Conflicting virtues of scholarship : moral economies in late nineteenth-century German Academia

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5. A Moral Economy of Scholarship

Balancing Critical Independence and Loyal Collegiality

Moral economies

The preceding chapters look at scholars in various capacities. The first chapter explores how scholars used private correspondence to support each other before their work was made public. The second chapter illustrates how the interests of publishers, audiences and reviewers shaped the choices made at editorial offices. The third chapter looks more closely at evaluation practices in book reviews. The last chapter examines the assessments made in letters of recommendation solicited by the Prussian Ministry of Education to help them decide about professorial appointments. At first sight, the various arguments made in these chapters suggest little more than the observation that scholars assessed each other in different ways, depending on the role they had to play. In this chapter, however, I argue that there is a red thread running through this variety of assessments. All the presented cases exemplify different aspects of one moral economy of scholarly evaluation. This moral economy asks scholars to balance the ideals of loyalty and independence in their different capacities.

The word loyalty refers to a discourse about related concepts like mutual obligation, collegiality, collaboration and a shared understanding of what it means to be a good scholar. The word independence pertains to ideas about individual accomplishment, ownership, autonomy and critical distance.[1] Through their long history both ideals have acquired indelible connotations of class and gender. In the introduction I have already mentioned Steven Shapin's observation that reliable knowledge was the product of such gentlemanly virtues as 'sociability, pliancy and politeness'.[2] Such bourgeois ideals often drew on earlier aristocratic notions of virtue. Deirdre McCloskey has drawn attention to traces of older aristocratic values in the moral language of the 19th-century middle classes.[3] Robert Nye argues that the relationships between 19th-century scholars were mediated by 'intense bonds of personal loyalty and a discourse of chivalric etiquette'.[4] In the

[1] It is often impossible to distinguish between the German words *Unabhängigkeit* and *Selbständigkeit* in English translations. Both can be translated as 'independence' or 'autonomy', though it can be argued that *Unabhängigkeit* emphasises an agent's independence *from others* while *Selbständigkeit* emphasises the individual autonomy without an explicit reference to others. I will translate both as 'independence' and provide the original German when I think this might be relevant.
[2] See, Introduction, 8.
[3] McCloskey, Deirdre N., *The Bourgeois Virtues: Ethics for an Age of Commerce*, University of Chicago Press, Chicago (IL), 2006. 66, 218, 243.
[4] Nye, Robert A., 'Medicine and Science as Masculine "Fields of Honor",' *Osiris*, 12, 1997, 60–79. 61.

middle-class discourse about scholarship, an emphasis on loyalty of even chivalry went hand in hand with an insistence on personal independence. Nye observes a continuing interest in independence in both early modern cultures of honour and the 20th-century laboratories described by Latour and Woolgar.[5] Shapin presents gentlemanly independence as a necessary condition for reliable scholarly witnesses.[6] Manfred Hettling confirms this close relationship between *Bürgertum* and independence by stating the *Bürger* 'has to make his way through life *independently*'.[7]

Loyalty and independence are easily characterised as middle-class ideals. Bonnie Smith, however, argues that the ideals and practices of scholarship that are usually characterised as bourgeois traits also 'proposed a masculine identity'.[8] Discourses about independence tended to be highly gendered. Learned men often claimed to be unable to recognise independence of mind in women. The 19th-century legal scholar Ludwig von Bar typically argued that certain sub-fields of law were 'not only about keen interpretations and logical inference, but also about comprehensive consideration of various possible consequences […]'.[9] He then concluded that strong emotions of women were likely to prevent them from mastering this skill. Similar arguments were made by contemporary historians; women's physical and cognitive qualities would hinder them in acquiring the critical faculties needed to carry out successful historical research.[10] This conception fitted a broader intellectual trend in 19th-century Germany in which independence was increasingly acknowledged in men but not recognised in women.[11] Ideas about loyalty tended to be gendered as well. Together with courage and a sense of duty and it was part of a catalogue of masculine, martial virtues. In the light of this discourse, Nicolaus Sombart even argues that in 19th-century Germany '..."friendship" is of course a male preserve, just like the "state" is a male preserve (only men can be friends)'.[12]

In the introduction I have advocated an approach to moral economies that combines Lorraine Daston's description of a moral economy as a 'balanced system of emotional forces, with

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[5] Ibid., 78.
[6] Shapin, Steven, *A Social History of Truth: Civility and Science in Seventeenth-Century England*, Chicago University Press, Chicago, 1994. 39.
[7] Hettling, Manfred, 'Die persönliche Selbständigkeit: Der archmedische Punkt bürgerlicher Lebensführung,' in: Hettling, Manfred and Stefan-Ludwig Hoffmann (eds.), *Der bürgerliche Wertehimmel: Innenansichten des 19. Jahrhunderts*, Vandenhoeck & Ruprecht, Göttingen, 2000, 57–78. 57. Hettling's emphasis on the word 'independently'.
[8] Smith, Bonnie G., 'Gender and the Practices of Scientific History,' 1153.
[9] Bar, Ludwig von, in: Kirchhoff, Arthur (ed.), *Die Akademische Frau: Gutachten hervorragender Universitätsprofessoren, Frauenlehrer und Schriftsteller über die Befähigung der Frau zum wissenschaftlichen Studium und Berufe*, Hugo Steinitz, Berlin, 1897. 19.
[10] Schnicke, Falko, *Die männliche Disziplin: Zur Vergeschlechtlichung der deutschen Geschichtswissenschaft 1780–1900*, Wallstein, Göttingen, 2015. 246.
[11] Hettling, 'Die persönliche Selbständigkeit,' 70–71; Kühne, Thomas, 'Männergeschichte als Geschlechtergeschichte,' in: *Männergeschichte – Geschlechtergeschichte: Männlichkeit im Wandel der Moderne*, Thomas Kühne (ed.), Campus, Frankfurt, 1996, 7–30. 11.
[12] Sombart, Nicolaus, 'Männerbund und Politische Kultur in Deutschland,' in: Kühne, Thomas, 'Männergeschichte als Geschlechtergeschichte', in: *Männergeschichte – Geschlechtergeschichte: Männlichkeit im Wandel der Moderne*, Thomas Kühne (ed.), Campus, Frankfurt, 1996, 136–155. 137.

equilibrium points and constraints' with an emphasis on thick description along the lines of Robert Kohler's work on the history of fruit fly genetics, in which he painstakingly describes the values and expectations regulating the work of the early 'fly people'.[13] His thick description contains sections on the individual biographies of the most prominent researchers, the everyday working arrangements at *Drosophila* laboratories, personal relationships between the main protagonists and between various research centres and the values and emerging traditions shared by all involved parties. In this way, Kohler reveals what Clifford Geertz described as 'a stratified hierarchy of meaningful structures'.[14] He gives a detailed description of an 'elite, bound by a shared sense of participating in a remarkable history' that shares 'a moral ethos of cooperation and communality'.[15] In the early years of *Drosophila* research this ethos fostered habits of loyalty.[16] However, as the community of fruit fly researchers grew, assertions of independence from an ever-increasing number of fly people caused the erosion of mutual trust.[17] The peculiarities of this early moral economy only survived for a couple of decades.

An often-quoted study on the moral economy of scholarship with a similar descriptive approach is W. Patrick McCray's study on the sharing of large telescopes by late 20th-century US astronomers.[18] The particular moral economy described by McCray is very different from that of the fly people. The ethos of communality of Kohler's researchers was largely shaped by the abundance of research material and research questions. The values and expectations of McCray's astronomers, on the other hand, were a product of scarcity. There were strict limits to the availability of large telescopes to the members of an ever-increasing community of astronomers. This scarcity shaped a moral economy characterised by fierce competition and reluctant compromise. The fact that Kohler and McCray have used the idea of a moral economy of scholarship to outline very different sets of values and attitudes shows the broad potential analytic scope of the concept.

This chapter argues that the cases presented in this study can be interpreted as Kohlerian thick descriptions. The following section first focuses on the private correspondence described in the opening chapter. What is most striking here is how easily loyalty and independence could go hand in hand, within the private sphere. The following sections, however, will illustrate how the need for and the difficulty of balancing these values increased once evaluation was taken out of the

[13] See, Introduction, 8.
[14] Geertz, *The Interpretation of Cultures*, 7.
[15] Kohler, *Lords of the Fly*, 92–93.
[16] Ibid., 123–124.
[17] Ibid., 167.
[18] McCray, W. Patrick, 'Large Telescopes and the Moral Economy of Recent Astronomy,' *Social Studies of Science*, 30(5), 2000, 685–711.

private sphere. The course of action required by loyalty became less clearly defined when a scholar had to deal with an increasing number of demands on his loyalty; the claims of students, teachers, collaborators, colleagues, academic institutions and the state did not always dovetail. It was also impossible to hold on to a fully independent and critical attitude towards all of these people and institutions at all times.

Before I turn to these analyses there is one more issue in need of further clarification. A superficial look at this chapter's structure might suggest that my analysis is based on a continuum model. The first subsection deals with close friends in academia; the second section looks at collaboration in often hierarchical relationships; the third section looks at the broader peer group. Finally, after looking at the relationship between individual scholars and some of the institutions that shaped scholarship, I take a look at the relationship between these scholars and society at large, as represented by the state. The impression may be that I am trying to fit all these people and institutions on one continuum that ranges from intimate closeness to abstract distance. This impression is only justified to a limited extent; in a way, friends are indeed closer to individuals than to their broader peer group and collaborators are generally closer acquaintances than journal editors or state representatives. At the same time, however, it is important to realise that such a continuum model of closeness and distance has some very obvious shortcomings.

The first of these shortcomings is that not all individual scholars necessarily share the same assessment of closeness and distance. Some might, for example, feel closest to peers with shared interests at faraway places, while others might identify more strongly with the institution at which they are employed. The second obvious shortcoming of such a model is that it is not at all self-evident that all people and institutions discussed in this chapter can in any meaningful way be assumed to fit on one single continuum of closeness and distance. A scholar's dealings with laboratory co-workers on the one hand and state representatives on the other, for instance, can be seen as an example of two fundamentally different types of relationships, rather than as an example of two more or less intimate versions of a similar type of relationship. When reading this chapter, it is therefore important to keep in mind that, although its structure resembles a continuum model, individual scholars are likely to disagree both on the placement of specific relationships on a continuum and on the possibility and nature of coexisting continuums.

Friendship and collegiality

There is a reason the first case study of the first chapter deals with Nöldeke and De Goeje. Very few successful scholars were as close as they were for such a long time. In 1863 De Goeje passionately wrote: 'May this inner harmony continue to exist for our whole lives and may we always be able to stay proud to be each other's heartfelt friends'.[19] More than forty years later Nöldeke would warmly remember the 'immediate connection between us, even if we did not yet know how close and lasting our friendship would be'.[20] If loyalty can be expected between any two people in this study it is between these men. And they indeed dutifully supported each other's work until the death of De Goeje. In the light of my interest in the balance between loyalty and independence, however, it is more interesting to look at the issues about which they disagreed and the ways in which they subsequently criticised each other.

The most noticeable examples of extensive mutual criticism presented in the first chapter are the exhaustive lists of corrections of and suggestions for not yet published texts. Looking at Nöldeke's proofreading of long al-Ṭabarī excerpts it becomes clear that he felt free to comment on every element of the work of De Goeje and his collaborators, whether it was grammar, metre, or the appropriate use of auxiliary sources. His thorough criticism was gratefully accepted by De Goeje and it doubtlessly contributed to the critical acclaim that his edition would eventually receive.

