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## Beyond Agriculture? The Prussian State, Farmers and the Security Costs of Horse Breeding for an Industrializing Nation in the Long Nineteenth Century

**ABSTRACT.** At the end of the eighteenth century, the Prussian state decided to intervene in the provision of remounts by establishing a national horse breeding programme based on a network of state studs with the aim of making the country self-sufficient in war horses. Such an equine regime relied on the cooperation of farmers, who were expected to have their mares covered by pure-bred state stallions, whose offspring would be endowed with traits deemed useful by the military. This arrangement worked as long as the interests of the farmers were aligned. But by the mid-nineteenth century, as Prussia increasingly became an industrial society, the demands of the nation became difficult to reconcile with those of the army. This article shows how and why disputes over the body of the Prussian horse became increasingly bitter, as advocates of warm-blooded and cold-blooded horses clashed over definitions of national security.

**KEYWORDS.** Prussia, Remounts, Industry, Agriculture, Military.

*Oltre l'agricoltura? Lo Stato prussiano, i contadini e i costi dell'allevamento equino per la sicurezza nazionale in una nazione in via di industrializzazione nel lungo Ottocento*

**ABSTRACT.** Alla fine del secolo XVIII lo Stato prussiano decise di intervenire nella produzione dei cavalli necessari per la rimonta militare mediante la creazione di una rete di depositi di stalloni, con l'obiettivo di rendere il paese autosufficiente rispetto al fabbisogno di cavalli da guerra. Il sistema prevedeva il coinvolgimento dei contadini, i quali erano tenuti a far coprire le proprie fattrici da stalloni di razza pura appartenenti allo Stato, affinché la discendenza fosse dotata delle caratteristiche ritenute utili per l'esercito. Questo accordo funzionò finché gli interessi dei contadini furono allineati a quelli pubblici. Alla metà del secolo XIX, essendo l'economia prussiana sempre più industriale, le esigenze del paese divennero difficili da conciliare con quelle dell'esercito. L'articolo analizza come e perché le controversie attorno al cavallo in Prussia divennero sempre più

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aspre, con i sostenitori dei cavalli a sangue caldo o a sangue freddo su posizioni diverse anche rispetto al tema della sicurezza nazionale.

PAROLE CHIAVE. Prussia, rimonta equina, industria, agricoltura, esercito.

1. *Introduction.* During the eighteenth and nineteenth centuries, Prussia established itself as a major European power through a series of wars, annexations, and conquests. At the beginning of the eighteenth century, the kingdom's territorial holdings were modest, consisting mainly of the Electorate of Brandenburg in the west, Pomerania in the north and the Duchy of Prussia in the east. Known collectively as Brandenburg-Prussia, the territory was geographically fragmented, situated as it was between Poland, the Holy Roman Empire and the Baltic Sea. Under Frederick the Great (1712-1786), however, Prussia began to seriously expand its kingdom and to consolidate its disparate territorial possessions. During the War of the Austrian Succession (1740-1748), it conquered Silesia, and a few years later, strengthened its position by defending the province against France, Austria, Saxony, Sweden and Russia during the Seven Year's War (1756-1763), confirming its status as a great power. Seeking to connect the Duchy of Prussia with the core territories of Brandenburg and Pomerania, Frederick the Great then acquired West Prussia during the First Partition of Poland (1772), further extending the kingdom's territorial reach to the east. Despite a temporary setback during the Napoleonic Wars (1803-1815), Prussia reformed its military and re-emerged as a leading power, gaining further territory – as a result of the Wars of German Unification (1864-1871) – in the west, south, and north, including the Kingdom of Hanover, Schleswig-Holstein, the Electorate of Hesse and the Duchy of Nassau. Following victory in the Franco-Prussian War (1870-1871), Prussia became the dominant state in the formation of the German Empire and maintained its military supremacy well into the twentieth century.

A neglected component of Prussian military prowess – as the kingdom sought to defend its ever-expanding territorial gains – was its ability to marshal its equine resources effectively. This was largely achieved through the establishment of an “equine regime”, which increased and improved the number of cavalry mounts that could be mobilised quickly from across the country in the event of hostilities. By the mid-eighteenth century, Prussia began to realise that the state needed to intervene in the breeding and rearing of horses in order to achieve “equine autarky” – in other words, to become self-sufficient in the provision of remounts as a critical resource for maintaining state security<sup>1</sup>. The construction of an equine regime built on

<sup>1</sup> T. Mitsuda, *The Politics of Reproduction. Horse Breeding and State Studs in Prussia, 1750-*

the “military-agrarian complex” that emerged in the 1730s: it exploited the unequal power relations between the landed aristocracy and the peasantry to breed and raise remounts, especially in eastern Prussia, which became the main supplier of war horses<sup>2</sup>. In much the same way as the state reduced its dependence on foreign mercenaries, Prussia succeeded in creating a substantial domestic equine pool from which the army could replenish its remounts without relying on imports<sup>3</sup>. Such an equine regime depended on the cooperation of farmers, who were expected to have their mares covered by pure-bred state stallions, whose offspring would be endowed with traits deemed useful by the military. As Prussia and then Germany, increasingly became an industrial society requiring a very different kind of horse for use in agriculture and commerce, this article shows how the economic demands of the country became difficult to reconcile with those of the army, thus undermining the “militaristic” character of the equine landscape towards the end of the nineteenth century. This article is not, however, intended as a contribution to the traditional debate on Prussian militarism. Rather, it contributes to the growing historical literature on the breeding of horses and provides a much-needed German example to complement investigations into other countries on the making of the modern horse<sup>4</sup>.

With a few exceptions, military history has largely neglected the important role that animals in general, and horses in particular, have played in the prosecution of war<sup>5</sup>. Recent interventions into this neglected aspect of the “military-animal complex” have mostly been made by social historians and animal studies scholars, who have rewritten the animals back into understandings of the past, exploring the ways in which horses, dogs, elephants and dolphins, but also insects, have been weaponised<sup>6</sup>. Many works that have emerged from this “animal turn” have found it fruitful to invoke the Foucauldian concept of “biopolitics” to show how “regimes of life – human,

1900, in *Equestrian Cultures. Horses, Human Society, and the Discourse of Modernity*, edited by K. Guest, M. Mattfeld, University of Chicago Press, Chicago 2019, p. 145.

<sup>2</sup> H. Schissler, *The Social and Political Power of the Prussian Junkers*, in *Landownership and Power in Modern Europe*, edited by R. Gibson, M. Blinkhorn, HarperCollins, London 1991, p. 103.

