the state," the more they themselves would be respected.

It was this particular setting, then, that led to the initial association between the state and the new knowledges of the Europeans. Certainly, what we observe here is a loop, or a plexus: state sponsorship bestows upon scientific knowledge a unique sense of authority, and their familiarity with scientific knowledge, in turn, renders the new elite legitimate and respectable.

This analysis makes it clear that Ottoman representations of science were not simply about a new type of knowledge, and its characteristics *as* knowledge, from the outset. They were more importantly about what the possession of this knowledge made a person into. When Ottoman authors wrote about the virtues of the new European sciences and condemned ignorance (defined as the lack of this scientific knowledge), they wrote about how these new branches of knowledge made one truly aware of the way the world works and how their state operates. Hence, they characterized scientific knowledge as knowledge that makes one a better statesman and a better subject/citizen. The virtues of scientific knowledge translated into the virtues of particular groups.

This observation provides a hint about why an exclusive emphasis on the boundaries of science *a la* Gieryn is not sufficient for understanding the significance of debates on science. As the Ottoman case suggests, definitions, representations, condemnations or praises of science are closely related to assumptions or suggestions about what "good qualities" in (particular groups of) people are. Indeed, based on the findings of this study, we can conjecture that ultimately it is less the definitions of science that matter to debating publics than the characteristics of the people who represent, or speak in the name of, science. Additionally, in a specific case like the Ottoman Empire where scientific knowledge was imported knowledge, arguments about the meaning and benefits of science inevitably had implications beyond the "knowledge" aspect of science. Those who talked about science were simultaneously talking about who the Ottomans were and who they should be, thus transforming the

question into one a much deeper and multi-faceted one than a question on the boundaries of science.

All this was made much clearer after the 1850s, when the Muslim Ottoman press came into existence, and a proliferation of discourse took place. As I discussed in Chapter 2, the newspapers and journals of the 1850s and 60s became means not only for contesting the official definitions of knowledge and ignorance, but also for expressing frustrations with the representatives of the official discourse. More popular and populistic descriptions were brought forth by members of groups who perceived themselves as the victims of the developments of the first half of the century. More specifically, the new intellectuals who had access to an entirely novel type of medium – the daily newspaper – used it in order to voice their personal criticisms against a political order that had not delivered what it had promised, and in the meantime, they became the speakers of the majority of the Ottoman Muslim community that felt that the reforms of the Reorganization Era had only bettered the conditions of the non-Muslims.

As a result, references to Islam, along with the word "we" started to appear more and more frequently in texts on science after the 1850s. This was a process that not only entailed a move to define science in a more comprehensive way so as to include Islamic sciences as well, but also made the determination of the "proper" characteristics of the man of science an even more fundamental issue. References to what men of science were and should be like became a central element in assertions of collective identity. And at a time when European manufactures flooded the Ottoman

market, the Ottoman economy became ever more dependent on European loans and European powers assumed the role of the protector of the non-Muslim communities within the Empire, the man of science could not flaunt the "Europeanness" of his knowledge and demand reverence. Men of science could not, in short, risk appearing as "Franks in fezes," as the editor of the journal *Kasa* put it in 1874.

The proliferation of discourse after the 1850s provides many examples, as discussed in Chapter 2, that make it much clearer that the Ottoman debate about science was at its core a debate about the man of science. Arguments over what science was, or how the history of science (equated with "progress" or "civilization" in Ottoman texts) should be understood, had clear implications for what the man of science should be like. The "Ottomanization" of the idea of science in this period involved the characterization of traditional Islamic sciences as invaluable branches of knowledge and the accentuation of the Muslim contributions to science throughout history. The "European" nature of science was thus challenged to some extent, and science more "nativized," which, in turn, meant that it was possible to be a man of science without becoming "un-Ottoman." Complementing this, of course, were the countless salvoes against the figure of the fop that defined the limits of "acceptable Europeanization" very vigorously. The reaction against the "super-westernized" top bureaucrats and their protégés – the leading representatives of the passionate "pro-European science" discourse in the early Reorganization Era – thus culminated in the portrayal of the ideal man of science as one who consistently demonstrated his loyalty to his people. This was a man who knew the new sciences as well as the Islamic

sciences, appreciated the Islamic contributions to the new sciences, and, crucially, refused to live like a European. The Ottoman man of science was to be someone who did read European books, but did not dance European dances.