Their acceptance of mutual criticism was not limited to the grateful acceptance of such comments. In 1864 they had a conflict about the merit of Dozy's *Israëlieten te Mekka*. In the eyes of De Goeje Dozy was a shining example of good scholarship and he wrote admiringly about his former teacher's new book, in which he made daring assumptions about the history of Mecca as a religious centre.[21] Nöldeke, however, was critical of both Dozy and De Goeje: 'It pains me that a bright man like Dozy delivers such unmethodical investigations; yet it pains me much more that you accept and praise without reservation, all this which I can only regard as a sham'.[22] For over a year, Dozy's book and their disagreement about its merits figured in their letters. Their judgements continued to be strongly opposed, but this did not damage of the amicable character of their correspondence.

[19] Michael Jan de Goeje to Theodor Nöldeke, 15 December 1863, UBL: BPL 2389.
[20] Theodor Nöldeke to Michael Jan de Goeje, 14 October 1907, UBL: BPL 2389. See Chapter 1, 34.
[21] On Dozy as example for De Goeje, see Chapter 1, 34; For examples of De Goeje praising Dozy's book, see: Michael Jan de Goeje to Theodor Nöldeke, 3 February 1864, UBL: BPL 2389 and Michael Jan de Goeje, 'Een stap vooruit,' *De Gids*, 28(2), 1864, 297–312; On Dozy's Israëlieten te Mecca and the discussion it invoked, see: Paul, Herman, 'Virtue language in nineteenth-century orientalism: a case study in historical epistemology, *Modern Intellectual History*, 14(3), 2017, 689–715.
[22] Theodor Nöldeke to Michael Jan de Goeje, 12 June 1864, UBL: BPL 2389.

One reason for the firmness of their friendship may have been that it had already survived worse disagreements. In 1863, De Goeje had expressed his disappointment in Nöldeke's inclination to focus on the study of numerous smaller Semitic languages rather than on the preparation of text editions of the many classic Arabic texts not yet available in Europe: 'You have worked with care and diligence and delivered what could be delivered, but has it been worth the hassle? Would you not have endowed the public with much more important results if you would have dedicated the same amount of time and diligence to Arabic things?'[23] Nöldeke casually dismissed his friend's reproach: 'You, dear boy, confuse your inclination with the importance of things. You probably don't have an inclination to geology or the history of Roman law; do you therefore think that these subjects are less important than yours? You surely don't! I ask for the same respect for my favourite studies'.[24] De Goeje replied that he did not mean to sound this judgemental ('You now think of me too much as being narrow-minded, my dear friend'), and that he evidently respected Nöldeke's choices.[25] They would never discuss the issue again.

One thing the above examples show is that in their private correspondence Nöldeke and De Goeje hardly felt any tension between loyalty and independence. In fact, their close friendship allowed them to be highly critical of each other's work, teacher and career choices. Hidden from the public eye they almost effortlessly found a balance between both values at the heart of the moral economy of scholarly evaluation. A look at the private correspondence between Wundt and Fechner further illustrates how a personal relationship and mutual criticism could go hand in hand. Although Wundt had already engaged with Fechner's work during his assistantship with Helmholtz in the early 1860s, they would not become personally acquainted until he moved to Leipzig in 1875.[26] In the years before Fechner's death in 1887 the men grew so close that Fechner's widow later asked Wundt to sort out his papers.[27] Their mutual respect and the closeness of their relationship also allowed them to critically distance themselves from many elements of each other's work in private correspondence without damaging their cordial relationship.

As was the case with Nöldeke and De Goeje both men felt free to criticise each other. Their discussion about the authenticity of the spiritist phenomena associated with Henry Slade, as

[23] Michael Jan de Goeje to Theodor Nöldeke, 15 December 1863: UBL: BPL 2389.
[24] Theodor Nöldeke to Michael Jan de Goeje, 16 December 1863, UBL: BPL 2389.
[25] Michael Jan de Goeje to Theodor Nöldeke, 20 December 1863, UBL: BPL 2389.
[26] On Wundt's early engagement with Fechner's work, see: Wilhelm Wundt, *Erlebtes und Erkanntes*, 202. On Wundt meeting Fechner after moving to Leipzig, see: Ibid., 301.
[27] Wundt, Wilhelm, 'Gustav Theodor Fechner,' in: Wilhelm Wundt, *Reden und Aufsätze*, Alfred Kröner, Leipzig, 1914, 254–343. 315. This was a reprint of a speech given in 1901 at the invitation of the *Sächsische Gesellschaft der Wissenschaften*. Wundt would be involved with the Fechner estate for a long time, as shown by his invitation to Lipps to work on an unfinished Fechner manuscript mentioned in Chapter 2, 73.

discussed in the first chapter, is a good example.[28] In his first letter to Wundt Fechner explicitly stated that he discussed this issue in private rather than in public. This privacy created the right setting for a candid debate.[29] Wundt had earlier published a scathing criticism of the trustworthiness of the observations made by those Leipzig scholars who believed in the authenticity of the phenomena produced by Slade.[30] It would have been easy for Fechner to take this personally; he had been present at some of the Slade sessions and his bad eyesight made him the most untrustworthy observer of all.[31] Fechner realised this and in his long letter to Wundt he did not claim to be a trustworthy observer himself, but rather emphasised the trustworthiness of the other attendees. At the same time, he did not hold back against Wundt and accused him of spreading 'suspicion of the investigations so far on the basis of vague assumptions'.[32] But Wundt did not back down and wrote a cordial but uncompromising response. In his reply Fechner thanked him for the 'friendly amiable attitude of his letter' and concluded that spiritism was one of those things about which they would not agree.[33] A similar willingness to critically but cordially engage with each other's work was later shown in their discussions about the work the work coming from Wundt's laboratory discussed in the first chapter.[34]

The above examples suggest that among close friends it was relatively easy to combine loyal support and honest criticism without endangering this personal relationship. The continuous and warm relationships between Nöldeke and Goeje and Wundt and Fechner, however, benefited from favourable conditions. First, there was always a clear distinction between their research projects; usually their collaboration only went as far as commenting on each other's work, rather than working together on some project.[35] They were therefore able to avoid the disagreements to which close collaboration could give rise. Second, they were not in direct competition for university appointments or funding. Nöldeke never considered to move to the Netherlands permanently and when De Goeje could not find a well-paid university position he never thought about pursuing an unlikely appointment in Germany. He rather considered quitting academic life altogether.[36] Wundt

[28] See Introduction, 52.
[29] Gustav Theodor Fechner to Wilhelm Wundt, 18 June 1879, UAL, Nl. Wilhelm Wundt. (accessed at http://home.uni-leipzig.de/wundtbriefe/home.htm)
[30] Wundt, *Der Spiritismus: eine sogenannte wissenschaftliche Frage*, 11–19.
[31] On Fechner's presence at the Slade session, see: Schneid, Mathias, *Der neuere Spiritismus philosophisch geprüft*, August Hornik, Eichstätt, 1880. 28; On Fechner's bad eyesight, see: Wundt, 'Gustav Theodor Fechner,' 313.
[32] Gustav Theodor Fechner to Wilhelm Wundt, 18 June 1879, UAL, Nl. Wilhelm Wundt. (accessed at http://home.uni-leipzig.de/wundtbriefe/home.htm)
[33] Gustav Theodor Fechner to Wilhelm Wundt, 25 June 1879, UAL, Nl. Wilhelm Wundt. (accessed at http://home.uni-leipzig.de/wundtbriefe/home.htm)
[34] See Chapter 1, 53–54.
[35] The exception is of course Nöldeke's membership of the al-Ṭabarī consortium. Still his contribution to this project was only a small part of his scholarly output in the 1870s.
[36] Michael Jan de Goeje to Theodor Nöldeke, 13 August 1864, UBL: BPL 2389.

and Fechner were not competing which each other either because they were at different points in their career when they met. Wundt had just been appointed to the secure position of *Ordinarius*, while Fechner was an emeritus professor from 1875 onwards. When scholars found themselves closely collaborating at one place while they were also at the same stage of their academic career the risk of conflict increased. The relationship between Emil Behring and Erich Wernicke provides a clear example. Though they were close friends and would remain so until Behring's death in 1917, their relationship could be very tense.

Wernicke's contributions had been indispensable to the eventual success of Behring's diphtheria serum.[37] Their correspondence shows that during the years in which the serum was developed the two men were very close. In November 1891, Behring even proposed that they should move in together: 'I promise you that I will not be on your back too much […]'.[38] Three months later, he argued in favour of ever-closer professional and private collaboration, in light of his assessment that they were 'already semi-married, after all'.[39] Wernicke explicitly expressed his appreciation of their friendship, too; in 1897, he adapted a line about loyalty that he had lifted from a Schiller poem for an entry in Behring's guest book: 'Friendship is not an empty illusion!'[40] Their close relationship also withstood candid mutual criticism. Behring repeatedly emphasised that Wernicke was making himself too dependent on him; if he really wanted to pursue a career as a researcher, he would have to make sure to publish independently (*selbständig*) about research that he initiated, planned and executed himself.[41]

Their relationship was tainted, however, by reproaches and disappointments. In 1897, only two months before his entry in the guest book, Wernicke accused Behring of being too dominant, to which Behring almost contemptuously reacted with the admonition to please write him 'many, but less reproachful, letters'.[42] A few years later this awkward exchange was succeeded by a painful discussion about the sharing of the financial profits of their serum. Wernicke had hoped to receive a larger share than Behring allowed him. He did not, however, dare to challenge Behring's claim to own the full 'scientific and financial rights of discovery'.[43] Only when Wernicke was appointed as the director of the Hygienic Institute of Posen in 1899 their friendship recovered. Behring contently

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[37] See Chapter 1, 46.
[38] Emil Behring to Erich Wernicke, 22 November 1891, BNd: EvB/B 1/177.
[39] Emil Behring to Erich Wernicke, 15 February 1892, BNd, EvB/B 1/186.
[40] Wernicke wrote: '*Die Freundschaft ist kein leerer Wahn!*' which is most likely a variation on '*Und die Treue, sie ist doch kein leerer Wahn*' in Schiller's poem *Die Bürgschaft,* a ballad in praise of friendship and loyalty. Wernicke's entry in the guest book is dated 22 April 1897 and can be found at: BNd: EvB/L 266.
[41] For example, see Emil Behring to Erich Wernicke, 11 March 1892, BNd: EvB/B 1/190 and 16 October 1894, BNd, EvB/B 1/220.
[42] Emil Behring to Erich Wernicke, 25 February 1897, BNd: EvB/B 1/244.
[43] Emil Behring to Erich Wernicke, 2 January 1899, BNd: EvB/B 1/248.

noted that 'a temporary separation often clears up the relationship in a favourable way'.[44] Eight years later, when Behring had retreated to the famous Neuwittelsbach sanatorium in Munich, he addressed Wernicke as 'the most faithful among the faithful' in a letter full of self-pity and nostalgia.[45] Behring would eventually recover and his relationship with Wernicke would be amicable until the end of his life.[46]

Students and subordinates

Notwithstanding the extensive correspondence and the expressions of affection between Behring and Wernicke there is at least one clear difference between their friendship that of the other scholars described above. Nöldeke, De Goeje, Wundt, and Fechner did neither depend on nor compete with each other. The relationship between Behring and Wernicke, however, was more complicated. Behring had been the creative driving force in the development of the diphtheria serum and because of Behring's limited teaching efforts in Marburg he was also responsible for Wernicke's first university appointment.[47] Behring's awareness of their uneven relationship is shown both by his nonchalant sidelining of Wernicke complaints and by his repeated insistence that Wernicke should publish something independent of him. Wernicke's obedient acceptance of the unequal benefits from the commercial exploitation of the serum shows that he recognised the inequality as well. To some extent Wernicke's loyalty to Behring therefore more closely resembles the loyalty of a subordinate to his superior than the loyalty of a friend and equal.