<sup>3</sup> B. Simms, *Europe. The Struggle for Supremacy, from 1453 to the Present*, Basic Books, New York 2013, p. 90.

<sup>4</sup> See, for example, *Horse Breeds and Human Society. Purity, Identity and the Making of the Modern Horse*, edited by K. Guest, M. Mattfeld, Routledge, Abingdon 2020.

<sup>5</sup> For some of these exceptions, see R.L. DiNardo, *Mechanized Juggernaut or Military Anachronism? Horses and the German Army of World War II*, Greenwood Press, New York 2008; L.A. DiMarco, *War Horse. A History of the Military Horse and Rider*, Westholme Publishing, Yardley 2008.

<sup>6</sup> For two useful overviews, see G. Phillips, *Animals in and at War*, in *The Routledge Companion to Animal-Human History*, edited by H. Kean, Ph. Howell, Routledge, London 2018, pp. 422-445; R. Hediger, *Animals in War*, in *The Palgrave International Handbook of Animal Abuse Studies*, edited by J. Maher, H. Pierpoint, P. Beirne, Palgrave Macmillan, London 2017, pp. 475-494.

nonhuman, and the complex terrain where humans and nonhumans relate – are organized, mobilized for, and subjected to play distinct and carefully circumscribed roles”<sup>7</sup>. Building on this animal turn, this article takes seriously the biopolitics of equine provisioning, asking how the state intervened to claim ownership and control over the body of the Prussian horse and its distribution. Drawing on untapped print sources, this article reveals how the military-agrarian complex failed to suppress opposition to the state’s disproportionate preference for remounts, as even farmers in traditional remount breeding areas in eastern Prussia turned from warm-blooded to cold-blooded horses, which were increasingly demanded by commerce, industry and trade. As the struggle over what kind of horses should be bred and reared in Germany intensified in the second half of the nineteenth century, the definition of “national horse breeding” (*Landespferdezucht*) broadened. The German equine regime could no longer be based solely on the principles of military security: it also had to take account of economic security. The import of too many cold-blooded foreign horses also threatened the national economy, as money fled the country.

2. *The Shaping of the Prussian Equine Regime.* Prior to the 1780s the procurement of horses for war had been haphazard. Individual regiments were essentially left up to conduct their own searches for remounts, known as “Sattelmeier,” partly reflecting a deep-rooted distrust of horse traders, who had a reputation for deception, chicanery and money-grubbing<sup>8</sup>. For this reason, searches for horses, including expeditions to Eastern Europe, were common and cavalry regiments might even venture as far as Arabia in search of the best riding horses. Such an undertaking was inherently risky and costly. Riding horses back to Prussia was a dangerous proposition because of the long distances involved; breaking in wild or semi-wild horses to make them usable mounts was not always successful; and overdependence on foreign countries for equine resources posed a security risk in the event of hostilities. Such a policy of self-provisioning – despite the insistence among some cavalry officers for wanting to choose their own – proved increasingly unsustainable.

Concrete steps to address these problems were initiated by Friedrich William II (1744-1797) when he reigned between 1786 and 1797<sup>9</sup>. Carl Lindemann (1755-1842) was commissioned by the king to transform the royal studs,

<sup>7</sup> *Animals and War. Studies of Europe and North America*, edited by R. Hediger, Brill, Leiden 2012, p. 14.

<sup>8</sup> R. Homperz, *Pferdezucht und Pferdehandel im deutschen Wirtschaftsleben*, Unpublished Dissertation, University of Cologne, 1922, pp. 134-135.

<sup>9</sup> E.O. Mentzel, *Die Remontierung der Preußischen Armee in ihrer historischen Entwicklung*

which had previously served a small aristocratic clientele, into an extensive network of state studs covering the whole of the kingdom. In this modern equine regime, central state studs (*Hauptgestüte*) would house the “seeds” of Prussia’s equine population and then distribute state-approved stallions (*Landbeschäler*) to the provincial state studs (*Landgestüte*). In a decree of 1787, the state officially moved away from its reliance on foreign procurement to breeding and purchasing horses domestically<sup>10</sup>. To this end, in the mid-1780s, an international hunt was launched for noble horses that could serve as foundation sires. It built on the pioneering example of the English, who in the late seventeenth and early eighteenth centuries had succeeded in breeding pure thoroughbreds by crossing imported stallions with native mares. Despite the ambivalence at best and hostility at worst of Prussian horsemen towards the thoroughbred, England became one of the main countries from which stallions were sourced, with Lindenau careful to select thoroughbreds that did not carry the defects of too much racing<sup>11</sup>.

In its search for the best studs, expeditions were also made to France, Italy, Morocco and Spain to find and purchase stallions for housing in the *Hauptgestüte*, which by this time were operating in the east of the kingdom in places such as Graditz, Neustadt an der Dosse and Trakehnen<sup>12</sup>. Equally important was the sourcing of stallions from Arabia such as Syria, and expeditions there resulted in the purchase of foundation stallions such as Turkmainatty, which became one of the most productive *Landbeschäler* at Lindenau’s central state stud at Neustadt an der Dosse<sup>13</sup>. Based on a mixture of English and Oriental blood, the Prussian state hoped to “improve” (*veredeln*) the quality of Prussian equine stock and, once transferred to the *Landgestüte*, offered to farmers, who would have their mares covered for a small fee. As the stud inspector Georg Gottlieb Ammon (1780-1839) put it, the *Hauptgestüte* were akin to parental stud farms (*Stammgestüte*) that functioned as «the state’s true nurseries for the national horse breeding programme (*Landespferdezucht*), in which the state collects the best breeds from home and abroad, selects and propagates the best and transfers these noble seeds – usually only stallions – to the national horse breeding programme»<sup>14</sup>.

*und jetzigen Gestaltung: als Beitrag zur Geschichte der Preussischen Militair-Verfassung; mit höherer Genehmigung und Benutzung amtlicher Quellen dargestellt*, Duncker, Berlin 1845, p. 97.

<sup>10</sup> Ivi, p. 109.

<sup>11</sup> R. Dombrowsky, *Die Entwicklung der ostpreussischen Pferdezucht*, Unpublished Dissertation, University of Königsberg, 1921, p. 57.

<sup>12</sup> J.N. Rohlwes, *Die Pferdezucht: oder: die Veredelung der Pferde in den preussischen Staaten, in einer Darstellung des königlich preussischen Friedrich-Wilhelms-Gestüts, bei Neustadt an der Dosse*, Maurer, Berlin 1806, p. 6.