But the insertion, so to speak, of more "Islam" into the discourse on science had an ironic consequence the likes of which we do not necessarily find very commonly in late 19th century European debates. While the 1860s and 70s witnessed the emergence of the "conflict thesis" in Europe and the US, and arguments on the irreconcilability of religion and science assumed increasing popularity, Ottoman intellectuals *Islamized* science. By emphasizing both the contributions of Muslim scholars and the "pro-progress" nature of Islam, the generation of the Young Ottomans ultimately augmented the prestige of science. The authority of science was no longer primarily a function of state authority, it was reinforced by the authority of Islam itself. But if Islam sanctioned scientific progress, indeed, if it was *the* pro-science religion, then only be its practitioners could be criticized, not its contents. This attitude which would become even more prevalent in the 1880s and 90s can be considered the origin of later approaches such as that of the highly influential 20th century religious thinker Said-i Nursi (1878-1960) whose followers have approached science almost as the religious duty of a good Muslim. And even in contemporary Turkey, studies showing the "scientificity" of the Qur'an frequently appear in best-seller lists. This, of course, presents a surprising additional barrier against the emergence of critical approaches to science in modern Turkey, and constitutes a potentially very fruitful research topic.

As I discussed in Chapter III , the reign of Abdülhamid II made Islam a much more visible, tangible entity, and used religion much more overtly as the central ideology for the legitimation of sultanic rule. Morality and reverence to Islam, themes by then already established as chief ingredients of the debate on science, were made central to the *official* discourse in this period. In other words, what emerged as an alternative approach in the 1860s became official in the 1880s.

That the sultan saw strengthening his personal authority as the best way to assure the survival of the Empire, and that this led to an almost paranoiac suspicion toward every publication and association, culminating in a very harsh system of censorship are basic facts about the 1880s and 90s. But the ever increasing emphasis on moral virtue in arguments on science, and the immediate transformation of essays criticizing the arguments of young advocates of European sciences into diatribes on the evils of "godlessness," "materialism" or "foppery" certainly have to do with other factors as well. For most Ottoman subjects, sending one's son to one of the new elite schools with many science courses in their curricula was a way to insure that he would be able to find a job by becoming a civil servant. Knowledge of science, or rather "science as knowledge" did not amount to more than but a component of "general culture." The Ottoman version of "science as a vocation" was "science as a job guarantee." Yet not only were there an insufficient number of appropriate public jobs for the young graduates of elite schools, but for many young men, working basically as a dignified clerk or a low-ranking officer was not a satisfying prospect. This frustration and the inability to realize what they regarded as their potential led to their criticisms against

clerks, petty civil servants, religious scholars, poets, and ultimately towards the end of the century, the sultan himself. This frustration appears to have been particularly common among the students and graduates of the Military and Medical Academies – young men who were certain that they were the saviors of the nation and state – and the importance of science and the value of men of science are prevalent themes in their criticisms.

For many literate groups with a more traditional education, the chances of finding stable employment were even more precarious, and the changes they observed in their society rendered their position particularly insecure. The reaction against the perceived "arrogance" of the young men of science who made their voice increasingly louder by publishing numerous books, journals and articles particularly in the last quarter of the 19th century, that merged with the already established "anti-fop" discourse. The result was the representation of these men as arrogant Europhiles who despised their tradition and refused to learn what was truly essential, i.e. Islam and Islamic ethics. Hence, at a time when Abdülhamid II made every effort to reconstruct an autocratic rule reminiscent of that of the sultans of the heyday of the Empire, young men of science, with their European-style education and European manners emerged as a potential danger for the well-being of the Empire. Their familiarity with "dangerous" ideas that could lead them to disobedience – ideas that actually had more to do with their sense of entitlement – was perceived as such a threat that during the reign of Abdülhamid II it became virtually obligatory to pay tribute to the Sultan, Islam, and "moral values" in any text on the importance of European sciences.

While the official emphasis on morality in late 19th century Ottoman Empire has certainly been noted and studied (Fortna 2000, 2002), I direct attention to the ubiquity of references to morality and moral virtue throughout the century in arguments regarding science. As I show, even for the "pro-West," "pro-science" Ottoman elite, it remained a constant concern to indicate a link between scientific knowledge and morality. The only variable appears to have been the particular moral virtue emphasized for particular groups.

