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Proving One's Expertise and Its Worth: Agronomists', Forestry Engineers', and Veterinarians' Rhetoric on the Essential Utility of Their Knowledge in the Ottoman Empire and Republic of Turkey

Abstract

How do members of a novel profession gain recognition for their expertise and negotiate its value? This article examines this historically rooted yet persistently relevant question by focusing on the experiences of agronomists, forestry engineers, and veterinarians in the late Ottoman Empire and early Republican Turkey (1890s–1930s). These then-nascent professions faced shared challenges: agronomists worked to earn the trust of farmers, veterinarians contested with farriers over livestock care, and all three professions confronted public scepticism, ridicule, and inadequate compensation despite their extensive scientific training and vital contributions to the economy, public health, and environmental conservation. Drawing on their writings in mainstream press and professional journals, as well as historical interviews with them, this study explores the strategies agronomists, forestry engineers, and veterinarians employed to carve out a new social and economic space for themselves. By analysing their efforts, the article uncovers how experts in emerging fields navigate resistance while striving to redefine societal rewards to secure a place in the new world they are helping to shape – one where economic recognition should be rooted in scientific contributions, which they present as the foundation of progress and advancement.

Keywords: agronomy, expertise, forestry, late Ottoman Empire, professionalisation, veterinary medicine

1. Introduction

In their introduction to *Rethinking Expertise*, Harry Collins and Robert Evans define expertise as 'know[ing] what you are talking about.'[1] Yet, a person who claims to know what they are talking about is not necessarily recognised by others as a person who knows what they are talking about, nor necessarily trusted. In other words, expert status is not absolute, but rather conditional on others' approval. The first half of my paper explores this intricate issue of recognition of expert status. Rather than focusing on the perspective of outsiders – how one recognises an expert – I approach this process from the experts' point of view, examining their self-perceptions and frustrations as well as the strategies they employ to convince doubters of their expertise. In the second half, I delve deeper into the mechanisms experts use to establish the *value* of their expertise,

1 Collins and Evans 2007, 114.

shifting from recognition to justification. It is not only about understanding what they claim to know but also about addressing the critical question: what is their expertise worth? I analyse this worth both in tangible and intangible terms, considering the monetary value attributed to their skills and knowledge as well as the social capital they command. By probing these dimensions, my paper sheds light on the intersection of professional authority, economic valuation, and social legitimacy.

To tackle these questions, I study the cases of agronomists, forestry engineers, and veterinarians in the late Ottoman Empire and early Republican Turkey.[2] These professions were met with scepticism in the late 19th century and early 20th century, when they were newly emerging. The main source of the scepticism was the historical occupational groups that preceded them. For instance, some farmers rejected agronomists' scientific authority and ridiculed their expertise; after all, how can such an ordinary art as agriculture, practiced for millennia in Anatolia, be considered a science researched in university halls? The backlash also came from the broader public. For example, in the popular imagination, forests were believed to thrive naturally. As they supposedly grew anyway, forestry engineering was considered a vain area of non-expertise. In the face of such attitudes, experts actively tried to persuade the lay public of the scientificity of their competencies, arguing not only that their knowledge was more reliable, but also that it could more adequately meet modern demands. To convince others of their expert status, they united their forces within their own ranks and collectively developed self-narratives in the journals they published.

Members of these three budding professions did not merely strive for acceptance. Feeling underpaid, they also tried to convince the state, their main employer, that their expertise was more useful, vital even, to society than that of other professions that were well-paid and argued, on that basis, that they deserved better compensation. To achieve this, they presented themselves as the providers of resources essential to human existence such as food and heat, the protectors of public health, the guardians of nature, and, most importantly, the fosterers of economic prosperity.

The challenges faced by the expert groups I work on were not unique to their region; similar struggles occurred in other parts of the world. Nor were these issues exclusive to what we today call 'emerging nations.' Experts of these fields in Western countries encountered the same difficulties, albeit somewhat earlier, as specialised schools for training agronomists, forestry engineers, and veterinarians had generally been established there sooner. In Germany during the 19th century, for example, agricultural representatives and estate owners often favoured lay animal healers over urban-trained veterinarians. For some, this preference stemmed from resistance to challenges to their rural authority and traditional way of life, while for others, practical considerations played a role – veterinarians tended to be stricter about animal health and incurred higher costs compared to lay healers.[3] Alexandre Liautard, the first editor of the *American Veterinary Review*, established in 1877, lamented that Americans 'are ignorant of the

2 This paper borrows from an article I published in French on Ottoman veterinarians. For a more detailed account on the history of their profession, see Tanık 2021.

3 Mitsuda 2017.

importance of veterinary medicine; our science is yet, and will be for years to come, in a low social standing.'[4] Similarly, in the United Kingdom during the same period, veterinarians frequently voiced concerns, including that their 'utility to agriculture and the nation was overlooked,' and that their 'social status was unjustifiably lower than that of the 'sister profession,' medicine.'[5] In 1872, George Fleming, a council member of the Royal College of Veterinary Surgeons, observed, 'Veterinary science… is not understood in Britain and is but little valued. Veterinary surgeons are only too often regarded as little, if at all, removed from the illiterate farrier or cow leech, [...] anything but educated scientific men who respect themselves and their profession.'[6]

In the Ottoman and Turkish context, what stands out is that the struggle of agronomists, veterinarians, and forestry engineers for recognition occurred in a paradoxical environment. Their expertise was deeply valued in the official discourse, making their worth seemingly unquestionable. Yet, in practice, their professional contributions were often overlooked, and their compensation failed to reflect the state's rhetorical support.

The roots of this contradiction can be traced back to the economic strain after the Crimean War (1853–1856), when the Ottoman Empire, facing dire financial circumstances, turned to foreign loans authorised by Sultan Abdülmecid, particularly from Britain and France. Amidst this economic pressure, certain Ottoman leaders began to place an emphasis on agronomy, forestry, and veterinary medicine as strategic professions. They recognised the potential of exploiting natural resources (*ṭabîʿî servetler*) to stimulate economic growth and repay the empire's mounting foreign debts. Consequently, the state took several initiatives to advance and instrumentalise knowledge, including sponsoring students to study abroad, inviting foreign experts to educate locals and advise government officials, establishing specialised schools funded in part by the first indigenous Ottoman bank, the *Zirâʿat bankası*, and reforming its bureaucracy, such as creating a Ministry of Forests, Mines, and Agriculture (*Orman ve maʿâdin ve zirâʿat neẓâreṭi*) in 1893. The late Ottoman period also saw a marked shift in political and public discourse, with the empire being celebrated as an 'agrarian country' (*zirâʿat memleketi*), a phrase that became ubiquitous in official statements and the press under the Hamidian regime and beyond, to the extent that this expression 'was on everyone's lips' (*hepimiziñ ağızından düşmeyen bir söz*).[7] This rhetoric was echoed in the Ottoman Chamber of Deputies after the Young Turk Revolution in 1908; for instance, Diyarbakır deputy Fevzi declared, 'Our country is above all an agrarian country,' while Aristidi Pasha emphasised that 'our trade is based almost entirely on agriculture.' Similar sentiments were expressed by other deputies, such as Drama's Rıza and Sivas's Nazaret Dagavaryan, who underscored agriculture's central role in the empire's prosperity. This narrative persisted into the Republican era under Mustafa Kemal Atatürk, who affirmed that 'agriculture is the basis of the national economy' and described peasants as 'the

4 Smithcors 1963, 344.
5 Woods and Matthews 2010, 30.
6 *ibid*., 46.
7 *Ṭanîn* 12 Mârt 1327 [25 March 1911], 1.

true owners and masters of Turkey.'[8] Although the terminology expanded to include phrases like 'country of farmers' (*çiftçi memleketi*), the core idea remained unchanged: agriculture was portrayed as the foundation of the nation's identity and economy.

Statistics validate these assertions. In the late Ottoman period, agriculture dominated the economy, with over four-fifths of the population engaged in farming during the 19th century, as Donald Quataert notes.[9] By 1914, agricultural activities accounted for 56% of national income, [10] and taxes tied to agriculture – such as the tithe (*ʿöşür* in the singular and *âʿşâr* in the plural) and livestock taxes (*ağnâm*) – constituted around 40% of total state revenue.[11] Agricultural exports were equally significant, comprising nearly 90% of the empire's outbound foreign trade between 1840 and 1913.[12] The proportion of agricultural exports in net production increased from 18.4% in 1889 and 17.8% in 1899 to 22.3% in 1910 and 26.5% in 1913. These figures reflect 'fairly high degrees of commercialisation of agriculture and external orientation of the Ottoman economy, particularly for later decades.'[13] These trends continued under the Republican regime: in 1932, over 9 million of Turkey's 13.6 million inhabitants were farmers, and agricultural products consistently accounted for over 65% of exports during the Republic's first six years.[14]

Given the state's investments in agronomists, forestry engineers, and veterinarians to convert the country's natural capital into economic capital, the question remains: why were these experts not compensated in line with their contributions? Despite being integral to the state's vision of economic transformation, their pay and recognition lagged far behind the value attributed to their professions in the political discourse.

The continuity of official discourse from the late Ottoman Empire to the early decades of the Republic of Turkey, coupled with the persistence of experts' complaints, led me to extend my study beyond 1923. However, the archival material available to me – primarily publications and interviews from Turkish-speaking experts – offers a partial view of the challenges these professionals faced. A broader examination of additional sources could uncover further issues, such as the impact of exclusionary policies tied to ethnic and religious identities. For instance, the case of veterinarian Nikolaki Mavridis Mavroğlu (1871–1955), a Greek Orthodox deputy director of the Pendik Bacteriology Institute, highlights such dynamics. Mavroğlu was threatened with dismissal due to his *gayrimüslim* status, but the intervention of his colleague Ahmet Şefik Kolaylı (1886–1976), who threatened to resign in protest, resolved the matter.[15] Unearthing more such documents could reveal similar instances of marginalisation that shaped the

8 Altuncuoğlu 2019, 285–6.
9 İnalcık and Quataert 1994, 843.
10 *ibid*., 845
11 Quataert 2010, 130.
12 Pamuk 2004, 179.
13 *ibid*., 180.
14 Şevket Raşit Haziran 1932 [June 1932], 8–9.
15 Unat 8 Şubat 1976 [8 February 1976].

lives of experts during both the late Ottoman and the early Republican periods extending beyond the economic and social challenges faced by all professionals.