<sup>13</sup> *Ibidem*.

<sup>14</sup> G.G. Ammon, *Handbuch der gesammten Gestütskunde und Pferdezucht*, Borntträger, Königsberg 1833, p. 184.

Much of the thinking behind this shift was based on cost: from a mercantilist perspective, the state reasoned that the construction of a new equine regime, which envisioned the provision of larger numbers of horses, would help prevent precious metals from leaving the kingdom, a motivation that had also propelled the French state to pioneer a system of state studs (*haras*) in the seventeenth century<sup>15</sup>. This system would not only allow Prussia to meet its needs for remounts domestically – it would also help to keep money in the country, thus helping to develop horse breeding as an industry and providing incentives for farmers to breed horses for the state. This mode of reasoning was to remain constant throughout the long nineteenth century. As Prussia moved from an agrarian to an industrial society during this period, economic calculations became increasingly important in arguments about the profitability of producing light horses for the army as opposed to rearing heavy horses for industry and commerce, a shift that resulted in advocates of the latter challenging the narrow definition of national security set by the Prussian state.

A key feature of this new equine regime was the central role played by small farmers in creating an equine autarkic kingdom. Encouraged to bring their mares to be covered by *Landbeschäler*, the resulting numbers and types of horses were vital in securing remounts domestically. Put before the remount commissions, which selected the best on behalf of the army, self-provisioning by individual regiments thus became redundant. However, it soon became apparent that there were limits to relying on small farmers as suppliers. Farmers, impatient to recoup their investments, put them to work prematurely. During a critical period of their growth, three-year-old horses were used for woodcutting in the winter and then for ploughing and harrowing in the spring. Overworked in this way, or fed insufficient amounts of oats, prevented the development of the kind of strength and endurance needed for military work. Such horses also had the added risk of developing defects or succumbing to injuries that greatly reduced their military value as mounts. To minimize the risks of having to choose from a pool of exhausted four and a half year horses, the state decided to intervene at an earlier age. Under the leadership of Carl Friedrich Wilhelm von Burgsdorf (1775-1849), a scheme was set up to buy horses from farmers when they were three and a half years old. They were then kept in so-called remount depots, where they would be reared on land with plenty of fodder and pasture, before being delivered to the military a year and a half year later in «an undamaged, robustly developed state»<sup>16</sup>. Eventually established in 1800, many of these

<sup>15</sup> J. Mulliez, *Les chevaux du royaume. Aux origines des Haras nationaux*, Belin, Paris 2004, pp. 81-111.

<sup>16</sup> Mentzel, *Die Remontierung*, cit., pp. 154, 402.

depots were located close to the *Hauptgestüte* on estates, particularly in East Prussia, owned and leased by the state itself<sup>17</sup>. The landowners (*Rittergutsbesitzer*) east of the Elbe were more than happy to cooperate.

By all accounts, the implementation of this new equine regime was a resounding success. In 1792, 200 to 300 remounts were provisioned at home, a figure that quickly rose to 2000 in 1797<sup>18</sup>. Despite the devastation caused by the Napoleonic Wars, which forced some state studs to relocate or close altogether, Burgsdorf, who took over at Trakehnen in 1814, organised a new round of expeditions to procure English and Arab pure-bred stallions – which had generally escaped the effects of fighting – for the *Hauptgestüte* and to re-build the *Landgestüte* that had been destroyed by the conflict. After the end of hostilities, the number of stallions kept in the *Hauptgestüte* rose steadily, increasing from a total of 575 to 1015 in 1840. In 1815, the Brandenburg *Landgestüt* was re-founded followed by those in West Prussia, Saxony, Silesia and the Rhineland. More importantly, the number of stallions sent to the provincial state studs increased. In 1819, 26,301 mares were covered by the *Landbeschäler*, while in 1839, 51,197 mares were covered, producing 11,571 and 25,213 foals, respectively<sup>19</sup>. In the most thorough account of the history of the state studs, Ernst Mentzel argued that the demand created by the remounts had a positive effect on the cultivation of horse breeding as an industry. The benevolence of «the wise monarch» to offer farmers a not inconsiderable sum of money for their efforts created «a lively market»<sup>20</sup>. Remount commissions provided the farmers proper knowledge of horses, handing them the necessary skills to judge what qualities were important in the breeding and rearing of horses, and to recognise the many faults that affected the value of horses<sup>21</sup>. East Prussia became the most fertile ground for the breeding of noble, light horses, not least because the estates encouraged it. Even cattle and sheep farming were curtailed to make way for horse breeding in areas such as Georgenburg, Göritten, Szirgupönen, Löbegallen, Ragnit, Königsfelde and Schreitlaugken, which are now part of Lithuania, Russia and Poland<sup>22</sup>.

As a result of state intervention, the Prussian equine regime gained a reputation throughout Europe as the body of the Prussian horse underwent significant re-engineering: «the old breeds – the short-legged but hardy Masurian mountain horse, the very poor Lithuanian peasant horse, and the large

<sup>17</sup> Ivi, p. 402.

<sup>18</sup> Dombrowsky, *Die Entwicklung*, cit., p. 64.

<sup>19</sup> Mentzel, *Die Remontierung*, cit., p. 167.

<sup>20</sup> Ivi, p. 234.

<sup>21</sup> Ivi, p. 235.

<sup>22</sup> R. Stein, *Die Umwandlung der Agrarverfassung Ostpreußens durch die Reform des Neunzehnten Jahrhunderts*, G. Fischer, Jena 1918, vol. I, p. 490.

but unattractively built lowland horse» – were all but replaced by the tall and powerful East Prussian breed that suited the needs of the military<sup>23</sup>. Although equine stock had not fully recovered from the Napoleonic wars, Georg Gottlieb Ammon was quick to appraise Prussian equine politics in 1833, boasting that the ability of states to improve the number and quality of horses was proof of their status as a higher form of civilization. Pointing to countries that were still hampered by natural conditions, breeding and rearing wild and semi-wild types, he intimated that Prussia had succeeded in transcending nature and making culture fundamental to the engineering of equine bodies<sup>24</sup>. «[O]ne cannot fail to be struck by the influence of culture on these animals», wrote another contemporary, that

[t]he care and art of man has completely transformed them, both externally and internally. All the qualities that make horses so valuable to us – their size, their beautiful shape, their usefulness for work, their obedience and loyalty – are the result of culture. It is undoubtedly culture that has the upper hand with our domestic horses, and that they are far more products of art than of climate<sup>25</sup>.

