

*Spiritual and Secular Therapies: Combatting Cattle Plague during an Era of Disaster*  
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Figure 1. Jan Smit, *Gods slaandehand over Nederland, door de pest-siekte onder het rund vee naar het leven getekent, en gegraveert door Jan Smit*. Amsterdam, 1745.

Jan Smit's *Gods Slaandehand over Nederland* is one of the most recognizable images of eighteenth century European cattle plague.<sup>1</sup> This allegorical depiction of the second wave of "*pest-ziekte onder het rund vee*" had the dual purpose of reporting ongoing events and serving social and theological purposes.<sup>2</sup> Its graphic representation of dead and dying cattle and complementary human misery is frequently employed in Dutch scholarship but also in more general studies taking a broader European (even global) perspective.<sup>3</sup> Its popularity is understandable given the direct manner in which it conveys its message and the broad applicability of its subject matter during three epidemics of cattle plague over

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<sup>1</sup> Jan Smit, *Gods Slaandehand over Nederland, Door De Pest-Siekte Onder Het Rund Vee Naar Het Leeven Getekent, En Gegraveert Door Jan Smit*, vol. 17499 (Amsterdam: Steven van Esveldt, 1745).

<sup>2</sup> Engraved *naa het leeven* (from/after life), this implies the purpose of the image (reporting as evidence) rather than the condition of its creation (i.e. sketches in the field) For more on the artistic definition, see: Claudia Swan, *Art, Science, and Witchcraft in Early Modern Holland: Jacques De Gheyn li (1565-1629)* (Cambridge: Cambridge University Press, 2005), 36-40.

<sup>3</sup> See, for instance: Egbert Barten, "*...En Rukte Overal Alles Weg, Waer Zij Trof...*": *De Runderpest in Nederland, Met Nadruk Op De Langedijk*, in *De 18de Eeuw (1713-1784)* (Noord Scharwoude: De Schrijfcaemer, 1983). (Netherlands); or Clive A. Spinae, *Cattle Plague: A History* (New York: Kluwer Academic/Plenum Publishers, 2003). (Global)

the course of the century (1713-20; 1744-64; 1769-84).<sup>4</sup> Many of its key themes—providentialism, government regulation, environmental disturbance— defined the experience of cattle plague across Europe just as they did in the Netherlands.

The ubiquity of this image and its very Dutch composition notwithstanding, the Netherlands has never been a central focus of international research on cattle plague in the eighteenth century. By the standards of most current scholarship (the Netherlands included) Dutch responses to cattle plague epidemics were relatively ineffectual. The history of cattle plague in these studies is often interpreted as a process of gradual adaptation leading to an eventual, successful eradication of the disease. This type of positivist analysis privileges modernist assumptions about progress relating to the eventual development of veterinary science and medicine. While cattle plague did possibly contribute to a reevaluation of disease in the Netherlands much as it did in other European countries, historians often treat the Dutch case as one of political indecision and conservative, rural aversion to developing techniques like preemptive slaughter and inoculation.<sup>5</sup>

The Dutch example must be reevaluated in view of the context of the era rather than eventual outcomes. Dutch farmers, government officials, and religious thinkers actively responded to the threat and eventuality of cattle plague. Smit's engraving and the associated text reported the condition of the countryside in the 1740s, but it is also revealing of the social, moral, and environmental consequences of the Dutch response. This image as well as other material and textual sources depicted a public deeply concerned with the consequences of the disease and its possible cure. Furthermore, the Dutch did not treat this as an independent epidemic, but part of a larger series of economic and environmental disasters that affected the Netherlands in the eighteenth century.

This project investigates the cultural and medical responses to eighteenth century cattle plague in the Netherlands, particularly in the province of Groningen. It argues that the interpretation and response to the disasters of the eighteenth century were bound up in providential and historical means of understanding medicine and environmental change, especially human and animal diseases. Most importantly, these disasters were interpreted in light of a larger period of eighteenth century disasters that preceded and continued during the cattle plague epidemics. Dutch governmental, religious, and personal documents attest to the perceived connectedness of these disasters. These documents also reveal an active interest in understanding and combatting the disease whether by spiritual solutions or resilient interpretations of early modern medicine and public health.

#### *Cattle Plague: A Dutch Disease?*

Despite the recent upsurge in scholarship relating to cattle plague (especially rinderpest), the Dutch response to the disease is still a remarkably open area of research. This is partly because cattle plague is not interpreted as a "Dutch" phenomenon. In the disaster-prone context of the eighteenth century, it is understandable that a panzootic affecting much of Europe would illicit less scholarly interest than more the more indigenous problems of increasingly severe river and coastal flooding, a shipworm epidemic, and a secular "crisis" period in agriculture that ran roughly coterminous with these cattle plagues.<sup>6</sup>

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<sup>4</sup> These dates correspond to the Dutch experience. Different parts of Europe experienced these epidemics to a greater or lesser extent, at varying times. A full chronology of every region is lacking, but a general outline can be derived from Spinage's *Cattle Plague: A History*.

<sup>5</sup> Some scholars go so far as to question even this conclusion. Louise Curth argues that, in the case of England, the birth of veterinary science is more accurately traced to economic and political concerns. Louise Hill Curth, *The Care of Brute Beasts: A Social and Cultural Study of Veterinary Medicine in Early Modern England* (Leiden: Brill, 2010), 153.