2. Proving One's Expertise

> If someone loudly declares, "I'm an expert," then we can always reply, "Only if we say you are."[16]

2.1 A Line Must Be Drawn: Distinguishing Scientific and Ubiquitous Expertise

Agronomists, forestry engineers, and veterinarians faced varying degrees of difficulty in getting their scientific expertise acknowledged. Agronomists and veterinarians suffered the most because neither the art of cultivating lands, nor that of caring for livestock were new to the Ottoman society. Those who made their livings by growing crops could not understand the utility of agronomists, whose profession only emerged in the 19th century. Farmers thought they were already ably handling the job themselves, which, in their view did not and could not hinge on scientific principles, and therefore called agronomists' *raison d'être* into question and mocked them. Şevket Arı (1888–1979), for instance, recalled painful memories in an interview he gave in the 1950s to Hadiye Tuncer (1913–1997), one of the first female Turkish agronomists, such as farmers testing his knowledge when he was a young agronomist by asking very basic or even absurd questions to insinuate that the years he spent training in specialised schools had gained him nothing:

> At the time, neither the peasant nor even the city dweller could grasp what agronomists were. I often heard mockery such as: "Are you learning husbandry at school now?" When I returned to my village, they would surround me and make me the object of their ridicule: "So tell us how many stalks does a wheat have? How many spikes does it have? Woe is you! You have been wasting your life in vain son, come here and we will teach you what real agriculture is."[17]

Elizabeth R. Williams' recent work on Arab provinces turned mandates (Lebanon and Syria) suggests that the same scepticism could be encountered throughout the post-Ottoman region, as she gives the example of farmers (*fallahin*) near Aleppo quizzing an agronomist's (*effendi*) knowledge about wheat and barley. There is a fundamental difference between the two groups regarding their respective assessments of the dynamo of agriculture; while for the expert, higher productivity can be achieved through science

16 Stichter 2015, 126.

17 'O zaman çiftçinin de, köylünün de hattâ şehirlinin de okuyan bir ziraatçiye aklı ermiyordu. Ziraat mektepte mi öğrenilirmiş? diye alay ettiklerini çok görmüşümdür. Hele köyüme gittikçe etrafımı alır, beni kepazeye çevirirlerdi: 'Söyle bakalım, buğdayın kaç kökü var? Yaprağında kaç çizgi bulunur? Vah oğul vah, sen boşuna ömür tükediyon, gel biz sana ziraatin daniskasını öğretek…' derlerdi' (Tunçer 1958, 113).

and technology (learning new methods and using sophisticated machinery), for the *fellahin*, productivity is above all tied to 'blessings [*baraka*] from God.'[18]

Yet, Ottoman farmers did not rely only on divine intervention. They acknowledged that husbandry required knowledge, too, but this was to be acquired through experience, or could be 'naturally' passed down in families to younger generations, many practicing agriculture the way their forefathers did (*babamdan böyle gördüm diyen rencber[ler]*).[19] In their view, the knowledge required to cultivate lands was 'tacit' to borrow Michael Polanyi's term;[20] agriculture could not be reduced to 'rules or formulae.'[21] One need not research it in a laboratory setting or learn it on the university benches: one simply did it. This is why the vivid depictions of mockery included in agronomists' memoirs were frequently directed at their education, and more specifically at their alma mater, the Halkalı Agricultural School (*Ḥalḳalı zirâʿat mekteb-i ʿâlîsi*), a university established on the outskirts of Istanbul in 1891 on the initiative of Agop Amasyan (1825–1895), a former student of the Grignon Agricultural School (*École d'agriculture de Grignon*) near Paris.[22] For instance, according to agronomist Ekrem Üzümeri, who specialised in viticulture as the surname he chose after the Surname Law was passed in Turkey in 1934 suggests (roughly translating as 'grapeman'), the very few farmers who had heard about the Halkalı Agricultural School would say that it had no reason to exist (Figure 1).[23] One of his contemporaries, Süleyman Fehmi Kalaycıoğlu (1892–1993), an agronomist trained in Münich who later got into politics by becoming a deputy for Trabzon in the Grand National Assembly of Turkey (*Türkiye Büyük Millet Meclisi*, TBMM), also recalled bitter memories and even admitted to shedding tears when faced with constant ridicule about his scientific training:

> When I returned home during school holidays, I was afraid to wear my school uniform, which I wore with great pride in Istanbul. Anyone who looked at this uniform, which had "Halkalı Agricultural School" written on the collar, would sneer: "Look at him, it seems he couldn't find a school to go to, so he went to a manure school!" Some wouldn't even stop harping on at me: "Tell me! How many kinds of fertilisers do you learn about at the Fertiliser School?" They would tease me until I cried.[24]

18 Williams 2023, 183–5.
19 Ḥilâciyân 4 Teşrîn-i s̱ânî 1326 [17 November 1910], 2.
20 Polanyi 1958.
21 Lynch 2013, 56.
22 *Ḥalḳalı zirâʿat mekteb-i ʿâlîsi mecmûʿası* Nîsân 1333 [April 1917], 4. For more information on this school, see Soydan 2012.
23 Tunçer 1958, 123.
24 'Mektep tatilleri memlekete döndükçe çok iftiharla giydiğim mektep üniformasını kendi ocağımda giymeğe korkardım. Yakasında 'Halkalı Ziraat Mektebi' yazılı olan bu üniformaya kim baksa dudak büker: 'Şuna bak, sanki gidecek mektep bulamamış da gübre mektebine girmiş!' diye alay ederlerdi. Hele bâzıları büsbütün beni parmaklarına dolar: 'Söyle bakalım! Kaç çeşit göbre öğreniyorsun Gübre Mektebinde?' diye, beni ağlatıncaya kadar uğraşırlardı' (Tunçer 1958, 132).

*Figure 1. Freshly graduated agronomists from the Halkalı school as pictured by the New Agricultural Gazette's (*Yeñi zirâʿat ġazetesi*) August 1920 issue*

نسخه‌سی
اون ایکی بچق غروشدر

یکی زراعت غزته‌سی

آبونه:
سنه‌لکی ۱۵۰ غروش
آلتی آیلغی ۷۵ »

زراعت جمعیتی طرفندن شمدیلك آیده بردفعه نشر اولنور زراعی رسملی مجموعه‌در

نومرو: ٤ — ۱ – آغستوس ۱۳۳٦ — برنجی سنه

حلقه‌لی زراعت مکتب عالیسندن بو سنه شهادتنامه آلان افندیلر

حلقه‌لی زراعت مکتب عالیسنده
شهادتنامه توزیعی مراسمی
تموزك یکرمی ایکیسنه مصادف پنجشنبه کونی ایدی،

یگانه عالی مؤسسهٔ زراعیه‌مز اولان حلقه‌لی مکتبنك
بو سنه مأذون اولان افندیلرینه درت سنه‌لك برات عرفانلری
اولان شهادتنامه‌لری توزیع ایدیله‌جکدی، بو مناسبتله
بتون هیئت تعلیمیه‌یه دعوتنامه‌لر تسطیر ایدلمشدی.

His colleague Nadir Uysal's recollection is very telling in this sense. He claimed: 'Back then, everyone thought that agronomists were Agricultural Bank employees. […] They used to say: 'There can be no educated farmers.' That's why my whole life has been a test and a struggle.'[25] Farmers imagined that educated men dealing with agriculture could only be civil servants working for the Ministry of Agriculture or employees of the Agricultural Bank (*Zirâ'at banḳası*) established on 27 August 1888. Put differently, in their view, well-read people could only have administrative or financial roles dealing with the agricultural sector, and not a scientific one.

The more aggressive territorial dispute was, however, between veterinarians and farriers, who, besides shoeing horses, also tended to the care of farm animals. Unlike agronomists, veterinarians had little tolerance for their rivals. The nature of their boundary work was markedly different. While farmers also felt threatened by agronomists encroaching on their domain, the role of agronomists vis a vis farmers was fundamentally distinct from that of a veterinarian vis a vis farriers. Agronomists' work involved conducting research to improve agricultural practices rather than directly working the land. They valued farmers' labour and sought to educate them by providing guidance on crop selection suited to specific climates and soils, developing strategies to enhance yield and quality, recommending soil management practices like fertilisation, irrigation, and erosion control, and advising on combating pests, diseases, and weeds, including the use of pesticides. In contrast, veterinarians and farriers competed for the same clientele, as both were involved in treating sick animals. This economic rivalry fuelled tension, with veterinarians openly criticising farriers for their reliance on naïve empiricism and lack of formal education. To disqualify farriers and assert their own authority, they branded farriers as 'foul copies' posing as veterinarians (*bayṭar ṭaslaḳları*) and warned the public about the dangers of their 'unscientific and ignorant practices that do not conform to reason' (*muġâyır-ı fenn ve muḫâlif-i ʿaḳl-ı icrâ'at- ı câhilâneleri*) and their 'charlatanry' (*şârlâtânlıḳları*).[26] Unlike the agronomists' ideal of a cooperative dynamic between farmers and themselves, the relationship between veterinarians and farriers was inherently adversarial due to their overlapping professional domains.

It is worth noting that this economic competition between veterinarians and farriers also existed in other countries, such as in France. After the opening of the first veterinary school in Lyon in 1761, the farriers' guild opposed the creation of another school 'capable of directly competing with them' within Paris. This strong rivalry led to the establishment of the second veterinary school in Alfort, just a few kilometres from the capital.[27] Although the conflict began earlier in France, Delphine Berdah shows that negotiations over professional boundaries continued throughout the 19th century. Like their Ottoman colleagues, French veterinarians persistently denounced – whether in pamphlets directed at rural populations or in scholarly journals – the inefficacy and,

25 'O zamanlar herkes ziraatjiliği Ziraat Bankası Memurluğu sanıyorlardı. […] Okumuş çiftçi olmaz, derlerdi. Bu yüzden bütün hayatım imtihanla, mücadeleyle geçmiştir' (Tunçer 1958, 78).

26 Anonymous 15 Kânûn-ı s̱ânî 1315 [27 January 1900], 100.

27 Thomas 2012, 110.

above all, the dangers of the 'treatments' administered by farriers. These practices were often likened to witchcraft, with some going so far as to label farriers as 'sorcerer-farriers.'[28]

2.2 Bad Rep: Facing a Crisis of Prestige

The problem, however, was not only demarcating themselves, as men of technical sciences (*mütefennin*), from those who held 'ubiquitous' knowledge.[29] It was also about convincing everyone else of this distinction. Indeed, it was not only farmers who took issue with the professed expertise of agronomists. They were held in low esteem in public opinion, too, especially because their profession was equated with husbandry. According to Zihni Derin (1880–1965), an agronomist known for his pioneering role in tea cultivation in Turkey, the public 'knew nothing about scientific agriculture,' 'acknowledging only the roles of peasants and farmers.' People would regard agronomists with astonishment and even ridicule, remarking for instance 'What could they possibly know? Pen and paper have no place in the fields.'[30] According to Nesip Karaçay (1870–1960), fathers would not even give their daughters their blessing to marry agronomists because they would associate them with farmers and thus considered them to be uneducated, low-earning, and overall unattractive suitors:

> They wouldn't even give the hand of their daughters to agronomists. [...] The oarsmen of that time (those who rowed in big boats) also had a lot of difficulty in getting girls. Families slighted them and did not want to give away their daughters in marriage. [...] Because, back then, the best profession was being a civil servant in a government office. [...] So, an agronomist was something like an oarsman.[31]

Karaçay deplored this treatment as it was out of touch with his academic background and professional achievements; he was educated at the prestigious Franco-Ottoman Galatasaray High School (*Mekteb-i sulṭânî*), created in 1868 as a Napoleonic style *lycée*, and then trained at the Grignon Agricultural School;[32] he worked as an agronomist in Brittany before returning to the Ottoman Empire, and subsequently directed the

28 Berdah 2012.

29 I borrow this term from Collins and Evans, who distrust the term 'lay expertise' used by Brian Wynne to describe sheep farmers' expertise. See Collins and Evans 2007, 16 and 49.