No longer dependent on foreign countries, especially from the East, which had been the natural home of superior but semi-wild horses until the end of the eighteenth century, Prussia could boast of having become an advanced country of artificial and cultured horse breeding, at least as far as the supply of remounts were concerned, in the first decades of the nineteenth century.

3. *The Challenge of the Cold-Blooded Horse*. By the 1840s, clouds were beginning to form over the Prussian equine landscape, especially in the west, which had become part of the Kingdom of Prussia after the Congress of Vienna (1814-1815). From early on, hippologists had been aware of the risks in handing too much power to the state, which could distort the shape of the kingdom's equine population. As early as 1818, George Gottlieb Ammon predicted as much when he noted that state intervention could result in a "precarious" situation: the privileging of certain breeds would result in an imbalance of breeds suitable for agriculture<sup>26</sup>. A major oversight to the design of the equine regime was that, although it did create a domestic market of sorts, the state failed to foresee that farmers might dare to want to breed

<sup>23</sup> *Ibidem*; H.W. Finck von Finckenstein, *Die Entwicklung der Landwirtschaft in Preußen und Deutschland: 1800-1930*, Holzner, Würzburg 1960, p. 44.

<sup>24</sup> Ammon, *Handbuch*, cit., pp. 179-183.

<sup>25</sup> C.W. Ammon, *Ueber die Verbesserung und Veredlung der Landes-Pferdezucht durch Landgestüts-Anstalten; mit besonderer Rücksicht auf Bayern*, Riegel und Wießner, Nürnberg 1829, p. 16.

<sup>26</sup> G.G. Ammon, *Von der Zucht und Veredlung der Pferde durch öffentliche und Privatgestütze: eine Anleitung für diejenigen, welche sich mit Nutzen mit der Zucht und Veredlung der Pferde beschäftigen wollen*, Flittner, Berlin 1818, p. XXV.



horses for other purposes, or that they might spurn the imposition of *Landbeschäler* as inappropriate to their primary needs.

Until the 1840s, the interests of the state and farmers overlapped because of the way the land was farmed. In the German-speaking countries, agricultural production was based on the three-field system of crop rotation, whereby a field was planted with one set of crops one year, a different set was planted in the second year and left fallow in the third. As long as this agricultural regime continued, the work did not require much strength or weight from horses, so farmers were able to breed, raise, and work horses that could combine both agricultural and military needs. However, with the spread of root crops in the first half of the nineteenth century, conditions changed. Potatoes, carrots and beets required more intensive planting and harvesting than cereals, and farmers who wanted to plough deeper into the soil were increasingly unable to rely on the services of horses sired by state-approved stallions.

To be sure, farmers experimented with native workhorses such as the Oldenburg and the Hanoverian to fulfil this more taxing role<sup>27</sup>. However, this soon came up against limitations, as both breeds struggled with harvesting crops on sandy terrain or became bogged down in bad weather when gathering beetroots. Unable to meet demand, farmers, particularly in the western provinces of Prussia, turned to importing so-called cold-blooded horses, which were heavier, stronger, and less temperamental than the warm-blooded ones favoured by the state. These provinces benefited from their proximity to neighbouring countries such as Belgium, which was known for its heavy Brabant and Flemish breeds. Crucial to this change was the formation of local agricultural societies. By joining forces, farmers could boldly resist the dictates of the eastern-centric and militaristic equine regime. In the Westphalian district of Steinfurt, the local agricultural society refused to establish a covering station (*Deckstation*) because it could not see how the 80 or so *Landgestüte* could possibly produce horses that met its needs<sup>28</sup>. In neighbouring Bielefeld, the farmers went a step further and imported their own breeds, a trend that accelerated nationally in the second half of the century<sup>29</sup>. Coupled with bureaucratic changes – the administration of state horse breeding moved from the Ministry of the Interior to the Ministry of Agriculture in 1848 – pressure mounted on the state to reform its breeding

<sup>27</sup> W. Achilles, *Deutsche Agrargeschichte im Zeitalter der Reformen und der Industrialisierung*, Ulmer, Stuttgart 1993, p. 74.

<sup>28</sup> M.D. Sagebiel, *Westfalens Pferdezucht im 19. Jahrhundert. Förderungsmaßnahmen und Fehlentwicklungen*, in «Westfälische Zeitschrift», n. 138 (1988), p. 170.

<sup>29</sup> *Ibidem*.

policy to keep up with the times and to incorporate the country's wider economic interests. Thus began the conflict over the body of the Prussian horse.

In the 1850s, grievances came to the fore. In a publication entitled *Memorandum on the Promotion of State Horse Breeding in the Prussian State*, Heine, who was the general secretary of the Agricultural societies in Saxony, expressed dissatisfaction at the amount of power wielded by central stud officials, pointing out how that the selection of stallions was left entirely in their hands<sup>30</sup>. To redress this imbalance, Heine boldly proposed that private breeders should instead be given responsibility for stallion selection and the awarding of premiums. To this end, he proposed the establishment of a Chamber of State Horse Breeding (*Landgestütskammer*), in which representatives would be elected to select *Landbeschäler* and decide where they should be placed. Equally radical was his suggestion that stud horses should no longer be bred exclusively in the *Hauptgestüte* but should be purchased from private breeders. This, he argued, would incentivize farmers to produce for the state studs, where a different breed more suited to the needs of the country could be housed, replacing the noble, warm-blooded horses traditionally bred and reared by the *Hauptgestüte*. Such an arrangement – moving away from what Heine called «self-breeding» (*Selbstzucht*) – was also touted as a way of saving the state substantial costs, as private interests would be more cost-effective. Heine conceded that some native horses possessed some of the qualities – like quietness and endurance – that made them suitable for the increasingly demanding agricultural tasks workhorses had to perform; but he believed that these were the exceptions<sup>31</sup>. Compared to breeds such as the Salzburger, Pinzgauer, Eifel, Ardennais and Flanders, the existing stock left much to be desired.