What needs always to be remembered in the analysis of Ottoman arguments on science is the dominant definition of science as *accumulated knowledge*, and most commonly, as the opposite of ignorance. Hence, when a staunch advocate of the new sciences such as Münif Pasha, or even Beşir Fuad, talked about science as "not-ignorance," he was implicitly or explicitly making a moral statement. The ignorant, that is those who did not possess scientific knowledge, were, again, implicitly or explicitly, defined in a variety of ways, such as lazy, parasitic, unable to distinguish good from evil, hedonistic (particularly in the case of poets), unpatriotic, oblivious and so on. These, needless to note, are moral characterizations *par excellence*. As noted several times in the discussion, the basic disagreement in the Ottoman case appears to have been not about the need to import the sciences, or the truth of scientific findings, but about the nature of the connection, or lack thereof, between scientific knowledge and moral soundness.

It is clear that we can apply to this particular finding the basic sociological notion that establishing moral boundaries around themselves is a crucial strategy for social

groups aspiring to distinguish themselves from particular other groups (Lamont 2000). Consequently, in the 19th century Ottoman case where a drastic social transformation took place, arguments about moral superiority became uniquely important for both the rising "Europeanized" elite and the groups that were disenfranchised in this process.

Additionally, this finding has a specific implication for sociological studies on science. The ways in which the relations between science and moral values can be conceptualized have been a sociological concern at least since Weber's "Science as a Vocation." But no matter how the question is answered with regard to contexts where scientific knowledge is regarded as "knowledge *we* produce," we need to pay particular attention to the question of values when studying contexts where scientific knowledge is seen primarily as "imported knowledge." Even if the knowledge they produced could be objectionable to many members of their societies, it was less likely for English or French men of science to also be expected to prove their "Englishness" or "Frenchness." To the contrary, for many 19th century European authors, science was "our knowledge," knowledge that should make "us" proud, as some examples provided in this dissertation also suggest. While many 19th century Ottoman proponents of the importation of science emphasized the universal, a-cultural nature of science, for the majority of the Ottoman public science indicated yet another aspect of "Westernization." Therefore, it could not consistently be perceived and portrayed without reference to its "Europeanness," and the attitudes toward it could not easily be isolated from attitudes toward the other aspects of "Westernization" and their consequences. Particularly if we take into account the inadequacy of the settings

within which the practical "usefulness" and *material* benefits of scientific knowledge could be demonstrated, it becomes rather unsurprising to note the emphasis on the *people* who represented science in the Ottoman Empire. This, consequently, made it a remarkably important issue to "discipline" Ottoman men of science, and arguments about values became inseparable from arguments about science.[1]

While postcolonial science studies have analyzed the connections between science and the colonial enterprise in a variety of ways, the emphasis appears to be less on debates regarding "men of science" than on the knowledge produced in colonial settings, the impact of the colonial experience on local knowledges, and the inevitably hybrid nature of scientific knowledge and practice as a principle (Raj 2010; Bonneuil 2001; Turnbull 2000; Harding 1998; Kumar 1995). The Ottoman case is not precisely a case of colonialism, as the Empire was never officially colonized. The Ottoman appropriation of science itself was a locally-driven project, even though European influence and the limits set by European powers on Ottomans' room to maneuver cannot be overlooked. But it is perhaps for this very reason that the character of the Ottoman man of science achieved such significance: Ottoman (and later, Turkish) "Westernization" was to be an *indigenous* project carried out by locals.

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[1] The European, and in some contexts, non-Muslim Ottoman dominance in Ottoman industry and trade needs to be taken into consideration in these analyses. The following remark of a Belgian worker employed at the Imperial Cloth Factory is illuminative here: "It would be very odd if we could not turn out a piece of the finest cloth occasionally, seeing that we have the best machinery of France and England, that the finest wools for the purpose are imported, via Trieste from Saxony and the best wool countries, and that we Frenchmen and Belgians work it. You could not call it Turkish cloth – it was only cloth made in Turkey by European machinery, out of European materials, and by good European hands" (MacFarlane 1850, vol.2, 270). Çelik's (1986) analysis of the transformation of Istanbul in the 19th century also highlights how it was those neighborhoods where Europeans and wealthy non-Muslims resided that witnessed the most significant improvements (such as trolleys and street lighting) in the 19th century.