30 'Halk, Teknik Ziraat diye bir şey bilmiyor. Ve ancak köylü, çiftçiyi tanıyordu. Teknik ziraat bilgisini haiz olarak yeni yeni mekteplerden çıkan Ziraat Memuruna da, 'Bu ne bilir? Kağıt, kalemin tarlada işi olur mu?' diye hayretle bakıyor, hatta onunla alay ediyorlardı' (Tunçer 1958, 25).

31 'Ziraatçilere kız bile vermezlerdi. […] O zamanın hamlacıları da (Büyük kayıklarda kürek çekenler) kız almak bahsinde çok müşkülâta uğrarlar, kız âileleri bunları adam yerine koyup kızlarını vermek istemezlerdi. […] Çünkü ozamanın en iyi mesleği bir kalemde memuriyetti. […] İşte ziraatçı da, bir hamlacı gibi idi' (*ibid.*, 9–10).

32 For more information on the Galatasaray High School, see Şişman 1989 and Georgeon 1994.

Bursa Agricultural School, taught at the Halkalı Agricultural School, and served as the Director for Agriculture in Alpullu and even as the General Director for Forests. While he was celebrated as an 'agronomist of great value' (*agronome de réelle valeur*) in French sources,[33] he thought that he was not receiving the respect he was due in his own country. In addition to his agronomic skills, his command of French had caught the eye of French journalist Gaulis (1865–1912), who served as a correspondent for the *Political and Literary Debates Journal* (*Journal des débats politiques et littéraires*), the co-director of *Opinion* and the director of *Stamboul* during his stay in Istanbul from 1908 to 1911:[34]

> Nessib Remzi speaks French like a Frenchman and does so with such nuance and Gallic verve! A former graduate of Grignon, wheat crops and beets hold no secrets for him, nor all sorts of other things. He has travelled all over rural France, lived on farms, and even speaks Breton. The last language the Orient didn't know![35]

The discrepancy was palpable: a highly educated man destined to be among the nation's elite was talking about shot down marriage proposals in response to Tuncer's question regarding how agronomists were perceived in popular opinion at the turn of the century. An agronomist of similar calibre gave a comparably gloomy answer to Tuncer's question. Reşat Muhlis Erkmen (1891–1985), who completed his master's degree in Germany and even rose to being Minister of Agriculture, summed up agronomists' image in these words: 'Agronomy has always been held to be the most unsubstantial of jobs. It was the case then. I suppose it is still the case now...'[36]

Veterinarians suffered from a bad reputation, too, because they were considered as farriers' equals. It was this damaging public perception that pushed army veterinarian Subhi Edhem to write in 1918: 'There is almost no profession experiencing such a lack of recognition it deserves more than veterinary medicine. It can be said with regret that […] a veterinary scientist is not given the same prominence as a farrier.'[37] Their appellation did not help; veterinarians thought the confusion also stemmed from the polysemous word *bayṭar*, which designated both veterinarians and farriers. A lexicographic search proves them right. In some dictionaries published before the institutionalisation of the veterinary profession, *bayṭar* appears with one meaning only – that of farrier – such as in Artin Hindoğlu's dictionary.[38] Later on, it gains polysemy. Indeed, according

33 Angéli 30 September 1903, 416.

34 Gaulis 1913, v–ix.

35 'Nessib Remzi parle le français comme un Français et avec quelles nuances, avec quelle verve gauloise ! Ancien élève diplômé de Grignon, le blé et la betterave n'ont aucun secret pour lui, ni toutes sortes d'autres choses. Il a parcouru la France agricole, vécu dans les fermes et il parle breton. La dernière langue que l'Orient ignorait !' (Gaulis 13 June 1911, 1).

36 'Ziraatçilik her zaman en hafif meslek olarak kalmıştır. O zaman da öyle idi. Zannederim şimdi de öyle…' (Tunçer 1958, 68).

37 '[…] bayṭarlıḳ ḳadar […] lâyıḳ oldığı iʿtibârı göremediş hemân hîç bir meslek yoḳdur. Teʾessüf ile söylenebilirki […] mütefennin bir bayṭara bir naʿlband derecesinde ehemmiyet vérilmemişdir' (Subḥî Edhem 1334 [1918], 8).

38 Hindoglu 1838, 130.

to both Barbier de Meynard's and Thomas-Xavier Bianchi and Jean-Daniel Kieffer's dictionaries, the word *bayṭar* means veterinarian but 'also used to mean 'farrier,' but in the latter sense, نعلبند *naalband* is used in preference today.'[39] Sir James William Redhouse defined *bayṭarlıḳ* as both farriery and veterinary.[40] And, Diran Kelekian gave a triple definition for the word *bayṭar*: 'veterinarian, hippiatrist, and farrier.'[41]

Sharing a name for their profession with farriers not only exacerbated the amalgamation of the two socio-professional categories in the public imagination; *baytar* and other expressions used as its synonym such as *at doktoru*, literally 'horse doctor,' were also used as insults in popular parlance. The story of Mehmet Akif Ersoy (1873–1936), who served as a veterinarian for over twenty years before resigning on 11 May 1913 and later becoming Turkey's national poet, would confirm this unfavourable connotation. To humiliate him, an arrogant young man is said to have asked him in a mocking tone 'Aren't you a simple *baytar*?', to which he would have cleverly replied: 'Yes, do you need any treatment?'[42]

The caricatures of the period attest to the negative portrayal of veterinarians. For instance, in a caricature published in the satirical magazine *Cem* (or *Djém*), veterinarians' profession was rendered as a thankless job that could only be attractive in case of bankruptcy (Figure 2).

Here we see a man reclining in his bed, only just waking up from his sleep. Sulking, he tells the woman facing the readers' back: 'Good God! I saw the vet Rasim in my nightmare last night. He said to me: if your business goes downhill, don't wait, come, and work with me, here we sell a thousand oxen for a penny!'[43] He thinks of it as a bad dream because he was offered a job by a veterinarian, whom he considers to be a lower-class individual compared to himself, living in a richly furnished house with his fur coat-wearing wife. Rasim's job is erroneously described as selling domesticated animals, and for a penny at that. This caricature not only misrepresents the veterinary profession, but also shows that one spontaneously thinks of a veterinarian when one needs a counterexample to a fulfilled life.

This burden of mockery was not shared by agronomists and forestry engineers, whose professional title did not lead to confusion in the same way. Agronomists were called by domain-specific names such as *ehl-i zirâʿat* (expert in agriculture), *zirâʿat müteḫaṣṣıṣı* (agricultural specialist), *zirâʿat mütefennini* (man of agricultural technical science), *zirâʿat mühendisi* (agricultural engineer), or in very rare cases, *âğrônôm* – the French word trans-

39 Barbier de Meynard 1971, 360; Bianchi and Kieffer 1850, 431.
40 Redhouse 2015, 422.
41 Kelekyân 1329 [1911], 301.
42 Gür 1999, 209.
43 'Ḫayırdır inşâa'llàh! Bu géce rü'yâmda bayṭar Râsimi gördüm, siziñ orada işler kesâd ise durma ḳalḳ gel, burada öküzüñ biñi bir pârâya diyor!' (*Cem* 26 Kânûn-ı ṣânî 1928 [26 January 1928], 8).

Figure 2. Unflattering depiction of veterinarians in the satirical magazine Cem

posed into Ottoman alphabet,[44] whereas farmers were called *fellâḥ*, *çiftci*, *zârıᶜ* (*zürrâᶜ* in plural), and *rencber*.[45] The divide was semantically clear.

What discouraged the experts the most, however, was that it was not only the uneducated masses that held them in low esteem. Even the elites, whom they deemed as their peers and intellectually capable of recognising their scientific expertise, were often clueless. Army veterinarian Subhi Edhem thought this ignorance existed 'both among the elites and the masses' (*gerek ḫavâṣṣ ve gerek ᶜavâm arasında*).[46] In a similar vein, Ahmet Nevzat Tüzdil (1900–1965), who earned his doctorate in Hamburg after completing his studies at the Civilian Veterinary School (*Mülkiye bayṭar mekteb-i ᶜâlîsi*), noted regretfully that it was rather common to hear from respected writers of his time that veterinary medicine was only a more sophisticated form of farriery: 'And the saddest thing of all is that even most of the country's intellectuals still do not have the slightest idea what veterinary medicine is.'[47] Agronomists also faced unfavourable reactions from intellectuals, such as from famous journalist and writer Yakup Kadri Karaosmanoğlu (1889–1974), particularly known for his novels *Nûr baba* (1922), *Kirâlık konak* (1933) and later, exploring pastoral themes, *Yaban* (1932). In an article he published in *İkdam* on 9 March 1923, Yakup Kadri shared farmers' critical views of agronomists, quoting them as saying, 'We don't need agronomists trained in Istanbul; we've always suffered from them instead of benefiting from them.'[48] Yakup Kadri then reinforced their sentiments, adding, 'Yes, what Anatolian peasants say about educated agricultural experts is true. I know first-hand some very bad ones…'[49] Agronomist Cevat Rüştü Öktem (1880–1936) responded to these inflammatory remarks with an article of his own. For him, Yakup Kadri's piece was unacceptable as it was riddled with 'logical fallacies' (*mantıken safsatakar*). Cevat Rüştü argued that someone who considers themselves an intellectual, like Yakup Kadri, cannot justifiably use their personal experiences with a few incompetent agronomists to make sweeping generalisations and present them as established facts to the public. What troubled Cevat Rüştü and his colleagues more than the rejection by peasants – whose ignorance agronomists excused with a paternalistic attitude – was the lack of recognition and active backlash from well-read men.

This frustration was also shared by forestry engineers even if they had a better lot in life compared to agronomists and veterinarians. They did not have the same critical mass of pre-existing tradesmen with whom to quarrel, whose field of work they would encroach upon. And yet, they shared agronomists' and veterinarians' burden of their

44 I have only encountered this word a few times, such as in *Aydınlıḳ* 1 Kânûn-ı evvel 1921 [1 December 1921], 172.

45 Ş. Sâmî 1318 [1901], 49.

46 Subḥî Edhem 1334 [1918], 8.

47 'Mes'eleniñ eñ şâyân-ı esef ciheti memleketiñ münevver zümresinden büyük bir ekṣeriyetiñ daḥi henüz bu meslekden tamâmen bîḫaber olışıdır' (Âḥmed Nevzâd 1927, 102).

48 'Bize İstanbul'da tahsil etmiş ziraat mütehassıslarının lüzumu yoktur; şimdiye kadar bunlardan fayda yerine hep zarar gördük' (Cevat Rüştü 2016, 213).