Pressures came not only from changes in the way land was worked. Although the breakthrough of the steam locomotive reduced the need for pack-horses over long distances, the expansion of the railways increased the demand for horses to carry increasing numbers of people and goods between stations. In the expanding towns and cities, too, hackney carriages and omnibuses proliferated, while industry was also thirsty for heavy draught horses. Nowhere was this hunger greater than in the Rhineland, where strong industrial and commercial demand led to the importation of between 5,000 and 6,000 horses from Belgium and France in the early 1860, according to one source<sup>32</sup>. In his book *Recommendations for the Encouragement of*

<sup>30</sup> [Friedrich] Heine, *Denkschrift über die Beförderung der Landespferdezucht im preußischen Staate*, Heynemann in Halle, Zörbig 1850.

<sup>31</sup> Ivi, p. 5.

<sup>32</sup> Waldschmidt, *Vorschläge zur Förderung der Pferdezucht mit besonderer Berücksichtigung der Rheinprovinz*, Henry, Bonn 1865, p. 1.

*Horse Breeding in the Rhineland*, Waldschmidt drew the attention of farmers in the province to the lucrative possibilities of breeding workhorses. He showed that workhorses could now fetch between 200 and 200 talers, compared to just 80 to 100 talers previously<sup>33</sup>. Clearly in favour of the cold-blooded horses, Waldschmidt also took issue with the disproportionate influence of the Prussian state, criticising the extent to which the *Körordnung* – a newly introduced policy to monitor and inspect private stallions – severely restricted the type of stud available to breeders. Echoing the proposals made in Saxony, Waldschmidt looked forward to an arrangement in which local agricultural societies would be given more powers to organise shows, freedom to award premiums to encourage the breeding of heavy breeds, permission to set up their own schools and programmes, and the power to purchase stallions independently of the state<sup>34</sup>.

Such calls from the likes of Heine and Waldschmidt clearly had an effect. At a meeting of the Royal Prussian State Economics College (*Landes-Ökonomie-Kollegium*) in 1870, Wilhelm von Nathusius (1821-1899), a landowner, warned of a marked decline in horse breeding in the west of the kingdom. Describing it as a shift away from «noble, oriental, and lighter horses», he reported that for farmers «the more warmblood is injected into stallions, the less useful the working horse becomes»<sup>35</sup>. «In most regions farmers have already come to the conclusion», he continued, «that foals sired by so-called pure stallions ... are very unfit for harness work»<sup>36</sup>.

The conflict over the body of the Prussian horse came to a head in the late 1860s, when advocates of the cold-blooded horse challenged the state's narrow definition of national security. Pointing to the number of imported heavy horses raised on German feed and grains, R. Biber bewailed Germany's equine trade imbalance, which saw 33,729 more horses imported from countries such as France, Denmark and Bohemia<sup>37</sup>. «England and France», he explained, «know how to make use of the raw materials [bought from Germany], turn them into heavy draught horses, luxury coach horses, unrivalled hunting horses and thoroughbred racehorses, and sell them back to us at high prices, making a handsome profit from doing so»<sup>38</sup>. For Biber, this German state-of-affairs – exporting raw materials and importing finished

<sup>33</sup> Ivi, p. 6.

<sup>34</sup> Ivi, pp. 14-15.

<sup>35</sup> *Proposition des Herrn Grafen v Bőrries, betreffend die Beförderung der Private-Pferdezucht in Preußen*, in «Annalen der Landwirtschaft in den Königlichen Preußischen Staaten», 58, 1870, 4, p. 55.

<sup>36</sup> *Ibidem*.

<sup>37</sup> R. Biber, *Gedanken über Landespfedezucht und über den letzten Kongreß deutscher Pfedezüchter*, in «Neue landwirtschaftliche Zeitung», 20, 1871, p. 90.

<sup>38</sup> Ivi, p. 99.

products – was a pitiful sign of an undeveloped economy: «the true value of a nation», he insisted, did not lie in the exportation of worthless raw materials and goods, but in transforming them into value-added products through trade and industry<sup>39</sup>. In this way, Biber argued that horse breeding was an industry like any other and should contribute to the wider economy by becoming an exporter – a position that clashed with the equine autarkic principles of the state. In doing so, he sought to broaden the understanding of security, contesting its militaristic focus and suggesting that neglecting equine trade imbalances was equally damaging to national security. Building on the economic arguments advanced of the previous decade, Biber directly criticised the *Hauptgestüte* of inefficiency, pointing in particular to the unproductiveness of Neustadt an der Dosse. Instead of spending 29,000 taler annually on pure breeds, fifteen studs could be bought from Normandy, Oldenburg, or England. Replacing Neustadt's existing stallions with these cold-blooded horses, he argued, would result in *Landbeschäler* more in tune with the real needs of the economy.

No one was more critical of the economics of horse breeding than Heinrich von Nathusius (1824-1890), the chief proponent of heavy breeds and the most prolific critic of the Prussian equine regime. A practising farmer from Althaldensleben, Nathusius was determined to show, using Saxony as an example, how lucrative the breeding of cold-blooded horses had become and how unprofitable, by stark contrast, the breeding of warm-blooded ones had become<sup>40</sup>. Compared to 25 years ago, heavy horses in Saxony fetched twice the price. Hanoverian and Oldenburg foals had cost 14 louis d'or but now fetched between 28 and 30. Heavy draught horses in general had cost between 24 and 26 louis d'or but could now be bought for 50 to 60. Taking into account the various costs involved in the breeding and rearing of warm-blooded and cold-blooded up to the age of five, Nathusius calculated that it cost 229 taler to raise a heavy horse and 368 taler to breed and rear a light horse<sup>41</sup>.

A major reason for this difference lay in the contrasting rates of return. Due to their temperamental nature, lighter horses were more likely to suffer injuries that would disqualify them from being considered for remounting. Compared with cold-blooded horses, whose use value as working horses did not necessarily diminish by small defects, warmbloods were judged more harshly. Slight irregularities in the position of the limbs, minor blemishes on the body, scars and so on could be considered major defects. As Nathusius put it:

<sup>39</sup> *Ibidem*.

<sup>40</sup> Heinrich von Nathusius, *Ueber die Lage der Landespferdezucht in Preußen*, Wiegandt und Hempel, Berlin 1872.

<sup>41</sup> *Ivi*, pp. 83-84.

most eye and respiratory defects and minor or major leg defects as a result of training and use may remain the same in both classes, but always with the difference that a blind eye, eye spots, weak rings, conspicuous galls, harmless ganglions affect the value of the luxurious noble horse in a completely different way than that of the working horse<sup>42</sup>.