Nineteenth-century academia was very hierarchical. One modern-day scholar bluntly stated that '[...] students, assistants, *Privatdozenten* and *Extraordinarien* were all subject to the power and authority of the Ordinarius, each of whom ruled his cabinet in a 'strict patriarchal manner."[48] Another 20th-century scholar likewise emphasised the power differences in German academia, pointing out that '[...] he who controlled the institutes, the means of production in the field of research, thus also controlled therewith the research workers, their opportunities and their prospects'.[49] Another

[44] Emil Behring to Erich Wernicke, 30 December 1899, BNd: EvB/B 1/259.
[45] Emil von Behring to Erich Wernicke, 12 December 1908, BNd: EvB/B 1/273.
[46] After Behring's death Wernicke would stay in touch with his widow. After visiting Else Behring in 1924, Wernicke kindly that his had 'renewed the old feelings of friendship and veneration' for her husband in the family guest book: entry for August 26, BNd: EvB/L 266.
[47] On Behring as the driving force behind the diphtheria serum, see Chapter 1, 46; on Behring's teaching and Wernicke's appointment in Marburg, see Chapter 4, 145–146.
[48] Cahan, David, 'The institutional revolution in German physics, 1865–1914,' in: *Historical Studies in the Phyisical Sciences*, 15(2), 1985, 1–65. 5.
[49] Busch, Alexander, 'The Vicissitudes of the *Privatdozent*: Breakdown and Adaptation in the Recruitment of the German University Teacher,' *Minerva*, 1(3), 1963, 319–341. 328.

author recognises three co-existing and partly overlapping forms of hierarchy among 19th-century German scholars. Academic hierarchy is concerned with the different ranks between student and full professor, institutional hierarchy refers to the various positions in research institutes ranking from research student to director, and disciplinary hierarchy deals with differences in prestige among peers.[50] Such hierarchies shaped the extent to and the way in which assertions of independence and critical assessment of each other's work could be made. And even though the demands of hierarchy were strong in the relationships between full professors and other academic staff, they were often even more consequential in the relationships between these men and their current and former students.

This hierarchy is recognisable in the relationship between Robert Koch and his associates during the cholera outbreaks in Hamburg and Altona, in the early 1890s. When cholera broke out in Hamburg in August 1892 the Berlin authorities ordered Koch to examine the situation on the spot. Koch only stayed for one day and at his return to Berlin his former assistant Georg Gaffky, at that moment Professor of Hygiene in Giessen, was sent to Hamburg to supervise the fight against cholera.[51] When another outbreak occurred in neighbouring Altona the following winter, another former assistant, Richard Pfeiffer, was charged with dealing with this new threat.[52] Gaffky and Pfeiffer did not simply conceive of themselves as serving the city with their expertise, they also considered themselves to be representatives of the Kochian school of hygiene. Gaffky expressed his loyalty to Koch explicitly: 'I certainly know that you trust in me, that I will always aim to work in your spirit and that no greater appreciation in the world can befall me, then when you will later be able to say that I succeeded to some extent. Because you are the soul of it all and we are your executive bodies'.[53]

During their stay in Hamburg and Altona Gaffky and Pfeiffer kept Koch informed about all their findings and actions, which enabled Koch to support and direct their work from Berlin. Drawing on the observations of his trusted collaborators Koch was able to gain the upper hand in an ongoing debate about the aetiology of cholera. In a detailed article he discredited the arguments of his most important critic, the Munich hygienist Max von Pettenkofer.[54] Koch's descriptions of the

[50] Johnson, 'Hierarchy and Creativity in Chemistry,' 215.
[51] For more on Georg Gaffky, see: Benedum, Jost, 'Georg Gaffky (1850–1918) und die Gründung des Gießener Lehrstuhls für Hygiene im Jahre 1888,' *Gießener Universitätsblätter*, 221, 1989, 91–94.
[52] For more on Richard Pfeiffer, see: Rietschel, Ernst Th. and Jean-Marc Cavaillon, 'Richard Pfeiffer and Alexandre Besredka: creators of the concept of endotoxin and anti-endotoxin,' *Microbes and Infection*, 5, 2003, 1407–1414. At the time of the Altona cholera outbreak he was director of the scientific department of Koch's institute.
[53] Georg Gaffky to Robert Koch, 2 October 1892, Robert Koch Institut (hereafter RKI), as/b1/003.
[54] For a modern-day assessment of Pettenkofer's ideas, see: Locher, Wolfgang Gerhard, 'Max von Pettenkofer (1818–1901) as a Pioneer of Modern Hygiene and Preventive Medicine,' *Environmental Health and Preventive Medicine*,

cholera epidemics in Hamburg and Altona in this article were often almost literally lifted from the reports of Gaffky and Pfeiffer.[55] In this way, the loyal collaboration between Koch and his associates contributed to the long term success of the Kochian conception of the aetiology of cholera and more generally of hygiene as a sub-discipline of medicine.

Often, however, the relationship between an established scholar and his former students was more complicated. This becomes clear in Wundt's correspondence with those former associates who continued to publish in the *Studien*.[56] His letters to Merkel, especially, illustrate the occasional awkwardness of their relationship. They sometimes contained such thorough methodological criticism that Merkel was almost driven to despair. In his only response kept in Wundt's papers Merkel sounds disheartened by his harsh tone: 'Your criticism of my work, for which I would like to thank you sincerely, is, if it can be maintained on all points and especially the last one, so devastating that it could well take away all my courage to continue working in this way for even one more minute'.[57] He continued, however, to defend his work against Wundt. After acknowledging the importance and legitimacy of his comments he explained why he had made certain methodological choices, while emphasising his loyal adherence to Wundt's school of thought: 'After all, I have emphasised in the paper that I already sent you two years ago, that […] of the attempts to explain Weber's law, only the one originating from you comes into consideration'.[58] Merkel's letter did not contain any criticism of any assertion or comment by Wundt. The letters of the other former associates of Wundt discussed in the second chapter, Kiesow, Lange and Lipps, did not contain such criticism either.

Notwithstanding the above observations it would be unfair to characterise Wundt as someone who pressured all his former students and assistants into working within the strictly defined bounds of his own research programme. Indeed, almost all of his students who had an academic career developed their own research interests and methods. Modern-day historians seem to be univocal in their recognition of Wundt's failure to establish his own school. Edward Haupt argues that G.E. Müller's laboratory in Göttingen had already taken over Wundt's lead in developing promising

12, 2007. 238–245; Morabia, Alfredo, 'Epidemiologic Interactions, Complexity, and the Lonesome Death of Max von Pettenkofer,' *American Journal of Epidemiology*, 166 (11), 2007. 1233–1238.

[55] For example, see Koch, Robert, 'Die Cholera in Deutschland während des Winters 1892 bis 1893,' *Zeitschrift für Hygiene und Infectionskrankheiten*, 15, 1893, 89–165. 117; Richard Pfeiffer to Robert Koch, 5 February 1893, RKI, as/b1/007.

[56] See Chapter 2, 69–73.

[57] Julius Merkel to Wilhelm Wundt, 8 October 1887, UAL, Nl. Wilhelm Wundt. (accessed at http://home.uni-leipzig.de/wundtbriefe/home.htm)

[58] Ibid. His assurance of adherence to Wundt's thought was a reaction to a remark in Wundt's letter in which he suggested that Merkel's explanation differed from his views: Wilhelm Wundt to Julius Merkel, 5 October 1887, UAL, Nl. Wilhelm Wundt. (accessed at http://home.uni-leipzig.de/wundtbriefe/home.htm)

methods for the newly established field of experimental psychology in the 1890s.[59] Edwin Boring – who dedicates a full chapter to Wundt in his *History of Experimental Psychology* – observes that his main influence may have been in the fact that 'almost all the new schools have been founded as a protest against some one or other characteristic of Wundt's psychology'.[60] Wolfgang Mack, finally, reaches the conclusion that Wundt's philosophical legacy did not fare any better; hardly anyone has bothered to engage with it.[61]

Some of Wundt's most successful former associates include Emil Kraepelin, who would become one of Germany's foremost psychiatrists, Oswald Külpe, the founder of the Würzburg school of psychology, Ernst Meumann, whose main interest would become pedagogy, and Hugo Münsterberg, who accepted a position at Harvard in the 1890s and is remembered chiefly for his contributions to applied psychology.[62] In his correspondence with these people Wundt repeatedly underlined that he did not think that loyalty required them to work within the bounds of his own research programme. Külpe remembered a conversation about a book he was writing in which his former superior had said: 'The more independent it is, the more it will delight me'.[63] When Wundt ended his co-editorship of a journal managed by Meumann he underlined their friendship and concluded that '[...] each has to follow his own star in this respect'.[64] His comments to Münsterberg were even more explicit: 'I don't ask for gratitude anyway. If, however, someone wants to show his gratitude by his own choice, this can only happen in this way, by working solidly, diligently and carefully, without caring about authorities or his career'.[65] Modest and accommodating as this may sound, we should take this encouragement of independence with a grain of salt. When the work of an independent former student diverged too much from what he considered valuable scholarship,

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[59] Haupt, Edward, J., 'Laboratories for Experimental Psychology: Göttingen's Ascendancy over Leipzig in the 1890s,' in: Rieber, Robert W. and David K. Robinson (eds.), *Wilhelm Wundt in History: The Making of a Scientific Psychology*, Springer Science + Business Media, New York, 2001, 205–250.
[60] Boring, Edwin G., *A History of Experimental Psychology*, 343.
[61] Mack, Wolfgang, 'Wundt's programmatische Erbe,' in: Jüttemann, Gerd (ed.), *Wilhelm Wundts anderes Erbe: Ein Missverständniss löst sich auf*, Vandenhoeck & Ruprecht, Göttingen, 2006, 232–243. 241.
[62] On Kraepelin, see: Steinberg, *Der Briefwechsel zwischen Wilhelm Wundt und Emil Kraepelin*; On Külpe, see: Gundlach, Horst, 'Oswald Külpe und die Würzburger Schule,' in: Janke, Wilhelm and Wolfgang Schneider (eds.), *Hundert Jahre Institut für Psychologie und Würzburger Schule der Denkpsychologie*, Hogrefe Verlag für Psychologie, Göttingen, 1999, 107–124 and Lindenfeld, David, 'Oswald Külpe and the Würzburg School,' *Journal of the History of the Behavioral Sciences*, 14, 1978, 132–141; On Meumann, see: Müller, Paul, *Ernst Meumann als Begründer der experimentellen Pädagogik*, E. Kalberer, Bazenheid, 1942. 7–15 and Probst, Paul, *Bibliographie Ernst Meumann: Mit einer Einleitung zur Biographie*, Traugott Bautz, Herzberg, 1991; On Münsterberg, see: Keller, Phyllis, *States of belonging: German-American intellectuals and the First World War*, Harvard University Press, Cambridge (MA), 1979. 21–30 and Landy, Frank J., 'Hugo Münsterberg; Victim or Visionary?,' *Journal of Applied Psychology*, 77(6), 1992, 787–802.
[63] Oswald Külpe to Wilhelm Wundt, 22 September 1895, UAL, Nl. Wilhelm Wundt. (accessed at http://home.uni-leipzig.de/wundtbriefe/home.htm)
[64] Wilhelm Wundt to Ernst Meumann, 20 December 1904, UAL, Nl. Wilhelm Wundt. (accessed at http://home.uni-leipzig.de/wundtbriefe/home.htm)
[65] Wilhelm Wundt to Hugo Münsterberg, 12 November 1890, UAL, Nl. Wilhelm Wundt. (accessed at http://home.uni-leipzig.de/wundtbriefe/home.htm)

he often found means to criticise him. We have seen that his relationship with Münsterberg, for instance, was awkward at times.[66] When he did not agree with the gist of his work, Wundt argued that it lacked in solidity, diligence and care. He even argued that this could be interpreted as ungratefulness from Münsterberg.[67]