49 'Evet Anadolu zürrâlarının tahsil görmüş ziraat mütehassısları hakkında söyledikleri doğrudur. Ben öyle ziraat mütehassısları tanırım ki…' (*ibid.*).

profession being labelled as nonscientific and superfluous. They, too, thought that it was not only the populace (*ḫalḳ*) that misunderstood their expertise, but also the intellectual class (*münevver ṣınıf*). For instance, contributors to the first issue of the *Forestry and Hunting* magazine (*Orman ve Av*) collectively spoke out against 'many of the people who make up the nation's enlightened class' (*memleketiñ münevverânını teşkîl éden bir çoḳ kimseler*) who believed that 'forests grow randomly' (*onlarıñ gelişi güzel yetişdigini*) instead of the methodical intervention of forestry engineers.[50] Similarly, forestry engineer Mehmet Ali Salih wrote: 'We are always witnessing with regret that many people among the intellectual class, who are ignorant of the nature of forestry, even go so far as to deny the existence of such a science.'[51]

2.3 Showing a United Front: Corporatist Attitude and Associative Action

As a response to the scorn and mockery, agronomists, forestry engineers, and veterinarians organised around various associations and journals. Their members adopted a corporatist attitude and conceived their respective professions as one body. Their terminology attested to this awakening of collegial spirit; they used words such as *meslekdaş* (colleague), *refîḳ* (fellow), *ḳardeş* (brother), *mesâʿî arḳadaşı* (work comrade), and *meslek müntesibi* (member of the profession) to qualify each other. As such, they created an 'us' and 'them' and opted for presenting a united front against the 'them' rather than retreating into individualism and letting each one fighting the battle alone. Journals explicitly invited all professionals for a gathering of forces. For instance, the *Journal of the Turkish Veterinarians' Association* (*Türk Baytarlar Cemiyeti Mecmuası*), the official organ of the Turkish Veterinarians' Association (*Türk Baytarlar Cemiyeti*) established on 6 February 1930, aimed to unite all Turkish veterinarians for stronger action:

> Colleagues, scattered across our beloved country, are each like a battery powering a light bulb. Whatever their skills may be, each colleague gives off a faint light that can only illuminate the path ahead of himself. To cast a stronger light, we must absolutely unite. That's why we're trying to weld the batteries together by stretching wires between them. That's how we'll get a light strong enough to illuminate the way for the whole professional body. And that's how we'll be able to pay tribute to the hitherto neglected members of this profession and make their voices heard.[52]

The creation of associations and journals was met not only with great enthusiasm, but also with great relief; they helped ameliorate experts' feeling of loneliness in the face of

50 Anonymous Mârt 1928 [March 1928], 1.

51 'Te'essüfle ve her zamân şâhid oluyoruz: münevver ṣınıf arasında ormancılıġıñ mâhiyet-i âṣliyesinden ġâfil pek çok ẕevât ʿâdetâ böyle bir ʿilmiñ vücûdını inkâra ḳadar bile ḥaddlerini aşarlar' (Meḥmed ʿAlî Ṣâliḥ Nîsân 1928 [April 1928], 22–3).

52 'Her meslekdaş, şu çok sevdiğimiz memleketin birer köşesinde kendi başına bir ampul yakan bir alektrik bataryası gibidir. Fert ne kadar kuvvetli olursa olsun nehayet kendi önünü görebilecek kadar bir ışık doğurur. Daha fazla için mutlaka birleşmeleri lazımdır. İşte biz; bu bataryaları, aralarına tel gererek birbirine rapt etmeye oğraşıyoruz. O zamandırki: hepi-

rejection. For instance, right after the creation of the first Ottoman veterinary association in 1908, a veterinarian from Trabzon named Yusuf Ziya sent a thank you letter, as he had truly begun to lose all hope: 'At a time when our profession was on the brink of extinction, the news of the creation in Istanbul of a veterinary association capable of revitalising and advancing it resonated throughout the provinces and brought us back to life.'[53] In a similar fashion, a forestry engineer from Bursa named Fikri celebrated the publication of *Forestry and Hunting*'s first issue in 1928, saying that this journal would henceforth unite colleagues dispersed throughout the country and foster solidarity: 'From now on, no forestry engineer will consider himself alone in his endeavours. He will have confidence in the existence of a body of colleagues who think like him and who work like him […].'[54]

Although agronomists, forestry engineers, and veterinarians published numerous articles in the mainstream press to target wider audiences, the professional journals they launched, especially the public-facing ones, became the primary channel for educating the public about their expertise.[55] These journals were intended to foster scholarly debates within the expert community, but also to encourage scientific communication with the lay public. Indeed, many experts published articles in simple and plain language 'that anybody and even the peasants can understand,'[56] and answered all kinds of questions from the readers, 'be they canary or drayhorse owners' and 'from those keeping a small garden to those who manage large farms.'[57] Nonetheless, experts' prime objective remained using the journals to build up their legitimacy externally.

To bolster their authority, experts used a rhetoric of science. Their papers relentlessly stressed the range of knowledge they needed to accumulate and the diplomas they needed to collect to become the experts they claimed they were. Their fondness for credentialism, one of the three factors that characterise a profession according to Eliot Friedson,[58] was aimed at restricting access to their respective professions by raising the barriers that needed to be cleared for entry to the 'field' (*champ*), thereby disqualifying non-experts lacking this specific capital.[59] Articles also provided detailed descriptions

mizin önümüzü görmesine kâfi kuvvetli bir ışık yakmış olacağız. Ve o zemandırki: şimdiye kadar ihmal edilmiş olan meslek efkârı umumiyesini hörmet etmiş ve onu dinletmiş olacağız' (Anonymous 1 Teşrini evvel 1930 [1 October 1930], 2).

53 'İşte bu derece iẓmiḥlâle uġrayan meslek-i bayṭarîniñ teraḳḳî ve teᶜâlîsini mûcib olacaḳ mâddeleri müẕâkere étmek üzere bu kere Dersaᶜâdetde bir Cemᶜiyet-i ᶜilmiye-i bayṭariye te'sîs édildigi ḫaberi ṭaşralara müjde-i ḥayât gibi intişâr étdi' (*Mecmûᶜa-i fünûn-ı bayṭariye* 1 Eylül 1324 [14 September 1908], 26).

54 'Bundan ṣonra hîç bir ormancı, meslekî emellerinde kendisini yalñız ᶜadd étmeyecekdir. Kendisi gibi düşünen bir kitleniñ kendisi gibi çalışan meslekdaşlarıñ varlığına inanacaḳ […]' (Fikri Mârt 1928 [March 1928], 22).

55 On the relationship between journals and the public legitimacy of scientific enterprise, see Csiszar 2018.

56 Anonymous 30 Mârt 1325 [12 April 1909], np.

57 Meḥmed Kemâl 1 Teşrin-i s̱ânî 1315 [13 November 1899], 2.

58 Friedson 1986.

59 Bourdieu 1976.

of their day-to-day activities such as researching new vaccines, which veterinarians thought laymen could not even fathom doing. These written enactments of expertise were supposed to demonstrate not only the complexity of the tasks they needed to perform, but also their inaccessibility to laypeople. The tone of their articles tended to be highly pedagogic since they sincerely believed that the lack of recognition resulted from ignorance rather than from snobbishness or anti-intellectualism.

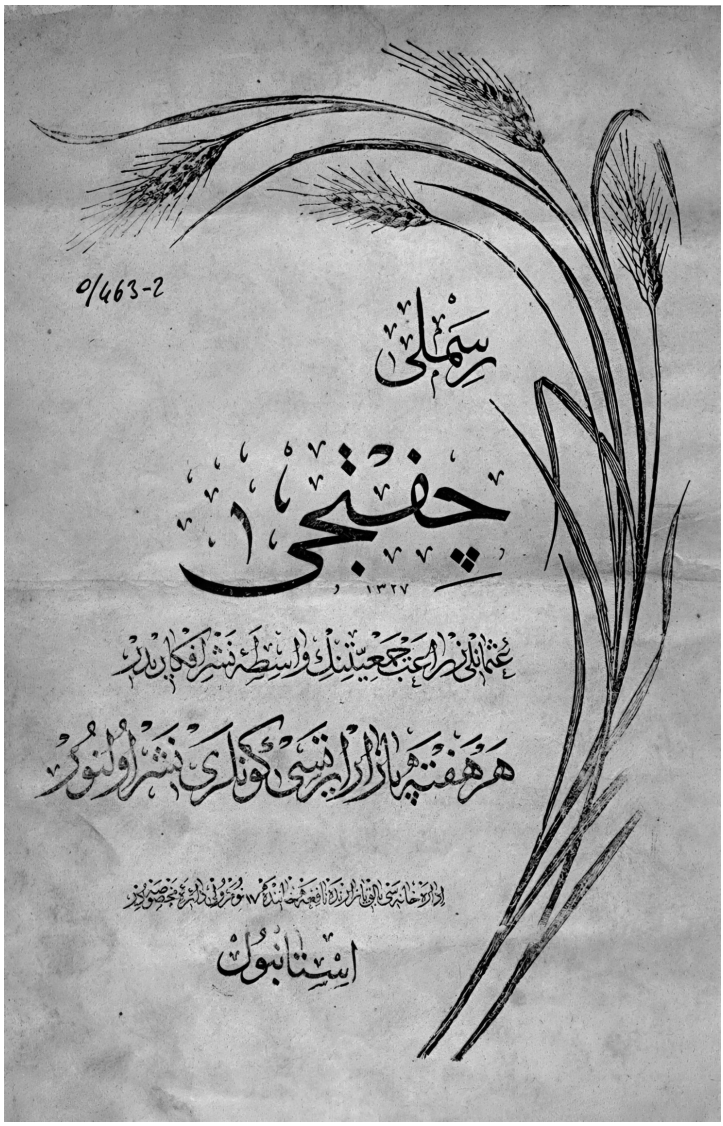
Some experts also drew strength from their past academic mobility. Indeed, many had studied in France and in Germany. They did not shy away from stressing that their competencies were acquired in prestigious European schools. They also often published articles right after attending international conferences abroad. Showing off their ties with foreign scientific institutions and learned societies, either explicitly or more discreetly (by putting the name of their alma mater after their signature, for instance) fulfilled one main objective: demonstrating that they were members of global networks of expertise. The reason is that, historically, expertise was associated with foreignness in the Ottoman Empire. The influx of foreign experts began in the 18th century, first in techno-military domains such as naval engineering, then expanded to other fields.[60] The importation of foreign expertise also marked the beginnings of the disciplines I work on; one of the first foreign experts called into the Ottoman Empire was the Prussian army veterinarian von Godlewsky in 1841.[61] The American agronomist James Bolton Davis, who taught at the first (and ephemeral) agricultural school (*Zirâʿat taʿlîmḫânesi*) established in Ayamama in 1847, followed him,[62] and then the French forestry engineer Louis Tassy, who directed the Forestry School (*Orman mektebi*) created in Istanbul in 1857.[63] As Ottoman agronomists, forestry engineers, and veterinarians thought that their foreign diplomas would be less likely to be called into question than those acquired in their home country, they regularly advertised them in an attempt to command higher esteem. This is also an observation shared by Darina Martykánová regarding engineers:

> […] it was much easier for a foreign practitioner to achieve recognition as an engineer than for an Ottoman to do so. […] For the Ottomans, the credential system represented the easiest option: studying abroad was a way of acquiring a share in the prestige granted by the knowledge that was identified as both modern and foreign.[64]

This was not merely a strategy followed by a few experts to burnish their own personal images. Associations also resorted to the same strategy and advertised their members' foreign credentials as they considered the accomplishment of one to be an accomplishment for all. For example, *The Farmer Illustrated* (*Resimli çiftci*), the official organ of

60 On earlier accounts of foreign expert recruitments, see Bostan 1994; Martykánová 2016–2017; Yalçınkaya 2014; Zorlu 2008.
61 Bekman 1940.
62 Yıldırım 2008.
63 Kutluk 1943.
64 Martykánová 2010, 117.