Also compared with cattle, which retained their value as better dung producers, no rational farmer, he implied, would choose to breed and raise warm-blooded horses. Such attacks underpinned political calls for a change in the equine regime. On 29 November 1869, a motion was tabled in the Prussian House of Representatives calling for the influence of the *Hauptgestüte* to be reduced. Due to the hierarchical structure of the Prussian equine regime, which gave the administration of the central studs a position of almost absolute authority, it was virtually impossible to resist the kind of stallions that were consigned to the *Landgestüte*. At the Congress of German Horse Breeders in 1870, the same demands were made, with pleas to empower the provinces with breeding, in effect to decentralise the administration of national horse breeding and place more discretion in the hands of private breeders.

4. *In Defence of the Warm-blooded Horse.* In the face of these mounting criticisms and proposals, the military interests vigorously defended their position and ownership of the Prussian-German horse, seeing no need to change the existing arrangements – if anything, they felt that more state intervention was needed to protect noble horses from the onslaught of heavy breeds. «We consider the present valuation of horses based on their weights to be a hippological aberration», the «Military Weekly» charged, «which could assume very dangerous dimensions if the management of the state studs were to become too compliant in the supply of heavy *Landbeschäler*»<sup>43</sup>. Pointing to Westphalia, where the state had been slow to introduce state stallions, the publication warned in 1872 that with «the spread of industry in Prussia and throughout the German Empire, domestic remount breeding is unlikely to expand much, and may soon experience an alarming decline»<sup>44</sup>. Unsurprisingly for a military publication, frequent reference was made to the battlefield as evidence to show that warm-blooded horses were vital to the prosecution of war. In the American War of Independence, Southern states were able to withstand the superior artillery fire of the Northern states, it claimed,

<sup>42</sup> Ivi, p. 82.

<sup>43</sup> *Die Gestüte des preußischen Staates und die Landespferdezucht in Hinsicht auf den Bedarf des Heeres an Remonten und Augmentations-Pferden*, in «Militär-Wochenblatt», n. 11 (1872), pp. 179-198.

<sup>44</sup> Ivi, p. 181.

because of high performing cavalry, while more recently and closer to home, in the Franco-Prussian War, victory over the French had been the result of superior cavalry whose performance, it hardly needed adding, depended on quality remounts<sup>45</sup>.

More importantly, the «Military Weekly» claimed that victory in the Franco-Prussian War had been achieved *despite* the poor quality of the remounts provided by provinces that were moving away from the use of noble horses. Both the 4<sup>th</sup> (Westphalian) Cuirassiers and the 11<sup>th</sup> (Westphalian) Hussar Regiment, which had gone to Hanover to replenish their equine resources, complained about the poor quality of supplementary remounts (*Augmentations-Pferde*). Pointing the blame at the *Landgestüt* in Celle, the journal charged that there were proportionately more horses with «cracked, fluffy, and soft hooves» than from other provinces. To prevent this deterioration spreading to other regiments of the German Imperial Army, the military interest viewed with suspicion the moves towards decentralisation advocated by the likes of Heinrich von Nathusius. A major lesson of the Franco-Prussian War was the dangers of allowing parts of the country more freedom to pursue their own equine policies. For this reason, the «Military Weekly» went so far as to argue for extending the influence of the warm-blooded *Landbeschäler* through the organisation of mobile covering stations, taking state-sanctioned stallions from the *Hauptgestüte* all over the country to cover mares in order to achieve a deeper and wider pool of quality remounts.

Given these objections, it is not surprising that the military firmly rejected the proposal of the so-called «cold-blooded party» (*Kaltblutpartei*), which called for a separation of the central and provincial studs and the closure of Neustadt an der Dosse.<sup>46</sup> In forums such as the Commission for the Encouragement of National Horse Breeding (*Kommission für die Landespfedezucht*), the arguments became more heated as the popularity of heavy horses spread to traditional remount breeding regions. Ultimately, the military interests could not understand why the cold-blooded party sought state help: it was perfectly possible, they argued, to leave the breeding of heavy horses to the free market, as the British had done. In their view, the remounts could not be left to the vagaries of the market, which would destroy the remounts and thus jeopardise state security. Kurt von Saucken (1825-1890), an East Prussian aristocrat, pointed to the situation in the Rhineland, where industry was thirsty for heavy horses:

I see no reason why the state should buy horses for the businessmen of the Rhineland; that is not what the state is there for. The state should be responsible for the purposes and

<sup>45</sup> Ivi, p. 198.

<sup>46</sup> Ivi, p. 182.

needs of the army, but not for the procurement of suitable equine material for the large industrialists of the Rhineland<sup>47</sup>.

Victor von Podbieslki (1844-1916), a senior cavalry officer, was equally adamant that the state should not spend money on private breeding.

As a member of the army, I must deplore the infusion of cold blood. The breeder who needs and wants cold blood for his own interest may buy or breed it himself; the state, and especially the military administration, has no right to object to this; that is his own business<sup>48</sup>.

One of main results of the deliberations was to draw a clear line between remount and non-remount breeding regions, which effectively resulted in a protectionist measure that prevented free market mechanisms from operating in eastern Prussia. In 1887, Prussia also introduced regulations for the licensing of private stallions (*Körordnung*), which allowed the state to intervene in how and what the private sector wanted to breed – a related attempt to curb the spread of heavy horses from making further progress from west to east<sup>49</sup>.

By the turn of the century, the Prussian equine landscape had changed further, particularly in the east. East Prussia, the bastion of warm-blooded horses and a key region for maintaining state security, was increasingly turning to cold-blooded horses, despite desperate attempts to protect the remount-producing areas. According to the «German Agricultural Press», the number of privately owned cold-blooded stallions in East Prussia in 1909 was 356, far more than 205 privately-owned warm-blooded horses<sup>50</sup>. Although these figures were still dwarfed by the number of *Landbeschäler* (793), in the context of East Prussia, this was a significant change. In the Rhineland, on the other hand, the tide turned dramatically in favour of private cold-blooded stallions. In 1900, for example, there were 131 private stallions, rising to 223 in 1913 and 535 in 1923, while the number of stallions available for breeding in the region fell from 130 in 1900 to 206 in 1913 and 115 in 1923. For the horse population as a whole, the proportion of heavy and light horses in East Prussia also underwent a dramatic shift in the first decade of the twentieth century (Table 1). In 1898, the proportion

<sup>47</sup> *Verhandlungen der Commission zur Förderung der Pferdezucht in Preußen im Auftrage des Königlich Preussischen Ministers für die landwirthschaftlichen Angelegenheiten*, edited by F. Alpert, Schotte & Voigt, Berlin 1875, p. 70.