In summary, I found that a professor like Wundt could demand loyalty from his former students in at least two ways. He asked those who were unable to make their career independently to produce work that fit his own research programme. His more successful former students and assistants were asked to live up to broader standards of good scholarship. In return former associates could count on his support in multiple ways. Wundt's willingness to publish the work of Kiesow, Lange, Lipps and Merkel, while they had unfulfilled academic ambitions is one example of such support. Another is provided by Wundt giving the editing job on Fechner's unfinished manuscript to Lipps.[68] The most common way, however, to advance the career of former pupils was by helping them in obtaining an academic appointment. This is why Avenarius, Meumann and Lipps were all hired at Wundt's former Chair of Inductive Philosophy in Zürich.[69] And Wundt was not the only one working behind the scenes to ensure professorial appointments for his most trusted students. De Goeje put a large amount of effort into lobbying the professoriate and the Mayor of Leiden into convincing them to reserve a professorial chair for his best student, Christiaan Snouck Hurgronje.[70] Behring's efforts to bring Wernicke to Marburg also fit this pattern.

On the rare occasion that a former teacher refused to support a promising former student, it was occasionally considered acceptable for the latter to explicitly distance himself from his senior. This happened rarely, however. Even Behring, whose relationship with Koch was uneasy at best, tried to avoid the 'semblance of disloyalty'. When he criticised another staff member of Koch's Institute for Infectious Diseases, he therefore sent his polemical manuscript to Koch before publication.[71]

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[66] Münsterberg was, for example, the most prominent former student of Wundt who was not invited to contribute to the two volume *Festschrift* for Wundt's seventieth birthday, published as volume 19 and 20 of the *Philosophische Studien* in 1902. See Introduction, 1–2.
[67] Wilhelm Wundt to Hugo Münsterberg, 12 November 1890, UAL, Nl. Wilhelm Wundt. (accessed at http://home.uni-leipzig.de/wundtbriefe/home.htm)
[68] See, Chapter 2, 73.
[69] Münsterberg was almost hired there as well, but when his appointment was delayed, he spoiled his chances with an angry and impatient letter to the philosophical faculty of Zürich: Theodor Vetter to Wilhelm Wundt, 20 March 1897, UAB: NA Wundt/III/1501–1600/1519/65–68.
[70] Michael Jan de Goeje to Theodor Nöldeke, 4 November 1888, UBL: BPL 2389. The mayor of Leiden, Louis Marie de Laat de Kanter, was also one of the custodians of Leiden University. Snouck would not accept the professorship in Malay arranged by De Goeje. He entered state service in the Dutch East Indies and only returned to the Netherlands in 1906 to succeed his former teacher.
[71] Emil Behring to Erich Wernicke, 11 April 1892, BNd: EvB/B 1/204.

Among the people discussed in this study Nöldeke was the only one who openly severed his ties to his teacher, Heinrich Ewald.

As a teacher, Ewald had not been very accommodating but when Nöldeke started teaching alongside him, in 1860, their relationship deteriorated even further.[72] Looking back he recounted that 'Ewald was without even a trace of humour. Whoever had a little bit of independence (*Selbständigkeit*), could not stay on good terms with him in the long run'.[73] Nöldeke also started to feel increasingly uneasy about the way in which Ewald presented himself. He often cast himself in the role of 'guardian of faith' and accused his peers of moral and religious shortcomings. One of his favourite antagonists was Heinrich Leberecht Fleischer, 'who, I hope, does not want to betray Christianity as well as the Evangelical faith'.[74] Fleischer mockingly noted that '[...] in the end, we fully owe it only to [Ewald's] magnanimity and forbearance that we quasi-scholars still exist; if he would wish to destroy us, it would take him, like the JHWH of the Old Testament, just one breath and we would be gone!'[75] This self-presentation was a long shot away from the rationalistic and secular approach to scholarship that Nöldeke advocated.[76] When he was appointed as *Ordinarius* in Kiel in 1868 Nöldeke broke with Ewald with a letter in which he stated that he would 'never ever stop honouring [him] as a groundbreaking researcher and my foremost teacher' but that he had to reserve for himself 'the full freedom to express [his] honest scholarly conviction unhindered by personal considerations'.[77] Ewald was furious, but most of Nöldeke's other colleagues, including De Goeje and Fleischer, fully approved of his decision.

The larger peer group and the reputation of the discipline

For most scholars, the relationship with their everyday colleagues was closer than with peers in faraway places. This physical distance between colleagues continued to exist, even though the late 19th century has often been described as a time during which an increasing number of scholarly

[72] On Ewald as a teacher, see Chapter 1, 32.
[73] Theodor Nöldeke to Ignaz Goldziher, 22 February 1904, MTAK, GIL/32/01/160. (accessed at http://opac.mtak.hu/F?RN=511094755)
[74] Ewald, Heinrich, 'Ueber die heutige sicherheit des verständnisses und der anwendung der Bibel,' *Jahrbücher der biblischen Wissenschaft*, 12, 1865, 26–64. 37. For more on Fleischer's far reaching influence on German orientalism, see Chapter 2, 73–77.
[75] Heinrich Leberecht Fleischer to Michael Jan de Goeje, 11 March 1865, UBL: BPL 2389.
[76] This approach is, for example, reflected in his book reviews, see Chapter 3, 100.
[77] Theodor Nöldeke to Heinrich Ewald, 4 October 1869, in: Littmann, Enno, 'Theodor Nöldeke,' in: *Nachrichten von der Gesellschaft der Wissenschaften zu Göttingen: Geschäftliche Mitteilungen aus dem Berichtsjahr 1930/31*, Weidmannsche Buchhandlung, Berlin, 1931, 48–57. 56.

congresses facilitated an ever-growing sociability among scholars.[78] But even in an era that offered increasing opportunities for meeting one's peers, most scholars were not particularly close to each other. Visits to international congresses, which have received considerable attention in recent scholarship, did not feature very prominently in the careers of many scholars.[79] Access to such congresses was often limited; participation required an invitation or being nominated by one's government. Therefore, these events usually were hosted for only the most well-established and widely respected scholars. National and local congresses were more accessible. National scholarly societies, such as the German Oriental Society, often organised annual meetings that combined a plenary assembly meeting, the reading of scholarly papers and opportunities for socialising. The number of people who occasionally visited such meetings was significantly higher than the number of visitors of the more prestigious international congresses.

This does not mean, however, that national and local congresses were faithfully visited and enjoyed by all. Wundt, for example, was not a keen visitor of congresses. He once wrote to Külpe that he was 'not a friend of congresses anyway, least of all of the international ones'.[80] Behring missed out on congresses for a whole different reason. He was disliked by many of his colleagues and although he wanted to visit their congresses, his peers simply did not invite him to some of their meetings.[81]

In addition, scholars could be disappointed by what they got out of their congress attendance; they did not always facilitate learned discussions and the making of new scholarly acquaintances. Snouck Hurgronje, for example, strongly criticised the International Orientalist Congress in Stockholm. This particular congress had been organised by a man he thoroughly disliked — count Carlo Landberg — who managed to be the centre of attention at numerous festive ceremonies.[82] He therefore complained that 'everything, fun and seriousness, was aimed to put one man […] in a false magic light'.[83] Years later, Snouck also complained that a congress in Athens had 'more or less

[78] An interesting overview of the increasing occurrence of scholarly congresses is provided in: Feuerhahn, Wolf and Pascale Rabault-Feuerhahn, 'Présentation: la science à l'échelle internationale,' *La Fabrique internationale de la science. Les congrès scientifiques internationaux de 1865 à 1945. Revue germanique internationale*, 12, 2010, 5–15. 5.
[79] Relevant present-day studies of international congresses include: Everett-Lane, 'International Scientific Congresses' and Feuerhahn and Rabault-Feuerhahn, *La Fabrique internationale de la science.*
[80] Wilhelm Wundt to Oswald Külpe, 1 January 1909, UAL, Nl. Wilhelm Wundt. (accessed at http://home.uni-leipzig.de/wundtbriefe/home.htm)
[81] Ferdinand Hueppe to Emil von Behring, 13 February 1906; Emil von Behring to Friedrich Althoff, 15 February 1906, GStA PK, VI. HA, Nl Althoff, No. 668.
[82] For more on the Stockholm congress, see: Rabault-Feuerhahn, Pascale, '"La science la robe au vent" Le Congrès Internationaux des Orientalistes et la disciplinarisation des études Orientales,' in: Chiss, Jean-Louis and Dan Savatovski, *La Disciplinarisation de la linguistique. Histoire et épistémologie, Histoire épistémologie langage*, Dossier en ligne, 5, 2012, 1–16.
[83] Christiaan Snouck Hurgronje to Theodor Nöldeke, 4 May 1890, in: Koningsveld, *Orientalism and Islam*,19. Snouck Hurgronje was not the only scholar who was disappointed after the Stockholm congress, see: Rabault-Feuerhahn, Pascale, '"La science la robe au vent"'.

been swallowed by the celebration of the anniversary of the university'.[84] So, although the increasing frequency of all types of congresses facilitated a certain measure of 'banding together' as well as the development of a shared 'identity as professionals' the ties between most individual scholars remained weak compared to the relationships they developed with everyday collaborators and pupils.[85]

The relative weakness of these personal relationships decisively shaped the way in which these casual scholarly acquaintances reviewed each other. Harshly critical reviews were widely accepted. In the third chapter we have encountered numerous examples, ranging from very personal accusations of dilettantism and carelessness to reproaches of dogmatism and mysticism. Because such criticisms were often politely phrased, not even the rare but rude occurrence of anti-Semitic dog whistling automatically resulted in indignant objections. Nöldeke's sneer that it 'requires much less subjection of reason, to believe in the 'authenticity' of the Pentateuch […] than to believe in the infallibility of the pope' was perfectly acceptable, as well. The same is true of Wundt's wry observation that '[...] the reading of this work could be recommended as a good exercise for future natural scientists and especially physiologists. They could learn some very striking examples from this of what they should *not* do, when they aim to engage in research'.[86]

Most of the reviews written by Nöldeke and Wundt were not this caustic, as, of course, many of the works they reviewed simply did not merit ridicule or harsh criticism. Another reason may have been the fact that editors and publishers were often unwilling to print a large number of negative reviews. Even if this preference might not always have encouraged individual authors to write positive reviews, it did motivate editors to make sure that the reviews they published were written by authors who were known to be relatively lenient.[87] A third factor contributing to the large number of positive reviews, could have been that these concerned favours to friends rather than the genuinely positive judgement by a critical peer. A final reason could have been that, even when reviewers did not feel a particularly strong loyalty towards any individual author, they often did feel such loyalty towards the scholarly community to which both reviewer and reviewee belonged.