Figure 3. The first issue of the Farmer Illustrated (Resimli çiftci) published by the Ottoman Agricultural Association (ʿOsmânlı zirâʿat cemʿiyeti)



the Ottoman Agricultural Association (*ʿOsmânlı zirâʿat cemʿiyeti*), sought to enhance all agronomists' prestige by appealing to their years of study abroad (Figure 3):

> Among these people, who belong to one of the purest and most honourable occupations in the world, there are many who have studied for years in the most prestigious

agricultural schools of Europe and have seen and learned firsthand the marvellous advances and developments in agriculture there.[65]

Forestry engineers were the least active in terms of associative and printing activities. They had only one main association, which was created on 26 December 1924 by Abdülkadir Sorkun, Tevfik Ali Çınar (1900–1963) and Asaf Irmak (1905–1996). Dubbed 'Forestry School Alumni Association' (*Orman mekteb-i ʿâlîsi me'ẕûnîn cemʿiyeti*) at first, it was renamed 'Turkish Foresters' Association' (*Türkiye Ormancılar Cemiyeti*) in 1930.[66] This change of name also corresponded to a shift in the nature of the organisation, which morphed from an alumni association into a professional one. Its official organ, *Forestry and Hunting*, published form 1928 onwards, is still active today.

The creation of this journal was seen as an important step forward. However, in later years, forestry engineers questioned the association's lack of energetic action. For instance, Yakup Apanay thought that the association was only interested in collecting money (*aidat toplamaktan başka bir şey yapmıyan cemiyet*) and compared the difficulty of getting the association to take actual action to the difficulty of safely reaching the stratosphere (*stratosfere çıkmak gibi zor iş)*.[67] His colleague Mehmet Ali Salih also pointed out that forestry engineers were left behind in the fight for their profession's rights, saying that other experts such as the alumni of the School of Medicine (*Tıbbiyeli*), the alumni of the School of Public Administration (*Mülkiyeli*), and even agronomists were better at promoting themselves, pointing out specifically the example of agronomist Cevat Rüştü Öktem, who relentlessly published easily accessible articles on the importance and merits of his field of expertise in mainstream newspapers such as *İkdam*. He believed that in the modern era, it was no longer 'rigour' (*ciddiyet*) that was valued, but 'smooth-talking, showmanship, and promises' (*lâfa, gösterişe ve söze kıymet veren bir asır*) and that this was precisely why his colleagues needed to pursue aggressive propaganda campaigns to promote themselves instead of 'pulling into [their] shell like a turtle' (*kaplumbağa gibi kabuğumuzun içerisine büzülerek*).[68] In short, according to Mehmet Ali Salih, recognition of expertise could only be won through performance.

For agronomists and veterinarians, the situation was very different. No fewer than eight veterinary associations were created between 1908 and 1928.[69] The first was the

65 'Dünyânıñ eñ temîz ve eñ nâmûskâr bir ṣanʿatına mensûb olan bu ẕevât arasında senelerce Âvrûpâda eñ ʿâlî zirâʿat mekteblerinde taḥṣîlde bulunmuş ve zirâʿatiñ şâyân-ı ḥayret teraḳḳiyât ve tekemmülâtını yaḳından görüb ögrenmiş bir çoḳ kimseler bulundıġı gibi […]' (Anonymous 30 Mârt 1325 [12 April 1930], 2).

66 It ultimately took the name 'Türkiye Ormancılar Derneği' in 1972, the word *cemiyet* being replaced by *dernek*, both meaning association.

67 Yakup Apanay 1933, 14.

68 Salih Şubat 1937 [February 1937], 47–50.

69 The establishment of a constitutional regime in 1908 precipitated the creation of two other associations. The first, called the 'Association for the Progress and Mutual Aid of Civilian Veterinarians' (*Mülkiye bayṭarları ittiḥâd ve teʿâvün cemʿiyeti*), presented itself not as a competitor to the Veterinary Science Association, but as its ally (*şurası iyice bilinsünki cemʿiyetimiz cemʿiyet-i ʿilmiyeniñ raḳibi degil*). See *Mecmûʿa-i fünûn-ı bayṭariye* 1 Şubâṭ 1324 [14 February

Veterinary Science Association (*Cemʿiyet-i ʿilmiye-i bayṭariye*), whose mission was to encourage advancements in veterinary medicine and defend Ottoman veterinarians' rights. Its official organ, the *Veterinary Science Review* (*Mecmûʿa-i fünûn-ı bayṭariye*) published 24 issues before disappearing in 1910. Similarly to the veterinary associations, we can track the establishment of the first agronomic association to the immediate aftermath of the Young-Turk Revolution of 1908, which ended sultan Abdülhamid II's authoritarian regime, injected an air of freedom into the empire, and allowed for the creation of associations, their existence being given legal status with a law passed in 1909.[70] Although agronomic societies were less numerous than their veterinarian counterparts,' agricultural journals were plentiful (over twenty before the empire's demise), the first one being *Means of Wealth* (*Vâsıṭa-i servet*) published from 1880 onwards.[71]

Veterinarians did not stop at publishing articles to promote their expertise. They went on to demand legal action for its official recognition. For instance, from the 1890s onwards, they demanded the institution of a monopoly resembling that of medical doctors to bar farriers from the exercise of the veterinary profession. Physicians had held a monopoly over the practice of medicine since 1861; only graduates of the Imperial School of Medicine (*Mekteb-i ṭıbbiye-i şâhâne*) or of foreign faculties of medicine were authorized to practice.[72] Veterinarians wanted the same privilege because they saw no difference between a doctor without a diploma and a veterinarian without a diploma; in their eyes, quacks in both domains presented the same danger to public health (Figure 4).[73]

The monopoly enjoyed by Ottoman doctors was undoubtedly a source of envy for veterinarians. However, the question posed by Méropi Anastassiadou-Dumont regarding physicians remains equally relevant for veterinarians: 'Is it sufficient for a state to outlaw empiricists and charlatans for the population to immediately abandon them and render them unemployed?'[74] This query highlights the complexities of establishing professional dominance, as evidenced in 19th-century Spain. There too, veterinari-

1909], 351–2. As for the army veterinarians, they founded the General Association for the Progress and Mutual Aid of Army Veterinarians (*ʿAskerî bayṭarları teraḳḳî ve teʿâvün cemʿiyet-i ʿumûmîsi*) in 1908 and published the *Journal of Military Veterinary Medicine* (*ʿAskerî cerîde-i bayṭariye)*. See Etker 2013. Finally, Berfin Melikoğlu Gölcü and Sezer Erer report the creation of four other veterinary associations before the fall of the empire: the Civil Veterinary School Alumni Association (*Mülkiye Baytar Mekteb-i Âlisi Mezunin Cemiyeti*) created in 1911, the Association of Provincial Veterinarians (*Taşra Baytarî Cemiyeti*) in 1911, the Students Association of the Civil Veterinary School (*Mülkiye Baytar Mekteb-i Âlisi Talebe Cemiyeti*) in 1919 and the Association of Turkish Veterinarians (*Türk Baytarlar Birliği*) in 1920. See Melikoğlu Gölcü and Erer 2013. Another association seems to have been created in Mersin for provincial veterinarians (*Taşra Baytarları İttihad ve Teavün Cemiyeti*). See Polat 2013, 64.

70 Toprak 1985.

71 For a more detailed account on these journals, see Demir 2014.

72 *Gazette médicale d'Orient* February 1863, 174.

73 *Servet-i fünûn* 14 Teşrîn-i sânî 1312 [26 November 1896], 190.

74 'Suffit-il qu'un État interdise empiriques et charlatans pour que la population les condamne aussitôt au chômage?' (Anastassiadou-Dumont 2003, 11).

Figure 4. Ahmet Nevzat Tüzdil's (1900–1965) diploma as exhibited at the Prof. Dr. Ferruh Dinçer Museum of the History of Veterinary Medicine in Ankara

ans (*veterinarios*), a new but growing social group since the founding of the Veterinary School of Madrid (*Escuela de Veterinaria de Madrid*) in 1793, sought to displace the historically entrenched farriers (*albéitares*) to monopolise the knowledge and practices of animal medicine. This jurisdictional battle extended into the realm of publications. *El Eco de la Veterinaria* (1853–1859) advocated for the scientific nature of veterinarians, contrasting it with the naïve empiricism of their rivals. It declared that veterinary medicine differed from *albeitería* 'as much as chemistry differs from alchemy' and that equating the two was akin to confusing 'the bright radiance of the sun with the pale glow of the moon.' In contrast, the journal *El Albéitar* (1853–1855), voiced the farriers' protests against being relegated to a subordinate status. Interestingly, an 1802 royal decree had already granted veterinarians comprehensive authority over all activities related to animal medicine. However, the limited number of formally trained veterinarians at the time allowed farriers to continue practicing veterinary medicine. These tensions prompted new legislative measures, including an 1847 decree which abolished the issuance of *albéitar* titles. Despite these legal efforts, both the public and state officials continued to consult and rely on farriers. Joaquín Riu highlighted this issue

in 1854, lamenting that the political chief of the province of Guadalajara had recently appointed an *albéitar* as subdelegate, despite a first-class veterinarian also seeking the position. While veterinarians criticised such appointments, farriers defended their role; Blas Cubells, for example, argued that their long-standing practices had the force of law, emphasizing that 52 years had passed since 1802, during which *albéitares* had carried out their duties without opposition. The case of Spanish veterinarians illustrates that achieving a monopoly does not automatically result in the swift eradication of rivals in practice or public perception.[75]