<sup>48</sup> *Verhandlungen der Kommission zur Förderung der Pferdezucht in Preußen*, edited by Der königliche preussische Minister für Landwirtschaft, Domänen und Forsten, Parey, Berlin 1888, p. 96.

<sup>49</sup> H.-H. Trunz, *Der Einfluß der staatlichen und privaten Körordnungen auf die ostpreussische Pferdezucht*, Parey, Berlin 1938, p. 102.

<sup>50</sup> Ivi, p. 116.

of warm-blooded horses was over 90 per cent, while the proportion of cold-blooded horses stagnated at 5 per cent. More than a decade later, in 1911, the proportion of light-blooded horses had dropped significantly to 74 per cent, while heavy-blooded horses accounted for more than 22 per cent of the horse population. Compared to Prussia as a whole, where the proportion of heavy horses rose from 36 per cent to 49 per cent, there was still a lot of catching up to do with places like the Rhineland, where almost all the horses were heavy breeds. East Prussia, however, was on an upward trajectory, leap-frogging provinces such as West Prussia, Pomerania and Hanover. It therefore appears that the *Körordnung* had only a very limited effect in limiting the rapid growth of cold-blooded breeds.

Table 1. Proportion of Light, Heavy, and Mixed-Breed Horses in Prussia (1898 vs. 1911)

<i>Region</i>	<i>Year</i>	<i>Light Horses (%)</i>	<i>Heavy Horses (%)</i>	<i>Mixed Breed (%)</i>
East Prussia	1898	90.69	5.11	4.20
	1911	73.53	22.26	4.21
West Prussia	1898	94.76	5.24	-
	1911	88.19	11.81	-
Brandenburg	1898	71.55	24.81	3.64
	1911	53.80	46.20	-
Pomerania	1898	80.82	15.82	3.36
	1911	80.15	19.85	-
Posen	1898	95.77	3.30	0.93
	1911	92.18	7.82	-
Silesia	1898	70.83	28.07	1.10
	1911	54.89	45.11	-
Saxony	1898	33.87	63.97	2.16
	1911	8.54	91.46	-
Schleswig-Holstein	1898	85.10	11.10	3.80
	1911	58.05	41.95	-
Hanover	1898	69.00	22.61	8.39
	1911	84.73	15.27	-
Westphalia	1898	55.39	40.32	4.29
	1911	46.86	53.14	-
Hesse-Nassau	1898	47.29	50.03	2.68
	1911	21.49	78.51	-



Rhineland	1898	15.45	81.38	3.17
	1911	1.10	98.90	-
Hohenzollern	1898	80.00	20.00	-
	1911	-	100.00	-
Prussia as a whole	1898	61.60	36.03	2.37
	1911	50.46	49.42	0.12

Source: O. Knispel, *Die Verbreitung der Pferdeschläge in Deutschland nach dem Stande vom Jahre 1911*, Berlin 1915.

Much of this growth was also driven by imports. Trade imbalances continued to be a problem and worsened towards the end of the nineteenth century. Russian, Belgian, Danish and Hungarian horses were the most popular imports. Between 1883 and 1900, exports of German horses stagnated, while imports continued to rise, and the deficit grew to over 100,000 in 1897, equivalent to over 60 million marks leaving the country. By international standards, the German Empire was a huge net importer of horses, with England importing just 15,000, Belgium 13,000 and France, which had a similar system of state studs (*haras*), buying only 12,400 foreign horses<sup>51</sup>. Moreover, the breeding of remounts remained unprofitable. According to a 1907 estimate, a remount cost an average of 1,240 marks over a three-year period, while the state only paid between 980 and 1,000 marks for it. The state continued to be criticised for its lavish spending on the national horse breeding programme. In his popular booklet for horse breeders, Arndt von Ploetz despaired that the central state studs were costing the state 550,000 marks a year and the provincial state studs 700,000 marks, with a further 400,000 marks going to the central agricultural societies in the form of subsidies<sup>52</sup>. In contrast, he continued, England spent very little. Imposing duties on imported horses or increasing the price paid by the state to breeders did not solve the problem.

Following the precedent set in the Rhineland, East Prussian farmers formed local agricultural societies which pooled their resources to purchase private cold-blooded stallions rather than accepting *Landbeschäler*<sup>53</sup>. In the Königsberg district of East Prussia, statistics showed that the district had 288 cold-blooded horses in private ownership – compared to just 150 warm-

<sup>51</sup> H.G. Dade, *Zum Schutz der deutschen Pferdezucht im landwirthschaftlichen und militärischen Interesse: Ein Handbuch Für Landwirthe, Abgeordnete Und Volkswirthe*, Parey, Berlin 1900, p. 17.

<sup>52</sup> A. von Ploetz, *Die Pferdezucht in ihrer volkswirtschaftlichen Bedeutung*, 2. Auflage, Komm.-V. v. F. Telge, Berlin 1896, pp. 25-26.

<sup>53</sup> O. Böhme, *Entwicklung und gegenwärtige Lage der Pferdezucht in Ostpreußen*, Selbstverlag des Ostpreußischen landwirthschaftlichen Centralvereins, Königsberg 1902.

blooded horses on the societies' books. Most of these stallions were Belgian and Ardennes, but there were also Clydesdales, Danes and Oldenburgs. This trend accelerated in the twentieth century as more local agricultural societies were formed. To combat the problem, more desperate proposals were put forward – it was suggested that the state should work with customs and the veterinary police to raise tariffs and make importation more difficult by tightening the rules on infectious diseases. In desperation, some went so far as to urge the state to be more draconian and remove heavy horses from the remount areas altogether<sup>54</sup>.

Not surprisingly, the military watched in horror as East Prussian farmers turned in droves to the breeding of cold-blooded horses – heavy horses had become, in the words of General Eugen Zobel (1838-1910), almost «a catchword» that «has hypnotised people»<sup>55</sup>. Even in places unsuitable for keeping cold-blooded horses, he complained, people were taken in. Conservatives, including military officers and landowners, went so far as to accuse private breeders of being unpatriotic, putting their selfish economic interests before their duties to the fatherland. Such criticism did little to address the structural problems, which were exacerbated by a new problem: droves of agricultural labourers were leaving rural East Prussia to work in urban areas such as the Rhineland. Since the rearing of remounts required a great deal of skill and experience in dealing with the temperamental nature of the light horses, the exodus of labour had serious consequences, leaving the horses more vulnerable to injury and more likely to be rejected by the remount commissions. As Dietrich Born, a landowner, put it: «every experienced farmer will know that it is much easier to find a servant for strong, round, well-hitting workhorses than for lighter, noble horses of strong temperament, whose feeding and treatment require increased attention, and that such animals are quickly spoiled in the hands of rough workers and can achieve little»<sup>56</sup>.