Nöldeke was very explicit about this last reason in a letter to Goldziher in which he praised him for the apparent mildness of a review: 'Your mildness is able to hide to a certain extent from the laymen that the work has no particular value, while you point that out sufficiently for the person, who is somewhat in the know. I remember that Benfey […] sometimes said that reviews of

[84] Christiaan Snouck Hurgronje to Theodor Nöldeke, 7 May 1912, in: Koningsveld, *Orientalism and Islam*, 95.
[85] Everett-Lane, 'International Scientific Congresses,' 222–223.
[86] Quoted in Chapter 3, 101.
[87] See, Chapter 2, 75.

scholarly works should be such that they do not put the non-scholarly world at risk to develop a low opinion of the scholarly work, at which it is directed'.[88] Benfey and Nöldeke argued that the tendency to assert one's independence from other scholars and critically scrutinise their work should be kept in check by loyalty to a scholarly community, a willingness to promote its prestige, and an effort to safeguard its reputation in the eyes of a lay audience. A similar appreciation of a Goldziher's lenience is present in Snouck Hurgronje's obituary of him, in which he remembers that he 'never forgot the respectful piety, which he deemed mandatory for him to show to his elders [and] the necessary indulgence of the weaknesses of his contemporaries'.[89] He did, however, add that 'the only reproach that I sometimes made him, concerned his almost deceptive mildness in the reviewing of products of doubtful quality' — an accusation that Nöldeke agreed to.[90] The distinction between loyal lenience and deceptive mildness was not always easy to make.

In the third chapter I have already emphasised one reason for a reviewer to choose for either lenience or criticism. Both Nöldeke and Wundt proved to be significantly more critical of academic outsiders than of their peers with university affiliations.[91] Even if they felt some obligation to live by Benfey's maxim, they did not recognise any requirement to apply his guideline to outsiders. At the same time their reviews of their university peers where not always mild enough to guarantee that the outside world would be prevented from developing a low opinion of academic work. Wundt's sneer about an author providing an example of how *not* to do science quoted above, was, for example, made in a review of a book by an *Ordinarius* from Jena. Nöldeke's repeatedly stated disapproval of religiously inspired dogmatism and Wundt's insistent criticism of what he considered to be old-fashioned and unscientific mysticism, suggest that they did not mind discrediting certain subgroups of the academic community in public — especially those who advocated a school of thought to which they were strongly opposed.

Public criticism was not limited to book reviews. The founding of the *Philosophische Studien* by Wundt can be seen as a more ambitious attempt to publicly criticise the proponents of other schools of thought, based on the accusation that they were wasting time on insignificant questions on issues like 'a typo in Kant'.[92] Loyalty towards one's peers as advocated by Benfey had to be

[88] Theodor Nöldeke to Ignaz Goldziher, 2 January 1910, MTAK, GIL/32/01/235. (accessed at http://opac.mtak.hu/F?RN=511094755) Theodor Benfey taught Sanskrit in Göttingen during the time Nöldeke was associated with its university as a student and a *Privatdozent*.
[89] Snouck Hurgronje, Christiaan, 'Ignaz Goldziher. 22 juni 1850 – 13 november 1921,' *De Gids*, 85, 1921, 489–499. 494.
[90] Theodor Nöldeke to Christiaan Snouck Hurgronje, 7 December 1921, UBL: Or: 8952 A: 767.
[91] See Chapter 3, 110–16.
[92] On the aspirations of the *Philosophische Studien*, see Chapter 2, 73; On the sharp disagreements among the representatives of different schools of thought in late 19th-century German, see Chapter 4, 150–155.

balanced with the acceptance of in-depth and sometimes harsh criticism of these same colleagues. Philosophical and religious assumptions underlying scholarship were acceptable reasons for such criticism, even if a reputation as a loudmouthed polemicist or vocal ideologist could hurt one's career. Even though few people would have argued that outspoken early-career scholars, such as Avenarius and Behring, were obliged to refrain from voicing their strong opinions, both men had trouble finding a suitable position at a German university. Avenarius' assumed religious radicalism and Behring's polemic disposition were explicitly mentioned as reasons against hiring them.[93] Nöldeke and Wundt, on the other hand, were hardly affected by their stands against religious dogmatism and philosophical mysticism. This can be explained both by the fact that their criticisms were in line with the influential intellectual current of *Kulturprotestantismus* and by the circumstance that they published most of their sharpest criticism after they had already secured the comfort of a full professorship.[94]

Institutions I: scholarly journals

Scholars not only had to balance their relationship with other scholars, they were also supposed to maintain a good relationship with other parties, such as journals, faculties, industry and state authorities. This section takes a closer look at the relationship between individual researchers and scholarly journals. The subsequent sections look into their relationships with universities, faculties, industry and the state.

First, it is important to note that the relationships between academics and scholarly journals can vary. As the editor and founder of his own journal, for instance, Wundt's relationship with the *Studien* was very different from that of most scholars with the journals in which they published. Wundt could use the pages of the *Studien* to engage in self-chosen polemics, although this had not been the initial reason to found the journal. During the first decades of his career Wundt never even considered founding one. This only became attractive when he established his own laboratory and the hard work of his collaborators caused an ever-increasing production of papers. The fact that Richard Avenarius was unwilling to publish most of these papers in the *Vierteljahrsschrift für wissenschaftlichen Philosophie* encouraged Wundt to argue for the founding of his own journal with his long-time publisher Rudolf Engelmann. Even if Engelmann had some initial doubts about publishing doctoral dissertations, he could not refuse Wundt's request because he was one of his

[93] On Avenarius, see Chapter 4, 148–150; on Behring, see Chapter 4, 142–146.
[94] On Nöldeke's and Wundt's relationship with *Kulturprotestantismus*, see Chapter 3, 125.

best-selling authors. From 1881 onwards the *Studien* would therefore enable Wundt to offer his loyal associates an easy road to getting their research published. The most loyal and talented of his collaborators could count on his long-term loyal support. Even after they had left Leipzig to pursue academic careers elsewhere, trusted former collaborators, such as Kiesow, Lange, Lipps,and Merkel, would not have to worry about publishing opportunities.[95]

If the *Studien* are an example of a scholarly journal that can be seen as both one man's assertion of independence and a gesture of loyalty, the *Zeitschrift der Deutschen Morgenländische Gesellschaft* can be perceived of as a model of a public sphere of scholarship within which questions of loyalty and independence had to be continuously balanced. The society publishing the *Zeitschrift*, the *Deutsche Morgenländische Gesellschaft*, presented itself as the representative body of all German orientalists and the *Zeitschrift* was therefore supposed to both reflect the variety of opinions among them and to project an image of unity within this very diverse community. Its editors often found themselves making case-by-case decisions about the publication of possibly divisive contributions.

After the publication of Friedrich Heinrich Dieterici's *Thier und Mensch*, for instance, Fleischer looked for a reviewer who would write a mild review of the controversial book. After the publication of an article by Eduard König in the *Zeitschrift*, the editorial board felt obliged to also publish Gustav Jahn's polemic reaction, even if its members shared a low opinion of its merits. They did, however, edit Jahn's most offensive statements out of his paper. After the publication of August Fischer's criticism of Karl Barth in the *Zeitschrift* Barth's indignant reply was rejected. His strong wordings were deemed unfit for inclusion. The fact that Fischer was himself a member of the editorial board may have played a role here as well. Finally, Fleischer's careful handling of the discussion about Konstantin Schlottmann's role in the purchase of the forged Moabitica provides another example of a case in which loyalty to the peer group was at least as important as independent criticism in the eyes of the leadership of the *Gesellschaft* and its *Zeitschrift*.[96]

Fleischer's and Fischer's case-by-case management of the *Zeitschrift* was guided by three rules of thumb. The first was a requirement of basic politeness and abstention of *ad hominems*.[97] When Jahn accused König of dull-witted orthodoxy and a lack of moral courage, these offensive words were deleted from his paper. In a similar fashion Fleischer sounded relieved after the debate on the Moabitica, when he observed that the discussion had been guided by a 'spirit of moderation,'

[95] See Chapter 2, 69–73.
[96] For a more extensive treatment of the above examples, see Chapter 2, 75–81.
[97] Raf de Bont also observes the requirement to refrain from *ad hominems*, but finds that not everybody lived up to this standard: De Bont, Raf, "'Writing in letters of blood": Manners in scientific dispute in nineteenth-century Britian and the German lands,' *History of Science*, 51, 2013, 309–335.

'mutual respect,' and 'avoidance of all personal remarks and offensive insinuations'.[98] A second rule of thumb suggested that members of the *Gesellschaft* should have the right to share their critical responses to anything published in the *Zeitschrift* on its pages, as well. This is why Jahn's diatribes were eventually published in an only slightly edited form. This is also why the decision to reject Barth's reply to Fischer caused so much outrage. A final rule of thumb stipulated that no debate should be allowed to linger on in the *Zeitschrift*. This was the easiest way to make sure that the journal would not turn into an arena for prolonged polemics. Therefore, König was allowed one last reply to Jahn, but Jahn was not given another chance to retort. This is also why a lenient review of Dieterici's book could be expected to prevent a more hostile debate from occurring; once one review of his book had been published, the editors would have a fair reason not to print a second, potentially more inflammatory, review. With these three rules of thumb, the leadership of the *Gesellschaft* and the editors of the *Zeitschrift* were able to create a public sphere of scholarship in which loyalty to the peer group was encouraged but not strictly enforced, while independent stances were tolerated but kept within well-defined bounds.

These same rules of thumb did not guide Wundt's editing of the *Studien* as is illustrated by his repeated attacks on Stumpf.[99] The *Literarische Centralblatt*, however, shared many of its editorial policies with the *Zeitschrift*. The most rabid of Gutschmid's anti-Semitic dog whistles did not fit the norms of polite debate and, therefore, did not make it to print; reviewees were allowed to reply to harsh and potentially unjust reviews; finally, no discussion was allowed to linger on after the original reviewer had been given the opportunity to reply to a reviewee's comments.

However, the moral economy of scholarly evaluation was not the only economy shaping the policies of the *Centralblatt*. Unlike the *Studien* and the *Zeitschrift,* the continued existence of the *Centralblatt* depended on its profitability in a market of both scholars and an educated lay audience. Therefore, the number of its reviews as well as their length and tone could not be exclusively based on shared ideas about a fair moral economy of scholarship. It was, for example, important to review more books than the *Jenaer Literaturzeitung* to compete in this niche market. It was also essential not to publish too many overly long reviews in order to safe space for advertisements. In addition, the journal's publisher, Eduard Avenarius, assumed that its readership would not appreciate too many negative reviews; he argued that the journal might not be taken seriously if it reviewed too many books that its own reviewers considered to be unworthy of such close scrutiny.[100] Therefore, there was at least some pressure on the *Centralblatt*'s reviewers to write relatively positive reviews. In

[98] UBT: Md 782 A 68, Heinrich Leberecht Fleischer to Theodor Nöldeke, 21 July 1875.
[99] See Chapter 4, 151–152.
[100] Eduard Avenarius to Friedrich Zarncke, 28 May 1864, UBLE: NL 249/1/A/565.

regard to the *Centralblatt,* it is therefore difficult to disentangle the demands rooted in the moral economy of scholarly evaluation and those grounded in the economy of the marketplace.