As for the question of state/science relations, the findings of this study suggest that it may be rather fruitful to put more emphasis on the mutual legitimation of state authority and scientific knowledge. Certainly, in a context like 19th century Ottoman Empire it mattered vastly that the representatives of science were actual or potential holders of official posts. The typical man of science in the Ottoman Empire was an educated young man who most likely graduated from one or another elite school and aspired to be employed by the state, the matchless employer within the Ottoman boundaries. On the one hand, the employment of these men by the state rendered them and the knowledge they represented more prestigious and, to a certain extent, impervious to criticism. On the other hand, this almost absolute dependence of men of science on state resources led to a particular loyalty to the state among them. The Young Turks, among which were many graduates of the military and medical academies, did revolt against the rule of Abdülhamid II in 1908 and established constitutional monarchy for the second time in Ottoman history, but the sanctity of the notion of the state remained a persistent characteristic of late Ottoman / Turkish political culture.

The story told in this dissertation ends in the final years of the 19th century. Choosing this end point has important consequences, as it was precisely in these years that the Young Turk movement started to gain momentum. While the membership of this movement was diverse, students and graduates of the elite schools constituted its core, as mentioned above. It is certainly not among the purposes of this dissertation to elaborate on the dynamics behind this movement and its intellectual perspectives. The

continuities between the policies and outlooks of the Young Turks and the founders of the Turkish Republic (founded in 1923) are commonly alluded to in the literature, and I contend that a similar study to this one needs to be carried out for the period between the 1890s and the 1940s in order to uncover what exactly these continuities entailed with respect to the understandings and portrayals of science and men of science.

Extrapolating on the findings of this dissertation, I would conjecture that the identification between science and the state, and the "need" to make sure that the man of science remained an obedient, "uncosmopolitan," moral individual remained – and remains – a crucial component of the dominant discourse on science in the Turkish Republic. In fact, it is arguably the imaginations of the "true" character of the Turkish state itself that shape the alternative attitudes toward scientists in Turkey.

For the current prime minister Erdoğan, and indeed for the modernist Islamic discourse of which he is a contemporary representative, it remains fundamental that scientists behave in ways respectful to the religion and "values of the Turkish people." The proper government itself is defined in such terms, and in this characterization, a scientist is someone who respects such a government, contributes to the well-being of his/her society while at the same time avoiding actions and arguments that the masses may disapprove. As opposed to this populist-statist imagination, there exists what we can roughly call an elitist-statist one represented by the adherents of the Kemalist brand of secularism. In this characterization, a true scientist is primarily a follower of Kemal Atatürk. So much so that one could argue that for the secularist establishment, the legitimacy of science is augmented – if not almost entirely conferred – by

Atatürk's appreciation of it. Being pro-science is being pro-Kemalism, and in debates about "science versus religion," the representatives of science come close to declaring their opponents unworthy of being true Turkish citizens.[2] Hence, while there exists a range of attitudes from the more populistic to the more elitist, that science pledge allegiance to a higher authority, and the scientist remain "under control" remains the *doxa* of 21st century Turkish Republic.

[2] When the Turkish Academy of Sciences (TÜBA) issued in 1998 a declaration directing attention to the troubling growth of creationist movements, it started with a quotation from Kemal Atatürk: "I do not leave any scripture, any dogma, any frozen and ossified rule as my legacy in ideas. My legacy is science and reason." The declaration also emphasized TÜBA's devotion to "raising democratic and secular generations." A declaration against creationism was thus a declaration of loyalty to the legacy of the founder of the Republic. The critics of the theory of evolution were nothing but traitors while "true" scientists were those whose ultimate concern was preserving the character of the Turkish state as defined by Atatürk. It is also a common sight in Turkey to see university professors in their gowns protesting so-called reactionary movements in the courtyard of Atatürk's mauseloum in Ankara.