Later, taking advantage of the political context, veterinarians in Turkey attempted to legally change their professional title to leave the semantically ambiguous and occasionally embarrassing *baytar* in the past. Indeed, a new Turkish phonetic alphabet was introduced in 1928. The replacement of Arabic and Persian characters by Latin characters was intended to eradicate illiteracy, secularizes the country, and elevate it to the rank of 'modern' nations.[76] This alphabetical revolution was later accompanied by a lexical purge. The Society for the Study of the Turkish Language (*Türk Dili Tetkik Cemiyeti*, TDTC), founded on 12 July 1932, was entrusted with the mission of cleansing the language of words that the Ottomans had borrowed extensively from Arabic and Persian.[77] It was in this climate that the Turkish Veterinarians' Association tried to consign the word *baytar* into oblivion. Arguing that the term was of Arabic origin, the association members appealed to the TDTC for its official substitution by *veteriner*. Simultaneously, ex-veterinarians-turned-deputies pushed the same agenda at the TBMM. What may seem like a paradox in their reasoning from the point of view of the lexical purge (they did not propose a Turkish alternative to *baytar* but a word of Latin origin (which itself was revived in France to distinguish veterinarians from farriers)[78] is not paradoxical from the perspective of their struggle for recognition. Veterinarians were indeed less interested in the Kemalist government's linguistic policies and more interested in bolstering their public image. And, in their view, *veteriner* was capable of commanding greater respect both inside and outside of the country: 'We are convinced that replacing the word *baytar*, which has no place in our language, with *veteriner* will exert a positive influence on colleagues and on our representation abroad.'[79] With an

75 Gutiérrez García 2013.

76 Caymaz and Szurek 2007.

77 It was renamed the 'Turkish Language Association' (*Türk Dil Kurumu*, TDK) in 1936.

78 While veterinarians in Turkey were fighting to get the same title as veterinarians in France, their colleagues in France were battling to get rid of *vétérinaire* and replace it with *docteur* since *vétérinaire* was used as an insult in the French press and political discourse: politicians were frequently called 'braying vets' and 'spineless vets' or, worse still, the doubly stigmatising expression 'sub-veterinarians.' For further analysis of the differences of perception of the word *vétérinaire* in Turkish and French contexts, see Tanık 2024, 364–72.

79 'Lisanımızla hiçte alâkası olmıyan Baytar kelimesinin yerine Veterinerin konulmasının meslekdaşlar arasında ve hariçte çok iyi bir tesir hâsıl edeceğine kaniiz' (*Türk Baytarlar Cemiyeti Mecmuası* 25 Ağustos 1933 [25 August 1933], 62).

internationally recognized word – a title they would share with their European counterparts – their scientific expertise could become immediately visible.

3. Proving One's Worth

> After all, the homeland is land. And, agriculture is the development of lands, and therefore of the homeland. This means that service to agriculture is service to the homeland.[80]

3.1 Too Much Work, Too Little Money

Agronomists, forestry engineers, and veterinarians did not just want their scientific expertise to be recognised; they also thought it should translate into more economic capital and higher social standing. They shared the opinion that they had highly demanding jobs, which were not only intellectually challenging, but also physically and emotionally draining. They needed to travel all around the country to deal with farmers, to examine and treat animals, and even to live in isolation near forests. Indeed, not all experts worked in the comfort and security of Istanbul's specialised schools and research laboratories surrounded by family. Many operated in remote areas. In 1928, Fikri shared with his readers the difficulties inherent to his profession. He believed forestry engineers like himself were more deserving than any other professional body because they lived under dreadful circumstances to provide their expertise – circumstances he judged to be more dangerous than those faced by law enforcement officers:

> Since a forester, regardless of his title and rank, is an individual who spends his time in the mountains and works in arduous and dangerous forests, his duties are not comparable to the duties of civilian public servants working in cities, and even that of policemen and gendarmes. Just as there is a difference between crowded cities and desolate forests, there is an equally great contrast between the duties and capabilities of forestry engineers and other officials. The forester, who is tasked to protect the nation's heritage up in the mountains and to manage this great wealth for the sake of the nation, must have a heart braver than anyone else, a mind sharper than anyone else, and a voice louder than any other voice.[81]

80 'Z̲âten vaṭan; ṭopraḳ démekdir. Zirâʿat ise ṭopraġı binâ'enʿaleyh vaṭanı iʿmâr étmek démekdir. Démek oluyorki zirâʿate ḥidmet vaṭana ḥidmetdir' (Anonymous 15 Mârt 1329 [28 March 1913], 1).

81 'Ormancı, her ne ṣıfat ve rütbede olursa olsun, daġlarda vaḳit geçiren, ṣarp ve tehlikeli ormanlarda çalışan bir insân oldığından icrâ'-yı vaẓîfeleri şehirlerde çalışan sîvîl me'mûrlarıñ ve ḥattâ pôlîsleriñ ve jândârmalarıñ bile icrâ'-yı ve inẓibâṭî vaẓîfeleriyle ḳâbil-i tevfîḳ degildir. Ġalabalıḳ şehirlerle, ışṣız ormanlar arasında ne farḳ varsa, diger me'mûrlarıñ vaẓîfe ve ṣalâḥiyetleri arasındada o ḳadar büyük farḳ vardır. Bunuñ içündürki, milletiñ emânetini

Two years later, Enver, a veterinarian of eighteen years, published an article in the *Journal of the Turkish Veterinarians' Association* to testify about his situation, which he believed was also reflective of that of his colleagues. He began his testimony by stating that the first quarter of a veterinarian's life is idyllic as he spends it 'studying and dreaming of a bright future behind wooden school benches.' Yet, the disenchantment comes soon after graduation:

> The rest of our lives is spent far from the houses of science, on the summits of stormy mountains, under a hollow tent, on a wooden cot, or simply lying on the bare ground... Listening to the grievances of poor peasants in remote villages by the light of kindling or under the dim, trembling light of a kerosene lamp emitting black smoke... Sleeping under blackened quilts covered with lice... Forcing ourselves to hear lullabies in snowstorms and thunderstorms... To see lacquer gold in the mud covering animals' bodies... And to getting used to working under the biting cold weather, rain, and snow…[82]

Enver adds a final note to his dreary depiction of veterinarians' lives: they must endure all of this for only a few pennies (*bir kaç kuruş*).

On top of these harsh working conditions, the number of experts was low and consequently, the workload was heavy. For instance, in 1908, there were only 180 civilian veterinarians operating in the Ottoman Empire, whereas France had 4,000 and Bulgaria, which was comparable in size to a single Ottoman vilayet, counted 150 in the same year.[83] This problem persisted in the Republican regime; according to the figures reported by veterinarian Saip Ali, in 1932, there was only one veterinarian for every 4,000 square kilometres.[84] Agronomists also routinely bemoaned their own short supply. Even as late as the 1960s, speakers at an agronomic congress organised in Ankara were still pointing out the shortage of agronomists, such as the dean of the Faculty of Agronomy at Ankara University Sabahattin Özbek (1915–2001), who, while reminiscing about the past, deplored the treatment given to agronomists, whose number, he mentioned, did not exceed a hundred at the beginning of the century.[85]

Despite these conditions, scientific experts were paid low wages. In 1908, new veterinary graduates were supposed to earn 675 piastres as set by the government, but,

daǧlarda muḥâfaẓaya ve bu büyük s̱erveti millet ḥesâbına idâre ve işletmege me'mûr olan ormancınıñ yüregi herkesden ṣaǧlam, ḳafâsı herkesden ḳuvvetli, sesi bütün seslerden daha gür olmalıdır' (Fikrî Nîsân 1928 [April 1928], 20–1).

82 'Dörtde üçünü… Fen, ilim yuvalarından uzak fırtınalı dağ başlarında delik bir çadır altında, tahta bir karyola veya toprak üzerinde… Balçık köylerde bir çıra ışığında veya is püsküren bir idare lambasının sönük ve titrek ziyası altında perişan köylülerin dertlerini dinlemekle… Sim siyah bitli misâfir yorganlarının altında yatmakla geçirecek… Kar fırtınalarını, gök gürültülerini ninni… Hayvanın göysüne kadar çıkan çamurları yaldız gibi görecek… Yakıcı suuklar, yağmurlar ve kar altında çalışmağa alışacak…' (Enver 30 Birinci Kânun 1930 [30 December 1930], 19).

83 *Mecmûʿa-i fünûn-ı bayṭariye* 15 Teşrîn-i evvel 1324 [28 October 1908], 98.

84 *Türk Baytarlar Cemiyeti Mecmuası* 1 Temmuz 1932 [1 July 1932], 110.

85 Ankara Ziraat Odası 1964, 28–9.

in reality, entry level-jobs were paying only between 300 and 400 piastres a month,[86] which was quite similar to the salary of a worker with no diploma.[87] Their despair did not disappear during the early Republican period: in 1925, new graduates of veterinary schools received only 350 piasters a month instead of the promised 750.[88] They could not stand that medical doctors were paid twice their salary (a veterinarian working at Palu near Elazığ was paid 70 liras in 1930 for instance, while a doctor posted in the same region received 150 liras), as they believed that they were doing the same job, they on animals, and doctors on humans.[89] They found it even more intolerable when primary school graduates or civil servants with no scientific expertise, such as secretaries, earned as much as experienced veterinarians.[90] Some agronomists also highlighted the issue of low salaries, with Fazıl Keyder even mentioning colleagues assigned to remote provinces who were left to wander 'half-starved and penniless.'[91] Forestry engineers, who thought their actual number was only one fifth of that required to manage Turkish forests,[92] argued that their salaries were compatible neither with their qualifications nor with their workload: 'Forestry engineers are very few compared to the size of the forests and their salaries are very low when measured against the difficult tasks they perform.'[93] As Selçuk Dursun notes, at the start of the 20th century, only 10% of foresters earned a monthly salary of more than 500 piastres.[94] This trend persisted under the Republican regime. Forestry engineer Esad Muhlis Oksal (1888–1970), trained in Germany at the Eberswalde Forestry Academy (*Forstakademie Eberswalde*) between 1910 and 1916, earned 80 liras in 1937 while serving as a docent, a faculty rank just below full professor. While veterinarians expressed dissatisfaction with their monthly salary of 70 liras in 1930, particularly when compared to the 150 liras earned by doctors during the same period, it can be argued that foresters would have faced similar financial challenges as veterinarians.

86 *Mecmûʿa-i fünûn-ı bayṭariye* 15 Teşrîn-i evvel 1324 [28 October 1908], 99.

87 In 1908, the average worker in the Ottoman Empire received 11.29 piasters for a day's work (Makal 1997, 186–7). If we assume that he works 30 days a month, we can estimate his monthly salary at 338.70 piasters. In comparison, this means there is no noticeable gap between his salary and that of veterinary surgeons.

88 *Bayṭarî mecmûʿa* Ḥazîrân 1341 [June 1925], 438.

89 *Türk Baytarlar Cemiyeti Mecmuası* 30 Birinci Kânun 1930 [30 December 1930], 28.

90 *Türk Baytarlar Cemiyeti Mecmuası* 15 Nisan 1930 [15 April 1930], 90.

91 'Vilâyetlerde ziraatçi olarak gönderilen birçok arkadaş […] yarı aç, sefil dolaşırlardı' (Tunçer 1958, 56).

92 *Orman ve Av* Mayıs-Haziran 1937 [May–June 1937], 252.

93 'Orman memurları, ormanların genişliğine göre pek az olmakla beraber gördükleri müşkül vazifeye nazaran maaşları pek azdır' (Köstem 26 Mayıs 1936 [26 May 1936], 7).