Institutions II: universities, faculties and research institutes

Another institution that played a major role in every academic's life was, of course, the university and especially the faculty or research institute at which he was employed. Worries about the functioning of one's faculty or institute were the perfect excuse to be critical of one's peers. This is especially obvious in the confidential reports about the Institute for Oriental Languages.[101] Even if Carl Arendt wrote his scathing report at the explicit request of Althoff, he still felt the urge to justify his account by referring to the greater good: 'Everywhere I have attempted to hold back my own *judgement*, I have, however, attempted to put together with a certain completeness those facts that I know of, which seem suitable to contribute to the clarification of the not very pleasant overall atmosphere at the Institute.[102] Martin Hartmann's similarly harsh opinions about some of the Institute's staff members were likewise justified by the 'the state of affairs there, which cannot but lead to severe damage and complications'.[103] References to the good of a faculty or institute also frequently occurred, however, in environments not characterised by distrust and infighting.

The discussion about Otto Heubner's appointment in Berlin is an example.[104] None of Althoff's advisors expressed any doubts about his merits as a paediatrician. Even Eduard Külz, who strongly objected to Heubner's candidacy, admitted that some of his works were important and that his lectures were 'not bad'.[105] His warnings not to hire Heubner were largely grounded in his conception of the university of Berlin as the elite teaching institution of the unified German *Reich*. This sentiment was widely shared in late 19th-century Germany; the contemporary historian Max Lenz, for example, emphasised that, after the establishment of the *Reich,* it was its university that turned Berlin into 'a sanctuary and centre of German nature and art and all intellectual freedom'.[106] In Külz's eyes, Heubner's Saxon accent and unpretentious demeanour did not suit the dignity and best interest of an institution like this. Though Külz's words are, of course, a judgement of Heubner

[101] See Chapter 4, 131–134.
[102] Professor Arendt über die Zustände am Seminar für Orientalische Sprachen. 4.VII 1889, GStA PK, VI. HA, Nl Althoff, No. 156. Arendt's emphasis.
[103] Martin Hartmann to 'Sehr geehrter Herr Kreisschulinspektor,' 26 September 1889, GStA PK, VI. HA, Nl Althoff, No. 156.
[104] See Chapter 4, 138–142.
[105] Eduard Külz to Friedrich Althoff, 13 November 1893, GStA PK, VI. HA, Nl Althoff, No. 112.
[106] Lenz, Max, *Geschichte der königlichen Friedrich-Wilhelms-Universität zu Berlin*, zweiter Band, zweite Hälfte: auf dem Wege zur deutschen Einheit im neuen Reich, Verlag der Buchhandlung des Waisenhauses, Halle an der Saale, 1918. 357.

as an individual scholar he weighed his appraisal of him against his assessment of the perceived interests of the university. His loyalty to a very specific metropolitan ideal of this particular institution trumped his appreciation of the scholarly, educational and managerial merit of his Leipzig colleague.

Heinrich Fritsch's advice to Althoff went even further than Külz's recommendations by being almost exclusively concerned with the state of affairs at his university.[107] This is most clearly shown by his recommendation for the succession of Friedrich Müller. In the light of the low number of students, the limited number of patients at the university clinics and the current division of work among the remaining staff members, he successfully argued against the appointment of a successor. His later recommendation of Otto Küstner for the Chair of Gynaecology was likewise grounded in the challenges facing the medical faculty at Breslau. Only a man of independent means, Fritsch argued, could be expected to refrain from private practice in order to fully focus on his academic responsibilities.[108]

The search for a balance between regard for the interest of individual scholars and regard for the needs of prospective employers was not limited to medical faculties. The 1894 discussions about the Berlin Chair of Philosophy also illustrate such considerations.[109] Most of Althoff's correspondents were unwilling to argue that either Wilhelm Wundt, Carl Stumpf, or Georg Elias Müller was superior as a teacher or researcher. They all fitted the faculty's profile of a scholar with both psychological and experimental experience. Wundt, however, was easily discarded. Not only was it unlikely that he would leave Leipzig, he was also disliked by many Berlin faculty members. The choice between Müller and Stumpf was more difficult. In the end most advisors emphasised that Stumpf was more likely to fit in than Müller. Müller's emphasis on the experimental side of psychology was so strong that it could be expected that his future endeavours would be almost indistinguishable from those of the physiologists at the medical faculty. Stumpf, however, was not only interested in experimental philosophy but also aspired to contribute to aesthetics and ethics. These additional interests did not make him a more accomplished scholar than Müller, but they did provide a convincing argument that he was a better fit for the Berlin Faculty of Philosophy.

The above analysis of appointment procedures shows how hard it was for 19th-century German scholars to unambiguously point out one of their peers as more accomplished than the others.

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[107] See Chapter 4, 134–138.
[108] At least one 20th-century scholar argues that these scholars of independent means, who he calls 'rentier intellectuals' (*Rentenintellektuellen*) who were willing and able to refrain from certain monetary rewards were instrumental in managing an ever-expanding university system: Busch, 'The Vicissitudes of the *Privatdozent*,' 331.
[109] See Chapter 4, 152–154.

Even Heubner's most vocal detractors did not claim that he was somehow falling short as a researcher or clinician. In a similar fashion Fritsch refrained from judging Küstner's merits as a researcher, teacher and clinician. Instead, he emphasised his wealth, health and assumed willingness to accept the vacant position. Likewise, Müller and Stumpf were both depicted by most correspondents as highly qualified candidates for a Berlin professorship. The most significant point of comparison in this case was to what extent they would be a good fit with the Berlin philosophy department. The fact that so much praise was given to all candidates suggests a basic loyalty among peers. It was considered impolite to harshly criticise those who had already proven to be viable candidates for a professorial chair. A display of loyalty towards a hiring institution, however, was a socially acceptable way to assert one's independence from the demands of collegial politeness. Even if it was impolite to question the merit of a qualified colleague, it was perfectly acceptable to point out that he was not the best candidate for a specific appointment.

Institutions III: state and society

Scholars also cultivated relationships outside the confines of the academic community. The interests of commercial stakeholders and governments shaped the working environment of a substantial number of scholars. Some of the case studies have already pointed at this influence. The commercial considerations of the Avenarius, Brill and Engelmann publishing houses affected the opportunities of Zarncke, De Goeje and Wundt.[110] The pursuance of both loyalty and independence played an important role in all of the above examples. Engelmann tried to secure the loyalty of their successful author Wundt, while De Goeje needed the loyal long-term support of his publisher Brill to finish his al-Ṭabarī edition. Some of the other case studies have also emphasised the importance of a good relationship with government authorities. The discussion about professorial appointments is decisively shaped by the relationship between individual scholars, faculties and the Ministry of Education.[111] Meanwhile, faculty boards tried to assert their independence from the government and hoped that their preferences would guide the ministry's eventual hiring decisions.

Sometimes, the demands on a scholar's loyalty even transcended his relationship with the state and its representatives, and turned into an explicitly voiced attachment to entities, such as 'society' and 'the nation.' At the outbreak of the First World War, for example, a large number of German

[110] See Chapter 2, 66–67 and 83.
[111] See Chapter 4, 154–157.

intellectuals came to the defence of the German war objectives.[112] Soon after the start of the war, on 14 September 1914, Wundt gave a lecture at one of Leipzig's biggest venues, the *Alberthalle* of the *Krystallpalast*, where thousands of people gathered to hear the old philosopher lambasting Germany's opponents and arguing for the expansion of Germany's sphere of influence.[113] This lecture was published to great acclaim under the title *Über den wahrhaften Krieg* (On the true war).[114] Wundt's peers in oriental studies joined the conversation, as well. Nöldeke's younger colleague Carl Heinrich Becker, for instance, published a number of brochures eulogising the close relationship between Germany and its new ally, the Ottoman Empire.[115]

The broad societal commitment of bacteriologist like Koch and Behring had already been established long before the outbreak of the war. Finding a cure for deadly diseases is after all even more important to people suffering from these diseases than to scholars with a primarily scholarly interest. The significance of their work was wholeheartedly acknowledged in contemporary news media, in which they were often depicted as noble warriors, fighting for a world without deadly disease. Robert Koch was, for example, depicted as a brave horseman wielding his microscope to fight the threatening snake of tuberculosis (Figure 1) and Behring was drawn as answering to the desperate prayers of a mother by wrestling a child from the greedy hands of Death himself (Figure 2).

The examples of the World War and the fights against deadly diseases are rather straightforward. As such they do not provide a clear picture of the way in which state and industry contributed to a complex entanglement of aspirations to loyalty and independence among scholars. A further elaboration on one of the case studies from the preceding chapter — the development of Behring's academic career — can shed light on these relationships. In the previous chapter, the messy negotiations towards his eventual appointment in Marburg were used to illustrate how Althoff could overrule faculty preferences. The following sections will set out how Behring carefully negotiated a precarious balance between loyalty to and dependence on both the chemical industry and the Prussian state, to further his own career as a researcher.

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[112] See, for example, Mommsen, Wolfgang J., 'Einleitung: Die deutschen kulturellen Eliten im Ersten Weltkrieg,' in: Mommsen, Wolfgang J., *Kultur und Krieg: Die Rolle der Intellektuellen, Künstler und Schriftsteller im Ersten Weltkrieg*, Oldenbourg, München, 1996, 1–15 and the discussion in: Keller, *States of belonging*.

[113] Bruendel, Steffen, *Volksgemeinschaft oder Volksstaat: Die "Ideen von 1914" und die Neuordnung Deutschlands im Ersten Weltkrieg*, Akademie, Berlin, 2003. 36–37.

[114] Wundt, Wilhelm, *Über den wahrhaften Krieg*, Alfred Kröner, Leipzig, 1914.

[115] Becker, Carl Heinrich, *Deutschland und der Islam*, Deutsche Verlags-Anstalt, Stuttgart and Berlin, 1914; Becker, Carl Heinrich, *Deutsch-türkische Interessengemeinschaf*, Friedrich Cohen, Bonn, 1914. See also: Engberts, Christiaan, 'Orientalists at War: Personae and Partiality at the Outbreak of the First World War,' in: Engberts, Christiaan and Herman Paul (eds.), *Scholarly Personae in the History of Orientalism, 1870–1930*, Brill, Leiden, 2019. 176–177.

Robert Koch fighting tuberculosis. Source: Ligon, B. Lee, 'Robert Koch: Nobel Laureate and Controversial Figure in Tuberculin Research,' *Seminars in Pediatric Infectious Diseases*, 13(4), 2002, 289–299. 296.

Emil Behring fighting death. Source: BNd: EvB/S 27.