APPENDIX 1

Chronology

1803	Seyyid Mustafa publishes his *Diatribe*.
1807	Kabakçı Mustafa rebellion: Reformist sultan Selim III dethroned.
1808-1839	Reign of Mahmud II.
1813	Second Serbian Uprising.
1821	The Greek War of Independence begins.
1824	Mahmud II's decree on elementary education.
1826	Decimation of the Janissaries. Religious endowments taken under state control.
1827	The Imperial Medical Academy founded.
1829	Greek independence.
1830	Algeria ceded to French rule. First students sent to France.
1831	The Official Gazette (*Takvim-i Vekayi*) starts publication.
1831-34	Hoca Ishak's *Compendium of Mathematical Sciences* published.
1832	Mehmed Ali, the governor of Egypt, revolts, demonstrating the weakness of the Ottoman military.
1833	Translation Bureau starts to fully function.
1834	The School of Military Sciences, later the Imperial Military Academy, founded.
1838	The commercial treaty with England signed. School for Civil Servants (*Mekteb-i Maarif-i Adliye*) opened. Memorandum of the Council of Public Works on the state of education within the Empire.
1839-1861	Reign of Abdülmecid.
1839	The Imperial Decree of Gülhane issued, the Reorganization (Tanzimat) Era begins.
1840	Mustafa Sami's *Treatise on Europe* published.
1846	The Council of Public Education established.
1848	Derviş Pasha publishes the first chemistry textbook in Turkish.
1851	The Ottoman Academy, "Encümen-i Daniş" founded.
1853	Mehmed Ali Fethi publishes his translation on geology.
1853-56	Crimean War against Russia.

1854	First foreign loans.
1856	Reform Decree asserts equality of all Ottomans regardless of religion.
1857	Ministry of Education established. Selim Sabit and Tahsin sent to supervise *Ecole Ottomane* in Paris.
1859	School of Public Administration founded. Ziya Pasha publishes the *History of Andalusia*.
1860	First newspaper in Turkish (*Tercüman-ı Ahval*) published by Agah Efendi and Şinasi. Şinasi also publishes "The Marriage of a Poet," the first play in Ottoman Turkish.
1861-1876	Reign of Abdülaziz. Ali and Fuad Pashas dominate the government.
1861	The Ottoman Society of Science established.
1862	*Mecmua-i Fünun,* "The Journal of Science," starts publication under the direction of Münif Pasha.
1863	The first attempt for the University: public lectures begin.
1867	The Young Ottomans flee to Europe. Abdülaziz becomes the first Ottoman sultan to officially visit European countries.
1868	*Mekteb-i Sultani*, a high school designed in collaboration with France opened.
1869	Ottoman Citizenship Law and the Public Education Act are issued.
1870-73	The second attempt to found the University.
1874	The third attempt to found the University.
1876-1909	Reign of Abdülhamid II.
1876	The Ottoman Parliament opens. The first experiment with constitutional monarchy.
1877 – 1878	The Russo-Turkish War. Abdülhamid abolishes the Parliament.
1878	The Treaty of San Stefano. The Ottoman Empire loses most of its European territories. Cyprus occupied by Britain.
1881	Tunisia becomes a French colony.
1882	Egypt taken under British protection.
1885	Abdülhamid initiates educational reform program.
1886	Ottoman men of science visit Louis Pasteur.
1887	Beşir Fuad commits suicide.

1889	Beginnings of the Young Turk movement. Students of the military, medical, and administrative schools start to form groups aiming to abolish the rule of Abdülhamid II.
1893-4	Ministry of Education's report on missionary schools.
1895-1900	Ahmed Midhat's translation of J.W. Draper's *History of the Conflict Between Religion and Science*.
1898	M. Tahir publishes *The Services of the Turks to the Sciences and the Arts*.
1908	Young Turk Revolution. Parliamentary monarchy re-established.

APPENDIX 2

Science in Ottoman Dictionaries

Redhouse **(1851/1268)** *Müntehabat-ı Lugat-ı Osmaniyye* vol.1. Istanbul: Ceridehane.

Ilm: Knowledge, information, the totality of matters pertaining to an issue.
Fen: Art based on *ilm*.
Marifet: *Ilm* acquired through thought and effort

Hüseyin Remzi **(1888/1305)** *Lugat-ı Remzi* Istanbul: Matbaa-i Hüseyin Remzi.