94 Dursun 2007, 211.

3.2 Dynamos of the Economy

In an effort to address what they perceived as an ongoing 'crisis' of recognition and compensation, experts employed rhetorical strategies targeting both public opinion and the state, their primary employer. Their arguments focused on establishing their indispensability to society, asserting that by demonstrating the utility and essential nature of their scientific knowledge, they could validate their professional worth. The crux of their most frequent claims was related to their contribution to the economy. Agronomists appropriated the discourse of the time and defended the idea that the Ottoman Empire was a textbook agrarian country (*zirâʿat memleketi*) and that agriculture was the backbone of the country's economy. They argued that, thanks to its geographical location and climate, the country had extremely fertile lands. They also pointed out that the country's economy was highly dependent on agriculture because most of its inhabitants derived their income from agriculture, most taxes such as the tithe were levied on agriculture,[95] and agricultural products represented the majority of goods exported abroad. Since one of agronomists' main duties was to research new ways of scientifically increasing agricultural productivity, they argued that their expertise should therefore be considered vital for the country and accordingly highly valued.

Veterinarians argued that the Ottoman Empire was as much a country of livestock farming (*ḥayvâncılıḳ memleketi*) as an agrarian country. Mehmet Nuri Ural (1869–1942), who was trained near Paris at the Alfort School of Veterinary Medicine (*École nationale vétérinaire d'Alfort*), argued that, even though they dominated the market, agricultural products were cheap. Unlike animal-based products, they were not profitable enough and did not allow farmers to make a good living: 'The value of all our animals is worth millions of liras. […] Among our farmers – except for a few rare cases – there is no one who becomes rich by simply working the land. Yet, there are many who get rich off of livestock.'[96] In fact, according to the editors of the *Journal of the Turkish Veterinarians' Association*, livestock and animal-based products were worth 500 million liras in 1930, and their export abroad brought nearly 40 million liras to the Turkish economy.[97] Considering that in 1930 Turkey's entire exports were worth 152 million liras, this meant that animal-based products represented around one fourth of total exports.[98] Veterinarians argued that their scientific expertise should be compensated in keeping with the value they added to the Ottoman/Turkish economy as they were the ones reducing or preventing the loss of animals due to infectious and parasitic diseases and improving animal welfare and livestock productivity.

95 Tithe revenues accounted for 27.1% of all tax revenues in 1887–1888 and 25.0% in 1910–1911. Animal tax (*ağnam*) revenues contributed respectively 11.5% and 7.6% in the same periods (Pamuk 2005, 100; Shaw 1975, 451–3).

96 'Ḥayvânlarımızıñ hey'et-i ʿumûmiyesiniñ ḳıymet-i mâddiyesi bir çoḳ mîlyôn lîrâları geçer. […] Memleketimiz zirâʿatcilerinde - pek azı müsteṣnâ olmaḳ üzere – rencberlikden zengîn olan yoḳdur. Faḳaṭ ḥayvâncılıḳdan zengîn olanları pek çoḳdur' (Nûrî 1928, 98).

97 *Türk Baytarlar Cemiyeti Mecmuası* 1 Teşrini evvel 1930 [1 October 1930], 11.

98 Özkardeş 2015, 32.

In their writings, forestry engineers focused on all the products and practices in the daily life of the era that had to do with wood and timber, be it constructing buildings, heating them, cooking food, or warming up water. That is why they depicted wood as one of the most essential human needs (*iḥtiyâcât-ı beşeriye*), like water or air, in an article published in 1894, a theme carried forward into the future.[99] Needless to say, wood was also important for industrial purposes, to fabricate anything from paper to tools used in factories and railroad ties. In 1936, the same narrative still stood firm: 'What institution, what artisan is there that is not dependent on forests? The great cities, factories, armies, scholars you see are all dependent on the forest. They should be grateful to the forestry engineers.'[100]

3.3 Custodians of Life, Nature and Memleket

Experts also had in their arsenal arguments that insisted on the essentiality of their competencies without being solely focused on their added value for the economy. Agronomists and veterinarians argued that they were the ones who guaranteed food availability and safety. While agronomists emphasised their responsibility in preventing and curing plant diseases that can devastate crops and even lead to famine, veterinarians stressed the importance of their role in inspecting meat hygiene at slaughterhouses, and in controlling, preventing, and curing animal diseases such as the rinderpest, a contagious viral disease with a very high mortality rate that mainly affects cattle and buffalo, which provoked numerous epizootic outbreaks throughout the empire (over 50,000 animals succumbed to the disease in the vilayet of Aydın in 1894 for instance, while over 30,000 animals died in Yozgat in 1898).[101]

Veterinarians also stressed that physicians alone could not protect humans' health because their health was inextricably linked to that of animals. They knew, as we have recently experienced, how dangerous zoonoses could be given their potential to turn into deadly pandemics. As veterinarians were the ones researching and producing vaccines and serums against animal diseases that could potentially pass on to humans, such as at the Imperial Bacteriology Institute (*Bakterîyôlôjîḫâne-i şâhâne*) first established in 1893,[102] they argued they had to be given more credit for their work. Nine years after the outbreak of the Spanish flu, one of the most severe pandemics in world history, veterinarian Ahmet Nevzat Tüzdil insisted on the vital role of veterinarians in society:

> Just as diseases can be transmitted between animals, they can also be transmitted to humans, and these are the deadliest for humans. Thus, by fighting animal diseases and minimising the risks of contamination, veterinary medicine protects human

99 R. Ferîd 15 Mârt 1310 [27 March 1894], 372–3.

100 'Hangi müessise, hangi sanatkâr var ki Ormana mühtaç olmasın? Gördüğünüz muazzam şehirler, fabrikalar, ordular, âlimler hep Ormana mühtaçtır; Ormancılara müteşekkir olmalıdırlar' (Anonymous 1931, 27).

101 Dr. Réfik-Bey and veterinarian Réfik-Bey July 1899, 599.

102 For more information on this institute, see Karacaoğlu 2020.

> health. For this reason, veterinary medicine has a central place and plays an important role in public health.[103]

Because of their role in public health, veterinarians contended that they were deserving of the same prestige as medical doctors. Some veterinarians even argued that their recognition should top that of physicians. For instance, Mehmet Nuri Ural argued that animal medicine was far more complex than human medicine, a kind of 'multiple medicine' even (*müteaddid bir ṭabâbet*); for physicians, the job consisted in treating a single kind of living being, whereas veterinarians had to master the anatomy and physiology of numerous animal species, each having their own specific diseases (*her cins ḥayvânıñ teşrîḥi, ef'âl-i ḥayâtiyesi, bilḫâṣṣa emrâż-ı birbirinden farḳlıdır*).[104] His colleague Ahmet Nevzat Tüzdil went even further, asserting that human medicine was merely a branch of animal medicine. He proceeded by syllogism: man is an animal, yet veterinary medicine aims to treat animals; therefore, veterinary medicine also encompasses medicine for humans. In his thinking, it was conversely human medicine that had to be in a subordinate position:

> According to the natural sciences, Man belongs to the animal kingdom. So, just as veterinary medicine is divided into branches, each dealing exclusively with bovine diseases, canine diseases and so on, human medicine, like these branches, deals with the characteristics, diseases and so on of a particular group of animals, and so we see that, from a scientific point of view, human medicine is only a branch of veterinary medicine.[105]

As for forestry engineers, they put forward ecological arguments to prove their indispensability. They stressed the harmful consequences of deforestation on humans and argued that forests averted floods by sucking up heavy rains, reduced soil erosion, and regulated the climate, making winters smoother and summers less torrid.[106] Since they were those who protected standing forests, developed scientific methods to foster regeneration and growth, and guided logging operations for them to be sustainable, their importance to conserving nature, and consequently to conserving human life, was immense in their view.

103 'Ḥayvânâtıñ bir çoḳ ḥastalıḳları birbirine intiḳâle müsteʿid oldığı gibi insânlarada geçebilir ve insânlarıñ eñ mühlik ḥastalıḳları şırasında olur. İşte ṭabâbet-i bayṭariye bu noḳṭada, o ḥayvânı ḥastalıḳla mücâdele éderek sirâyetiñ önüne geçmekle, bu serîrî sâḥada ṣıḥḥat-ı beşeri vikâye éder. Onuñ içündürki ṭabâbet-i bayṭariyeniñ ḥıfẓ üş-ṣıḥḥa-yı beşerdede ehemmiyetli bir mevḳiʿi, mühim bir rôlı vardır' (Âḥmed Nevzâd 1927, 104).

104 Nûrî 1928, 101.

105 'İnsânlarda ʿulûm-ı ṭabîʿiye noḳṭa-i naẓarından zümre-i ḥayvânîyeye dâḫildir. O ḥâlde bayṭarlıḳda naṣıl yalñız emrâż-ı baḳariye, emrâż-ı kelbiye ve sâ'ire… İle iştiġâl éden ṣuʿabât varsa beşerî ṭabâbet daḫi ʿaynen bir zümre-i ḥayvâniyeniñ ṭabâyiʿ, emrâż ve sâ'iresiyle meşġûl démekdir görülüyorki ʿilmen beşerî ṭabâbet, ṭabâbet-i bayṭariyenin bir ṣuʿbesidir' (Aḥmed Nevzâd 1927, 103).

106 Ömer N. Köstem 26 Mayıs 1936 [26 May 1936], 7.

As their last rhetorical strategy, agronomists, forestry engineers, and veterinarians painted themselves as selfless servants motivated by nothing other than 'care for the homeland' (*vaṭan ḳayġusı*). They put forward values of service, courage, and sacrifice to command more esteem. Veterinarians painted their expert profession as a dangerous one. While making demands to improve their working conditions, pay cheques, and overall public perception, they regularly drew attention to the losses they had to endure and commemorated their colleagues who died fighting for the nation's prosperity. For instance, two army veterinarians named Ahmet and Hüdai contracted glanders, an infectious disease that affects equids but also transmissible to humans, while performing a serodiagnosis in 1928 and died shortly after.[107] They were called 'martyrs,' 'killed in the name of science and duty,' and their families received 2,500 liras each from the state, much like the family members of fallen soldiers killed in action.[108] These two deaths, followed by other losses such as that of veterinarian Kemal Cemil in 1934 in Paris while he was trying to find a cure for glanders at the Pasteur Institute, really epitomized veterinarians' sense of duty and became a forceful argument in their struggle to achieve a more highly regarded expert status.[109] Originally interred in Thiais, his remains were exhumed and repatriated to Turkey in 1939 aboard the French ship *Théophile-Gautier* in a metal coffin draped with the Turkish flag. Kemal Cemil was ultimately laid to rest in the Karacaahmet Cemetery beside his former teacher Ahmet, whose tragic fate he had also encountered. A ritual developed around these influential figures, leaving a lasting mark on the collective memory of veterinarians. Each year, on April 2nd, they would gather in a solemn procession to the Karacaahmet Cemetery, where they would honour their fallen colleagues who dedicated their lives to science by laying flowers on their graves. Similarly, but to a lesser degree, forestry engineers pointed out that their expertise could be dangerous at times by putting forth the colleagues who were harmed during forest fires, such as İzzettin Kıvanç, suggesting that 'a cash award and a certificate of appreciation would be fitting to honour this dedicated forester.'[110]

Experts regularly drew comparisons with the military, the one profession that the public could almost unanimously agree on regarding its indispensability and the level of sacrifice it demanded given the context of the time. Indeed, during the height of the professionalisation process of these three domains (1890s–1930s), the Ottoman Empire endured numerous wars that mainly ended in defeat such as the Italo-Turkish War, the First and Second Balkan Wars, and the First World War, which finally resulted in the occupation of the seat of the Ottoman government. Needless to say, the Turkish Republic was also born in a context of war. In a country with recent or fresh memories

107 Collective 1928, 1.

108 *Resmî ġazete* 4 Ḥazîrân 1928 [4 June 1928], 285.