In his influential book, *The Plight of German Horse Breeding*, published in 1907, Gustav Rau – writing from his vantage point as a horse journalist who had travelled across Europe comparing and contrasting horse breeding in different countries – put his finger on the paradox facing the German horse at the turn of the century<sup>57</sup>. He astutely observed that the problem was

<sup>54</sup> [E.] Zobel, *Gedanken über die Landespferdezucht in Deutschland*, in «Deutsche Landwirtschaftliche Presse», n. 66 (1903), p. 572.

<sup>55</sup> E. Zobel, *Zur Remontierung der deutschen Armee*, in «Deutsche Landwirtschaftliche Tierzucht», n. 10 (1904), pp. 114-117.

<sup>56</sup> D. Born, *Kaltblutzucht in Ostpreußen*, in «Deutsche Landwirtschaftliche Tierzucht», n. 39 (1908), p. 460.

<sup>57</sup> Gustav Rau, *Die Not der deutschen Pferdezucht: Eine kritische Darstellung der bestehenden Verhältnisse und Vorschläge*, Schickhardt & Ebner, Stuttgart 1907.

not with the horse, but with society, which made unreasonable and irreconcilable demands on the creature. As a result, the horse was, metaphorically speaking, being torn apart. The consumers – the military, agriculture, industry, and commerce – were responsible for this «discrepancy» (*Zwiespalt*)<sup>58</sup>.

The state wants a very noble horse with boundless endurance to meet the ever-increasing performative requirements of the army; agriculture wants a horse that is as heavy as possible and yet able to work calmly in an environment of increasing intensification; industry wants the heaviest possible packhorse, while the luxury market wants elegant, strong, but agile horses...<sup>59</sup>.

Rau called on the parties involved in the battle over the Prussian-German equine body to put aside the heated arguments of the past few decades and reminded them that «[t]here are no horses that meet the requirements of these four consumers to the same extent»<sup>60</sup>. In the past, he explained, it had been possible to reconcile these demands because agriculture and industry could make do with horses of medium strength, while the military's requirements were not as stringent. Despite Rau's intervention, debates over competing definitions of security remained heated, and it was not until the First World War, when mechanised and trench warfare significantly reduced the effectiveness of the cavalry arm in military operations, that this discrepancy was resolved.

5. *Beyond Agriculture*. In her book on horse breeding, marketing and society, Margaret E. Derry, a livestock historian, has demonstrated how the provision of remounts came down to the relationship between the state and farmers<sup>61</sup>. A major focus of Derry's monograph is Britain, where attitudes were characterised by antipathy towards state intervention in the breeding of horses, even when it seemed justified on grounds of national security. Despite the difficulties of providing sufficient cavalry, which the Crimean War (1851-1856) exposed, the British did not follow the French or Prussian model, where state control over the supply of cavalry horses was strong and horses from anywhere in the country could potentially be called up for military service. As Derry has pointed out, the British «distrusted the Haras system of licensing; they rejected the idea of inspection for soundness. They opposed the idea of government ownership of breeding stallions in various parts of Britain because these depots would compete with private breeders»<sup>62</sup>. Such

<sup>58</sup> Ivi, 1.

<sup>59</sup> *Ibidem*.

<sup>60</sup> *Ibidem*.

<sup>61</sup> M.E. Derry, *Horses in Society. A Story of Animal Breeding and Marketing Culture, 1800 – 1920*, University of Toronto Press, Toronto 2006.

<sup>62</sup> Ivi, p. 109.

intransigence did not solve the problem of remounts, and after a failed attempt to obtain remounts from the colony of Canada, a remount department was set up in 1887 to ensure that the country had a pool of reserves in case of conflict. Nevertheless, reservations about the continental system persisted into the twentieth century, with Sir Walter Gilbey, a renowned horse expert, expressing the British attitude in 1901 thus:

it is not, I think, desirable that the British Government should embark upon costly horse-breeding operations in emulation of foreign Powers. Private enterprise in England has succeeded in procuring domestic animals of all kinds superior to those bred in other countries that the best of our English stock .... are purchased at “fancy prices”, to improve their kind in every civilized part of the world<sup>63</sup>.

In 1873, when the House of Lords was asked to consider the continuing problem of remounts, the Select Committee on the subject was impressed with Prussia, both for the speed with which it could mobilise a million horses and for the vast pool of horses it could call upon in the event of hostilities. Much of this was achieved through investment in a network of state studs, divided into *Hauptgestüte* and *Landgestüte*, which, as Gilbey rightly points out, had been importing purebreds from Britain and elsewhere since the late eighteenth century to act as studs or seeds for the entire horse population. But the disproportionate power of the Prussian equine regime had its costs. The most obvious were trade imbalances, as agriculture, industry and commerce – frustrated by the state’s unwillingness to support the breeding of cold-blooded horses – turned increasingly to importing heavy breeds from neighbouring countries. Contests were fought over the Prussian horse, with private breeders and military officers making competing claims to ownership over how it should look like, how much it should weigh and what ends it should serve. As warm-blooded horses became more popular, the state tried to prevent the fashion from taking over the whole of the country by introducing the *Körordnung*, which vetted private stallions, and by dividing areas into remount-producing and non-remount-producing regions. Frustration at the ineffectiveness of these measures could lead to criticism directed of farmers for failing to fulfil their patriotic duty. In one of his many criticisms of the equine regime, Heinrich von Nathusius, who also dealt with breeding pigs and cattle, wondered why the term *Landespferdezucht* was used only for horses and never for other livestock<sup>64</sup>. For many defenders of warm-blooded horses, the riding horse, as used in the cavalry, was an animal like no other: its nobility, purity, role on the battlefield, historical association with monarchs made it seem that horses were beyond agriculture and the economic

<sup>63</sup> Quoted in Derry, *Horses*, cit., p. 114.

<sup>64</sup> Nathusius, *Landespferdezucht*, cit., p. 2.

laws of supply and demand. Even in a militaristic state like Prussia, this exalted view of horses came under sustained attack, and the landowning class that dominated the military could not prevent farmers from pursuing their private interests.