Ilm: Knowing. More general than *marifet*, as *marifet* cannot be attributed to God. *Ilm* is about knowing the truth.
Fen: Art based on *ilm*; the theoretical foundations of *ilm*; *ilm*.
Marifet: Knowing. … Cannot be attributed to God; *ilm* acquired through thought and effort.

Ahmed Vefik Pasha **(1889/1306)** *Lehçe-i Osmani* Istanbul: Mahmudbey.

Ilm: Knowledge, *fünun*, awareness, *marifet*.
Fen: branch of *ilm*; art; *marifet*.
Marifet: knowing; art.

Mehmed Salahi **(1896/1313)** *Kamus-ı Osmani* Istanbul: Mahmudbey.

Ilm: to know; the opposite of ignorance; knowledge about specific issues and entities
Fen: the practical component of human *marifet*; art; branch of *ilm*
Marifet: to know – not attributable to God. In our language also used to refer to skill and art.

Şemseddin Sami **(1901/1317)** *Kamus-ı Türkî* Istanbul: Ikdam.

Ilm: to know; knowledge; knowledge about an issue acquired by studying; theory.
Fen: branch of *ilm* and *marifet*s ("a fen of an ilm"); ilm based on reason, experiment and evidence.
Marifet: to know; *ilm*. (pl. *ilm*s and *fen*s; knowledge gathered through education)

APPENDIX 3

Ottoman Ministers of Education

Name	Minister between	Total # of days	Education and Languages	Presence in Europe before
Abdurrahman Sami Pasha (1795-1878)	1857-1861	1714	Private religious education. French.	Paris as Mehmed Ali's envoy, Paris, Tuscany, London
Ahmed Kemal Pasha (1808-1888)	1861 – 1862; 1865 – 1867; 1871 – 1872; 1872 – 1873; 1876; 1877 – 1878	1572	Private religious education. Scribal service. French, some German.	Ambassador to Berlin, June 1854-July 1857
Mustafa Fazıl Pasha (1829-1875)	1862 – 1863	54	Scribal service.	None
Nevres Pasha (1826-1872)	1863;1865	72	Palace School	None
Ibrahim Edhem Pasha (1818-1893)	1863; 1863 – 1865[a]	762	Ecole des Mines French	Educated in Paris.
Abdüllatif Subhi Pasha (1818-1868)	1867 – 1868; 1878	271	private tutors, possibly French	Sami Pasha's son Vienna
Safvet Pasha (1814-1883)	1868 – 1871; 1874 – 1875; 1875 – 1876	1751	*Medrese*, scribal service. French.	Ambassador to Paris, June 1865-August 1866
Derviş Pasha (1817-1878)	1872	163	Educated in Europe, French.	Ambassador to St. Petersburg September 1859-September 1861

[a] The ministry was first joined to the Ministry of Commerce and Public Works, then separated from the Ministry of Commerce along with the Ministry of Public Works in this period.

Ahmed Vefik Pasha (1823-1891)	1872; 1878	195	French	Ambassador to Paris December 1869 – January 1861
Ahmed Cevdet Pasha (1822-1895)	1873 – 1874; 1875 ; 1876	670	*Medrese*, private lessons, French	Envoy in Bucarest.
Ahmed Arifi Pasha (1830 – 1895)	1875	147	Scribal service. French.	Foreign secretary Şekip Bey's son. Ambassador to Vienna. October 1872 – May 1873
Yusuf Ziya Pasha (1826-1880)	1876 – 1877	107	Scribal service.	
Münif Pasha (1830-1910)	1877; 1878 – 1880; 1885 – 1891	3329	Some *medrese*, Translation Bureau. Classes at Berlin University. German.	Secretary, Berlin Embassy 1855-7.
Kamil Pasha (1832-1913)	1880 – 1881	389	Egyptian Military Academy. English.	England for the 1851exhibition with the Khediv of Egypt.
Ali Fuad Bey (1840-1885)	1881 – 1882	154	Scribal service. Private classes. French.	Ali Pasha's son.
Mustafa Nuri Pasha (1824-1889)	1882 – 1885	1235	Private. Arabic and Persian.	
Ahmed Zühdü Pasha (1833-1902)	1891 – 1902	3872	*Mekteb-i Maarif-i adliye* (School for Civil Servants), *medrese*.	

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