Institutions IV: between state and commerce

Behring's increasing closeness to state and industry went hand in hand with a growing isolation from his peers. This development took place in the aftermath of the development of his diphtheria serum. After it was established that the serum was suitable for mass-production, it was produced and distributed by the *Hoechster Farbwerke* from 1894 onwards. Suddenly Behring was a wealthy man. In 1894, the serum generated a profit of 444,200 Mark, which increased to a staggering 764,800 Mark the next year.[116] Behring's first five-year contract with the *Farbwerke* stipulated that he would receive half of these profits, which meant that he received more than half a million Mark, during the first two years of the commercial production of his serum.[117] The enormity of this figure

[116] These number are listed at a note that reads '*Diphtherie-Heilserum*': BNd, EvB/B 196/115. I take this to be a list of annual profits of the serum because a report by *Farbwerke* director Laubenheimer states that the profit for 1894 was 444,200 in 1894, which is the same number as occurs in this list: BNd, EvB/B 196/7.
[117] Vertrag zwischen Emil von Behring und den Farbwerken Vormals Meister, Lucius & Brüning betreffend 'Gewinnung von Diphterie-Heilserum', § IV, EvB/B 196/2/4.

is best understood in comparison to the lump sum that academic best-seller author Wundt received around the same time for his *Grundriss der Psychologie*, a comparatively modest 2,000.[118]

Behring's sudden wealth changed the relationship with his peers for the worse. Above, this chapter already points at how financial disagreements damaged his relationship with Wernicke. Something similar happened to his relationship with Paul Ehrlich. Behring and *Farbwerke* director August Laubenheimer convinced Ehrlich to refrain from the financial benefits from the commercial production of the serum and promised him the directorship of an independent organisation for serum testing, instead.[119] Ehrlich could not resist their pressure but soon regretted this. Behring and Laubenheimer could not live up to their promise on short notice and when Ehrlich was finally put in charge of the newly established *Institut für Serumforschung und Serumprüfung* (Institute for Serum Research and Serum Testing) he was disappointed by Behring's attitude towards it. Behring seemed to perceive of the Institute as just another organisation contributing to his own research programme rather than as an independent body.

The relationship between Behring and Ehrlich never recovered. Althoff tried to repair it but met with Ehrlich's indelible distrust over and over again. A collaboration with Behring, he argued, could only be expected from 'a slavish character, but not from a researcher of independence (*Selbständigkeit*) with the greatest thirst for freedom (such as I am, after all)'.[120] Even Ehrlich's wife wrote to Althoff to stress how unpleasant a renewed collaboration would be: 'I know exactly that my husband can only work successfully when he follows a straight, self-chosen path and when he enjoys the full freedom of his creative work. […] If despite everything he would decide to work with Behring, I want to beg you that his free, independent (*unabhaengige*) status will be guaranteed and that he can terminate this association at any time'.[121]

Meanwhile Behring felt that his other peers kept him at a distance, too. He was well aware of the resistance against his appointment in Marburg.[122] As mentioned earlier in this chapter he started to notice that his colleagues had stopped inviting him to meetings as well.[123] During the most sorrowful days of his life, when he had withdrawn himself at the Neuwittelsbach sanatorium, he found time for self-reflection and came to a sad conclusion: '[...] among the many reproaches I

[118] Emanuel Reinicke to Wilhelm Wundt, 14 October 1895, UAL, Nl. Wilhelm Wundt. (accessed at http://home.uni-leipzig.de/wundtbriefe/home.htm) Reinicke had become co-owner and manager of Wundt's publisher Engelmann after the death of Rudolf Engelmann.
[119] Hüntelmann, *Paul Ehrlich*, 104.
[120] Paul Ehrlich to Friedrich Althoff, 12 September 1903, GStA PK, VI. HA, Nl Althoff, No. 709.
[121] Hedwig Ehrlich to Friedrich Althoff, 13 September 1903, GStA PK, VI. HA, Nl Althoff, No. 709.
[122] See Chapter 4, 142–145.
[123] This chapter, 172.

make myself, one of the most severe is that through the years I have lost one friend after the other by my own fault'.[124] But, while he was bad at maintaining good relationships with other scholars, Behring carefully cultivated those with influential representatives of the state and the pharmaceutical industry, especially with Friedrich Althoff and August Laubenheimer.

Behring highly valued his independence. One reason to carefully cultivate his relationship with state and industry was that he could guarantee this independence by pitting institutional agents against each other. In Behring's eyes, there was a risk that his highly profitable relationship with the *Farbwerke* would come at the expense of his scholarly credibility. Therefore, his university position in Marburg was very important to him. During one particularly vicious conflict with the direction of the *Farbwerke* he indignantly underlined that he did not consider himself to be a 'slave of the industry'.[125] To make sure that he would retain the possibility to be this outspoken towards the management of the *Farbwerke,* he had already started to lobby Althoff for a professorial appointment: 'How would I be able to safeguard my authoritative and independent position towards the *Höchster Farbwerken* when me and my institute are dependent on their goodwill. How would I be able […] to follow up on the threat that I will immediately associate myself with another industrial enterprise?'[126] Shortly after making this argument Behring was appointed in Marburg.

His relationship with the *Farbwerke* was, however, not only a threat to Behring's independence. During the second half of the 19th century, collaboration with the industry had gained intellectual respectability, not the least because commercial manufacturers were increasingly managed by university graduates.[127] Laubenheimer, for example, had been an *Extraordinarius* for chemistry in Giessen.[128] Behring, therefore, confidently drew on his association with *Hoechst* to assert his independence from the state and the university system. He carefully cultivated his relationship with the *Farbwerke*, complaining to Laubenheimer that, if Althoff would arrange a professorship for him, his 'hands would be even more tied than before' and telling him that he was considering to 'throw off all still existing chains' that kept him from financially benefiting from his work.[129]

His close ties with the industry allowed him to maintain some independence from the ministry. In 1894 Althoff was considering the establishment of a state institute for serum production, but he was not sure if he could find funding. Without promising anything he asked Behring if he could pre-empt the eventual establishment of such an institute by immunising about twelve horses at the

[124] Emil von Behring to Erich Wernicke, 12 December 1908, BNd: EvB/B 1/273.
[125] Emil von Behring to Die Direktion der Farbwerke Höchst/Main, 27 July 1903, BNd: EvB/B 196/78.
[126] Emil Behring to Friedrich Althoff, 8 February 1895, GStA PK, VI. HA, Nl Althoff, No. 325.
[127] Borscheid, Peter, *Naturwissenschaft, Staat und Industrie in Baden (1848–1914)*, Ernst Klett, Stuttgart, 1976. 115, 127.
[128] Linton, *Emil von Behring*, 147.
[129] Emil Behring to August Laubenheimer, 30 March 1894, BNd: EvB/B 196/9.

expense of the state.[130] Behring, however, refused this and argued that 'as long as a more profitable practical activity has not been secured for me through the establishment of a central institute warranted by the state, I cannot decide — in the interest of the cause — to give up the cooperation with the works so successfully carried out at the *Höchster Farbwerke*'.[131] When his professorial appointment was delayed by the opposition in Marburg he again pointed at the opportunities offered by the *Farbwerke*. If he would not get the desired professorial chair, Behring argued, 'nothing is left for me but to secure another place of employment for me and my loyal collaborators'.[132] The most promising offer for such secure employment had been made by the *Farbwerke*.

Another way for Behring to maintain a measure of independence from the Prussian state was to refer to the willingness of other states to hire him. In his correspondence with Althoff he repeatedly mentioned the opportunities in Petersburg and Budapest. He also painstakingly detailed all the honours bestowed on him during a trip to France between December 1894 and February 1895, where he had visited the *Institut Pasteur* and enjoyed the good weather and company in Cannes.[133] After his appointment in Marburg he would continue to use similar threats to ensure government funding. As late as 1906, Otto Naumann, an official at Althoff's department, would wearily mention that '[Behring] finally played the familiar trump card again, that if the educational administration does not protect his interests, he will go to Bavaria where the government will accommodate him with open arms'. Naumann continued his complaint, stating that 'it is typical that he played the same trump card with colleague Elster; here, he demanded that the *Extraordinariat* for internal medicine in Marburg should be occupied by a child's clinician, which he needed for his work, and if that would not happen, then off to Bavaria he would go'.[134]

Finally, Behring did not only pit the Prussian ministry and the *Hoechster Farbwerke* against each other, he also used his relationship with both institutions to assert his independence from Koch's Institute for Infectious Diseases. His frustrations at the Institute were threefold. In the first place some people of his own generation seemed to advance faster than him in the institutional hierarchy. In 1891 Behring complained to Wernicke that he was too old to still be held accountable to others who were of his own age or even younger.[135] Secondly he grew frustrated with being subordinated to Koch, who could either command him to divert his attention from his diphtheria research or,

[130] Friedrich Althoff to Emil Behring, 15 November 1894, GStA PK, VI. HA, Nl Althoff, No. 326.
[131] Emil Behring to Friedrich Althoff, 17 November 1894, GStA PK, VI. HA, Nl Althoff, No. 325.
[132] Emil Behring to Friedrich Althoff, 24 December 1894, GStA PK, VI. HA, Nl Althoff, No. 325.
[133] This is the case is all of Behring's letters between 24 December 1894 and 8 February 1895 in: GStA PK, VI. HA, Nl Althoff, No. 325.
[134] Otto Naumann to Friedrich Althoff, 18 February 1906, GStA PK, VI. HA, Nl Althoff, No. 668.
[135] Emil Behring to Erich Wernicke, 22 November 1891, BNd: EvB/B 1/177.

even worse, could order other members of the institute to work on similar things. He felt pressured into accepting Ehrlich's help in determining the dosage of his serum and was annoyed about the fact that Koch had appointed someone else to look into the possibility of creating a blood serum against cholera.[136]

The third and final issue was the fact that, as a military doctor employed at a state institute, he could not patent his serum for commercial purposes. To reap the monetary benefits from his discovery he would have to quit both the military service and his assistantship at Koch's institute. He complained to the management of the *Farbwerke* that if he would stay at the institute he would 'indeed have the fame of having accomplished a scientific achievement in the eyes of later generations' but he 'would have to leave the fruits of his labour to the colleagues with business experience'.[137] He further emphasised his willingness to collaborate with the *Farbwerke* by promising to dedicate his new book to Laubenheimer.[138] The combination of the *Farbwerke*'s willingness to invest in his research and Althoff's stubborn attempts to find him a professorial chair enabled Behring to break with Koch and the military to actively pursue his own financial interests.

The moral economy of scholarship and its limits

The scholars discussed in this study had to take care of their relationships with a large number of interested parties. Friends, colleagues, students, *Doktorvaters*, universities, faculties, institutes, editorial boards, professional societies, state authorities and commercial enterprises competed for their loyalty while they simultaneously strived to be independent professionals and intellectuals. With so many actors involved it was a challenge for each individual scholar to find an appropriate balance between loyal collegiality and an independent critical stance. But this myriad of different ties did not only provide a challenge, it also offered opportunities. Close ties to one person, group, or institution allowed a scholar to assert his independence from others. The attempt to find a balance between loyalty and independence can therefore be characterised as an effort to balance the expectations and demands of all these different interested parties. This study has provided a

[136] On Ehrlich, see: Emil Behring to Friedrich Althoff, 8 February 1895, GStA PK, VI. HA, Nl Althoff, No. 325; on the development of a cholera blood serum, see: Emil Behring to Friedrich Althoff, 24 December 1894, GStA PK, VI. HA, Nl Althoff, No. 325.
[137] Emil Behring to August Laubenheimer, 30 March 1894, BNd: EvB/B 196/9.
[138] August Laubenheimer to Emil Behring, 5 April 1894, BNd: EvB/b 196/10. This seems to have been an empty promise, however, no book published by Behring in the years 1894–1896 is dedicated to Laubenheimer. Still, the relationship between Behring and Laubenheimer was quite close: the guest book mentioned in note 34 shows that Laubenheimer paid friendly visits to the Behring family, see the entries for 19 June 1896 and 12 May 1900.

large number of examples of people pursuing their personal ambitions by choosing to strategically address different people and institutions.