109 *Son Posta* 27 Mayıs 1939 [27 May 1939], 4.

110 'Bir arkadaşımız vazife başında yaralandı: Ordu mıntakası mühendis muavinlerinden İzzettin Kıvanç Gölköy Kazasının Paşapınar Ormanında çıkan bir yangının söndürülmesi esnasında kollarından ve kulaklarının yanması suretiyle yaralanmıştır. […] Bu fedakâr ormancının nakdî mükâfat ve takdirname ile taltifi düşünülmelidir' (*Orman ve Av* İlkteşrin-Sonteşrin-İlkkânun 1937 [October-November-December 1937], 393).

of successive wars, what better profession than that of the armed forces could these scientific experts draw comparisons with to underline their essential role for the country's survival? Agronomists, for instance, argued that their work was as 'necessary' (*lâzım*) and 'sacred' (*muḳḳades*) as that of soldiers defending the country.[111] Some even argued that a country's strength lay not in the sword (*kılıç*) but in the agricultural plough (*saban*), reflecting and adopting the political rhetoric of the time.[112] This sentiment echoed Mustafa Kemal Atatürk's speeches, such as his address in Adana in 1923, where he stated that land conquest relies on two tools – the sword and the plough – with the latter always prevailing. The plough, he asserted, firmly roots people in their homeland and provides stability to the nation.[113] Forestry engineers also resorted to similar analogies, asserting that they deserved as much praise as soldiers protecting the country's borders, like Ömer N. Köstem:

> Forests are the lifeblood of nations. They are their greatest treasure. Forestery engineers are the proud guardians of this treasure, and, for this reason, are very sacred. Forestry engineers who guard and manage this treasure are as worthy of praise as the soldiers who stand guard at the frontiers in the snowy days of winter.[114]

This underscores that not all of their strategies were appeals to the technocratic logic of the late Ottoman state: experts also appealed to national emotions where they expected those strategies to pay dividends.

4. Conclusion

To enhance their reputation, agronomists, forestry engineers, and veterinarians established an expertise hierarchy and explicitly placed themselves at the very top of the pyramid. They would argue that they occupied the summit for two main reasons: their expertise was science-based, and it responded to tangible needs. They shared that position only with groups whose vital role in society and whose scientific legitimacy were already established, such as physicians. While they rarely disputed the expert knowledge other groups may hold, they considered that their short-term absence or even permanent disappearance would harm nobody – an example offered was that of experts on literature. Emphasising functionality appears to be a sound strategy because, as Alvin I. Goldman observes, expert recognition is very much linked to what experts can do for laypersons; one's status as an expert is significantly bolstered when they can solve tangible problems and ameliorate their clients' situation with their distinctive

111 *Mecmûʿa-i edebiye* 17 Nîsân 1316 [30 April 1900], 1.
112 Cevat Rüştü 2016, 435–8.
113 Kaş 2012, 23.
114 'Orman milletlerin can damarıdır. Orman devletlerin en büyük hazinesidir. Ormancı, o hazinenin mağrur bekçisidir: bu bekçi çok mukaddestir. Kışın karlı günlerinde hudutlarda nöbet bekliyen Mehmetçik nasıl alkışa lâyıksa; milletin hazinelerini bekliyen ve idare eden Ormancılar da o kadar takdire lâyıktır' (Köstem 26 Mayıs 1936 [26 May 1936], 7).

knowledge.[115] Operating within a predominantly agrarian economy, members of these professions saw vast constituencies for themselves, and sought a status that reflected the far-ranging impact of their expertise.

Behind their determination to be appreciated as scientific experts also lay their desire of belonging to the elite. Obtaining diplomas in their fields required at least three to four years of higher education. Although these studies were mostly free of charge in the Ottoman Empire, this did not mean that they were easily accessible; a high school diploma as well as the successful completion of a competitive examination were required to attend specialised schools (for instance, in 1892, only 30 were to be selected among 700 applicants to the Halkalı Agricultral School's entry exam).[116] Moreover, if one wanted to further their studies abroad, one needed to master a foreign language (and belong to a wealthy family if they were not a scholarship recipient), and this again was not accessible to all classes. Therefore, to associate experts with husbandry or farriery was not only insulting to their hard-earned degrees, but also belittling of their social standing. For example, the Turkish Veterinary Association was founded by five veterinarians, all of whom had studied in France; Hüseyin Sabri Okutman, Samuel Abravenel Aysoy (1885–1959), Salih Zeki Berker (1886–1970), and Mehmet Hilmi Dilgimen (1882–1968) earned their master's degree at the Alfort School of Veterinary Medicine, while Ahmet Şefik Kolaylı (1886–1976) trained at the Pasteur Institute. The director of this association, Mehmet Nuri Ural (1869–1942), and the director of its official organ, the *Journal of the Turkish Veterinarians' Association*, İsmail Hakkı Çelebi (1873–1939), were also Alfort alumni. Their educational backgrounds suggest that a fear of social 'downgrading' may have been a driving force behind their collective action. An examination of the demographic profiles of the founders and editors of associations and magazines underscores the deep connection between professional struggles and class dynamics.

However, even if they occasionally hinted at it, experts did not openly talk about the risk of downward social mobility they faced as individuals. They rather branded their crisis as a collective one. Indeed, they drew a parallel between the nation's interests (*memleket menfaatleri*) and their own professional interests (*meslek menfaatleri*) and argued that better recognition would yield benefits for the nation as a whole. Since their expertise was necessary for common prosperity, everyone would reap great benefits from their work, which could only progress if they were respected and given proper working conditions and a 'fair' salary. Denying them these would have poor consequences the country's welfare, and they considered Europe a case in point. Surely, if Europeans were better at increasing their agricultural productivity or were generally more advanced than Ottomans, the reason was to be found in how they treated their experts. This idea was made clear in a very unambiguously titled article 'Let's encourage our men of science' published in the magazine *Agriculture* (*Felâḥat*) in 1913. Its author, Feridun, asks himself why there are not as many great experts such as the French entomol-

115 Goldman 2018, 3–4.
116 Soydan 2012, 225.

ogist Jean-Henri Fabre (1823–1915) in the Ottoman Empire, then proceeds to answer his own question: 'There are no true scholars, no true experts, nor any geniuses in this country. The reason? Here, technical sciences and those who master them are worthless, insignificant even.'[117] Better recognition was paramount because experts thought it would mean more high-achieving students would be attracted to these fields and scientists would be more motivated to produce knowledge beneficial to the nation. Or, as veterinary surgeon Süreyya Tahsin Aygün (1895–1981) remarked; 'The true victor will be the country whose laboratories are the strongest and the most powerful.'[118] The underlying message was clear: invest in your scientific experts to secure a better future.

While the knowledge they produced was of great benefit to the public, it still belonged to the experts, who wished to generate more social and economic return from it. It was in fact by positioning their expertise as the engine of the country's economy that they attempted to monetise it and to transform their competencies into a new form of capital. In this sense, they can be considered as early proponents of the knowledge economy. While the term 'knowledge economy,' originally conceptualised by Fritz Machlup in 1962 and popularised in the 1990s for post-industrial economies, might appear anachronistic in this context, it remains fitting. Agronomists, forestry engineers, and veterinarians firmly believed that knowledge production, rather than physical resources, was central to a country's economic performance and competitive edge. Building on this conviction, they called for greater investment in scientific research, framing their expertise as indispensable to national progress.

Agronomists, forestry engineers, and veterinarians treated their own expert knowledge as a market good and demanded better compensation for it. Nevertheless, they were locked in a difficult negotiating position. They were almost exclusively employed by the state, which was therefore able to dictate salaries and working conditions. Although experts could point to the economic benefits they provided, the state did not have to accede to their demands because they had limited alternative employment options, especially in the private sector. That is why some veterinarians praised foreign models of employment such as the American model in an issue of the *Veterinary Science Review* in 1909; unlike in the Ottoman Empire, where higher studies were free of charge but there was an obligation to work for the public sector after graduation, in the United States, only 10% veterinarians were employed by the Ministry of Agriculture and around 50% to 60% by private companies.[119]

Experts' rhetoric relied as much on emotions as on credibility and logic. They demanded more recognition by comparing their tireless devotion to the nation to that of military men. This play on patriotic sentiments could also be considered a wise strategy. In *The System of Professions*, Andrew Abbott argues professions are in a state of perpetual conflict and exist in an interdependent system in which they are constantly

117 'Bizde ḥaḳîḳî ʿâlim, ḥaḳîḳî müteḥaṣṣıṣ olmuyor olamıyor, bu memleketde dehâlar ḥâṣıl olamıyor. Sebebi? Bizde fenn, fenn me'mûrı ḳıymetsiz, ehemmiyetsizdir' (Ferîdûn 1 Teşrîn-i ṣânî 1329 [14 November 1913], 250).

118 Küçükaslan 2022, 408.

119 *Mecmûʿa-i fünûn-ı bayṭariye* 1 Şubâṭ 1324 [14 February 1909], 328.

negotiating the boundaries of their jurisdiction by emphasising their respective skills, yet that these professions also employ other forms of legitimisation that are not competency-based, but rather involve establishing that the values sought by experts are also shared by society.[120] Experts put forward their courage and selfless ideal of service, and these were undoubtedly culturally valued qualities in Turkish society, which cherishes its veterans (*gazi*) and sanctifies its martyrs (*şehit*).

The experiences of agronomists, forestry engineers, and veterinarians in the late Ottoman Empire and early Republican Turkey reveal that the recognition of expertise is neither automatic nor purely merit-based, but rather the result of a protracted and contested process. While the state may formally validate these professionals – through diplomas, titles, and public acclaim – their authority can fail to gain traction in society. The public can ignore, resist, or even mock them. Even when their scientific labor generates wealth for the state and private individuals or contributes to public health – outcomes that might intuitively warrant recognition – reward is far from guaranteed. These cases underscore the fragility and precariousness of expert status, while exposing the fraught dynamics that govern its legitimacy. They invite a critical rethinking of how societies allocate recognition and resources – and how such choices shape experts' ability to do their work: producing and mobilising knowledge.

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