Nöldeke, for example, only announced his independence from his *Doktorvater* Ewald, after two conditions were met. In the first place, he had finally been appointed a full professorship in Kiel and, secondly, he knew that he could count on the loyal support of the influential circle of colleagues that had taken shape around Fleischer. De Goeje's career provides another example of cleverly addressing various actors. If he would have relied exclusively on the support that his own university and close colleagues could offer, he never would have been able to finish his ambitious al-Ṭabarī edition. However, because he was also able to secure the support of a loyal publisher and government officials, he could finish his project after three decades of collaborative work. Later in his career, he would again bring together his enterprising publisher, an international consortium of scholars, a number of scholarly societies and the support of different governments. This time, it would be to work on the *Encyclopaedia of Islam*, the first edition of which was only published after his death under the supervision of his former students Christiaan Snouck Hurgronje and Theodor Houtsma.[139]

Wundt, in his turn, cleverly used the high sales numbers of his books to convince his publisher to also support a less commercially attractive project. The *Studien* would never yield Engelmann any significant profits but Wundt was able to collect and disseminate the work of his pupils and assistants. This was not the first time that Wundt experienced the freedom that could be gained by writing bestselling books. He could afford to quit his first salaried academic position, his time-consuming assistantship in Helmholtz's Heidelberg laboratory because he could support himself with the revenues of his book sales.[140] Within Wundt's circle Münsterberg is another example of someone who actively tried to advance his career through the cultivation of his ties with people outside his academic peer group. Among other things he collaborated with Althoff on the establishment of the *Amerika Institut* and the *Internationale Wochenschrift*.[141] These efforts can be interpreted as an attempt to sidestep the rather unpromising conventional route of waiting for a

[139] The long process that led to the publication of the *Encyclopaedia of Islam* is extensively covered in: Zande, Daniel van der, 'Martinus Th. Houtsma: 1851–1943: Een bijdrage aan de geschiedenis van de Oriëntalistiek in Nederland en Europa,' (diss., Universiteit Utrecht, 1999). 225–260.
[140] Bringmann, Bringmann and Balance, 'Wilhelm Maximilian Wundt,' 25–27.
[141] For Münsterberg's involvement with the *Amerika Institut*, see: Freitag, Christian H., 'Die Entwicklung der Amerikastudien in Berlin bis 1945,' (diss., Freie Universität Berlin, 1977). 39–49; for Münsterberg's involvement with the *Wochenschrift*, see: Minutes of the conference on the *Internationale Monatsschrift* by Wilhelm Lexis, 3 January 1907. GStA PK, VI. HA, Nl Althoff, No. 295. The initial plan to publish a *Monatschrift* (monthly journal) was eventually replaced by the plan to publish a weekly journal instead.

professorial nomination by a German faculty by cultivating close ties to government authorities to further his academic career instead.

The bacteriologists and hygienists around Koch had even better opportunities to address a myriad of interested parties. Within governments circles the interest in new cures was not limited to Althoff's ministry. The Ministry of War also followed the developments in this field with great interest. This is illustrated by Behring's position as a military doctor stationed at Koch's institute during the development phase of the diphtheria serum. As discussed earlier in this chapter, industrial enterprises were highly interested as well. After all, they could count on a huge consumer demand if they could introduce new and affordable cures for widespread diseases to the market. In addition, work on such lofty goals as the eradication of a disease often attracted the interest of wealthy private donors. The work of Paul Ehrlich, for example, was extended beyond his tasks at the Institute for Serum Research and Serum Testing and its Frankfurt successor, the *Institut für experimentelle Therapie* (Institute for Experimental Therapy). He carried out most of his research into the possibility of a chemotherapeutic cure for cancer in the so-called Georg-Speyer-Haus, paid for from the bequest from the banker Georg Speyer, after mediation by industrialist and amateur historian of science Ludwig Darmstaedter.[142]

This far-reaching interest of state, industry and private donors in the development of new cures did not, however, make the relationship between researchers and other involved parties unproblematic. Even if money could buy some independence, wealthy scholars were vulnerable to the charge that their work was inspired by a love for money rather than by their dedication to scholarship. An overt love for money was considered to be in conflict with both internationally shared ideals of scholarship and the self-image of the German bourgeoisie.[143] August Wilhelm Hoffmann — a main player in the emergence of the close relationship between academic chemists and the German industry — was quite typical when he neglected his industrial relationships and instead emphasised his 'pure fascination with the knowledge of truth and beauty, free from the pursuit of material benefit'.[144] Behring's earlier statement about not wanting to be a 'slave of the industry' was a reaction to this concern, as well. The legitimacy of his worries is illustrated by the

[142] Hüntelmann, *Paul Ehrlich*, 280–284.
[143] In the scholarly community such ideals guided the oftentimes somewhat awkward discussion about the patenting of inventions and innovations, see: Lucier, Paul, 'Court and controversy: patenting science in the nineteenth century,' *British Journal for the History of Science*, 29, 1996, 139–154. 141; For an in-depth analysis of the ambiguous attitude towards the collecting of wealth in 19th-century German bourgeois circles, see: Hodenberg, Christina von, 'Der Fluch des Geldsacks. Der Aufstieg des Industriellen als Herausforderung bürgerliche Werte,' in: Hettling, Manfred and Stefan Ludwig Hoffmann (eds.), *Der bürgerliche Wertehimmel: Innenansichten des 19. Jahrhunderts*, Vandenhoeck & Ruprecht, Göttingen, 2000, 79–104.
[144] Quoted in: Borscheid, *Naturwissenschaft, Staat und Industrie*, 125.

fact that Ehrlich tried to discredit Behring in the eyes of Althoff more than once by highlighting his commercial endeavours.[145] In addition, Behring had to defend himself against accusations of greed in the professional journals as well.[146] And to make matters even worse, even the popular press occasionally accused him of an inappropriate love of money.[147]

In her analysis of the moral economy of scholarship, Lorraine Daston contrasted her take on science with a traditional view in which the suggestion that 'science depends in essential ways upon highly specific constellations of emotions and values has the air of proposing a paradox'.[148] She then introduced the idea of the existence of a moral economy of science as an alternative to this old-fashioned position and states that 'certain forms of empiricism, quantification and objectivity itself […] require moral economies'. In this study I have not focused on the development of such guiding intellectual concepts as empiricism, quantification and objectivity. I have instead focused on how the everyday practices of scholarship forced individual academics to find a balance between loyal collegiality and critical independence. Just like Daston's focus on concepts this study's emphasis on the experience of individuals draws attention to the importance of 'highly specific constellations of emotions and values'. Some of the values discussed in this study are easily categorised as the sort of epistemic virtues that fit a traditional take on science. Reviews of scholarly work, for example, often contained references to such highly valued qualities as industriousness, caution, ingenuity and critical ability.[149] Most of the emotions, values and commitments described in this study, however, explicitly refer to the relationships between individual scholars as well as to ties between academia and an outside world with its own moral — sometimes different — economies.

From the point of view of individual 19th-century scholars, the balancing act by which they asserted their place within the moral economy of scholarship actually consisted of a number of different balancing acts. In the first place, they had to balance collegial loyalty and critical independence in their relationships with various individuals in academia, such as colleagues, students, supervisors and collaborators. The many hierarchies in German academia only further complicated these

[145] In one letter Ehrlich argues that Behring cannot be seen as 'an impartial expert' because 'as producer he has pecuniary interests in the highest degree'. This last comment has been crossed out but is still easily readable: Paul Ehrlich to Friedrich Althoff, [no date, presumably January 1900], NBd: EvB/B 169/1; See also: Paul Ehrlich to Friedrich Althoff, 17 February 1906, GStA PK, VI. HA, Nl Althoff, No. 668.
[146] Behring, Emil, 'In eigener Sache,' *Deutsche Medizinische Wochenschrift*, 37, 15 September 1898. 595.
[147] One folder in the Althoff archives, for example, contains an overview of the discussion about Behring's attempt to get a US patent for his blood serum and a comical fictional report of a visit to Behring's laboratory from the short-lived Berlin satirical magazine *Das Narrenschiff*, in which Behring convinces the unwitting reporter to pay for a newly developed serum against the 'hardening of the heart': GStA PK, VI. HA, Nl Althoff, No. 358.
[148] Daston, Lorraine, 'The Moral Economy of Science,' 3.
[149] See Chapter 3, 117–119.

balancing efforts. Secondly, scholars had to balance their relationship with the institutions at the heart of scholarship, such as universities, research institutes, scholarly journals and professional organisations. Thirdly, they had to deal with expectations that were not primarily grounded in conceptions of scholarship, including such widely differing commitments as those to friendship, industry, the state and the nation.

A large number of people and institutions did not clearly fall within only one of these categories. The editor of a scholarly journal was sometimes seen as a colleague, while at other times he could be viewed as the representative of a journal. A research institute could be seen as the primary focus for research or as a result of purposeful state policies. An official at the Ministry of Education could be seen as an influential individual with whom one should cultivate a good relationship, but he was more commonly perceived as a major representative of the state. This difficulty in clearly defining the character of certain relationships, draws attention to what might have been the most challenging task of finding a balance between all the commitments listed above.

This was a constant struggle. A scholar reviewing a friend's work had to decide whether he would choose to promote the work of a friend or to criticise the work of a colleague. At the same time there was some ambiguity about how harsh a reviewer could be about anyone's work at all. Recommending colleagues for professorial chairs also involved a balancing act; should one recommend a scholar one personally liked, a man whose work one admired, a scholar representing one's own school of thought, or someone who would be most likely to respond to the needs of the institution advertising the vacancy? A strong interest of the state and the industry in one's research posed further challenges. To what extent should one allow these institutions to set one's research agenda? To what extent should one be willing to share the financial benefits of one's involvement with these institutions with other researchers?

The keeping of all these balances was a complex necessity because in all relationships both loyalty and independence were at stake. A close friendship could be the starting point of a detailed and thorough criticism of each other's work. Even when students and collaborators were proud to be their *Doktorvater*'s academic offspring, they often distanced themselves from some of his teachings. Most reviews that were published contained both criticism and praise. A strong dependence on industry money could be balanced by a state appointment at a university, even if these same industrial relationships served to safeguard a scholar's independence from the demands made by the same state. Although all the protagonists of this study worked in very different disciplines, the continuous struggle to balance loyal collegiality and independent criticism was a recurring feature of all their careers. The many guises in which this question of balance pops up, again and again,

attests to the centrality of loyalty and independence to the moral economy of scholarship in late 19th and early 20th-century Germany.

The thesis that the moral economy of scholarship can fruitfully be described as a balancing act between loyal collegiality and critical independence can further be illustrated by taking another look at the earlier thick descriptions of scholarly communities by Kohler and McCray. The moral ethos of communality that Kohler found among his fly people can be interpreted as a reflection of the value put on loyalty among individual researchers as well as among various institutes. In this particular case, the balance between loyalty and independence is a very peculiar one. It was exactly the loyal sharing of the abundant data and *Drosophila* cultures that allowed for the emergence of independent initiatives. In this state of abundance every researcher was able to develop his or her own line of research exactly because he or she had access to a wealth of data and cultures to build on. As noted, McCray's paper describes a very different moral economy characterised by a continuous competition between various research institutes with widely differing resources. Different as it may be, this moral economy fits the model sketched in this chapter as well. Especially the struggles of the less well-to-do institutes can be interpreted as a continuous effort to assure their independence from their better-endowed competitors. Although this study largely focuses on the efforts of individual scholars to find a balance in their relationship with other individuals and institutions, McCray's example suggests that an emphasis on balancing loyalty and independence might also be a fruitful starting point for an analysis at the institutional level.