<sup>6</sup> Richard Tol and Andreas Langen, "A Concise History of Dutch River Floods," *Climatic Change* 46, no. 3 (2000); G.P. van de Ven, *Leefbaar Laagland: Geschiedenis Van De Waterbeheersing En Landaanwinning in Nederland*, International Commission on Irrigation and Drainage. Nederlands Nationaal Comité (Utrecht: Uitgeverij Matrijs,

Indeed, as I will later argue, these subjects are intimately related. Still, the strength in scholarship (especially from an economic perspective) largely melded cattle plague into one of a series of influences forcing agricultural crisis. Cattle plague-specific research, therefore, is rare in the Netherlands.<sup>7</sup>

The international scope of historical cattle plague research, while appropriate in many contexts, does a disservice to the national, regional, and local responses to the disease. If eighteenth century cattle plague can be classified as an affliction of *national* character, this narrative certainly privileges stories from Italy, England, and France.<sup>8</sup> These were the countries that either benefitted from early historical interest in the subject or were at the forefront of “scientific” of veterinary care.

Considering their close interrelationship, it is surprising how little scholarship explicitly focused on the interaction between cattle production and environmental change. Much of the earliest work on the subject focused exclusively on the political economy of dairying and the beef trade. Even the subject of cattle plague as a disease entity, an environmental issue, was often treated to disinterested statistical analysis. Scholars focused more on the economic impact of the disease and the relative success or failure of governmental policies of control than the impact these disasters had on human uses and understandings of the environment. One exception being the now debunked hypothesis of cattle plagues prompting the conversion of pastureland to arable production.<sup>9</sup>

The more recent influence of environmental history has had a subtle effect on the scholarship. While “environmental histories” of cattle plague are rare, the recent research of Karl Appuhn argues that the first eighteenth century epizootic revealed the increasing importance of environmental interconnections between eastern and southern Europe. He links this environmental change to agrarian change, developing markets, and nutritional habits.<sup>10</sup> Similar work, though less explicitly environmental, is Wilhelmina Gijsber’s study on the rise and decline of the international cattle trade between Holland and Denmark. The particular social and environmental conditions of Holland vis-à-vis Denmark conditioned the latter to behave in much the same manner Hungary did in relation to Italy. Just as changing agrarian conditions in Italy led to greater dependency on imported beef, a similar situation (in this case related to specialized dairying on the polderlands in Holland) led to the development of international beef linkages to Denmark. Cattle Plague in Holland, Gijsbers explains, was a result of these connections and at least partly responsible for their ultimate unraveling.<sup>11</sup>

These “agro-ecological” dimensions of cattle plague are, therefore, an exciting and gradually deepening subject of scholarship. They tend to congregate at the intersections of two levels of a

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2003); A.M.A.J. Driessen, *Watersnood Tussen Maas En Waal: Overstromingsrampen in Het Rivierengebied Tussen 1780 En 1810* (Walburg, 1994); C. Baars, "De Paalwormfurie Van 1731-1732 En De Schade Aan De West-Fries Zeedijk," *Waterschapsbelangen* 73(1988); J. Mouthaan, *Het Knaegen Der Wormen Aen De Paelen Der Nederlandze Zeedyken': Reacties Op De Teredo Navalis in De Nederlandse Republiek Vanuit Cultuurhistorisch Perspectief, 1731-1735* (Zoetermeer: Free Musketeers, 2010); Johan de Vries, *De Economische Achteruitgang Der Republiek in De Achttiende Eeuw* (Leiden: Stenfert Kroese, 1968).

<sup>7</sup> H.K. Roessingh, "Landbouw in De Noordelijke Nederlanden, 1650-1815," *Algemene Geschiedenis der Nederlanden* 8(1979); Jan Bieleman, *Boeren in Nederland: Geschiedenis Van De Landbouw 1500-2000* (Amsterdam: Boom, 2008).

<sup>8</sup> One need only read the international or global treatments of the disease to determine the relative importance ascribed various regions. Spinage, *Cattle Plague: A History*.

<sup>9</sup> This theory was debunked in Overijssel and well as in the Beijerlanden B.H. Slicher van Bath, *Een Samenleving Onder Spanning: Geschiedenis Van Het Platteland in Overijssel* (H E S Publishers, 1957); C. Baars, *De Geschiedenis Van De Landbouw in De Beijerlanden* (Wageningen: Pudoc, 1973).

<sup>10</sup> Karl Appuhn, "Ecologies of Beef: Eighteenth-Century Epizootics and the Environmental History of Early Modern Europe," *Environmental History* 15, no. 2 (2010).

<sup>11</sup> Wilhelmina Maria Gijsbers, *Kapitale Ossen: De Internationale Handel in Slachtvee in Noordwest-Europa (1300-1750)* (Verloren, 1999).

framework for environmental history proposed by Donald Worster: those of reconstructing “historic natural conditions” and explicating their relationships to “modes of production.”<sup>12</sup>

The third, less studied (though equally significant) element of the human interaction with cattle plagues is ideological. This study approaches the ideological dimension of cattle plague, largely from the perspective of the northeastern Dutch province of Groningen. Groningen was an agrarian province with a large cattle population in the eighteenth century and many of its reactions are representative of the Netherlands at large. Groningen was also the home of two of the most important figureheads (according to the current medical historiography) of Dutch veterinary medicine: Geert Reindeers and Petrus Camper. Rather than providing yet another treatment of their individual accomplishments in the development of veterinary science (especially inoculation), this study addresses the Groninger response prior to their involvement. In doing so, this study addresses cattle on the scale where it was most often interpreted: the provincial and local.

Much of the historical literature treats this earlier period as an ineffective precursor to the “modernizing” developments of veterinary men. This study shows that, on an ideological level, Groningers offered an active response, albeit grounded in age-old providential and medical traditions. It achieves this on two levels; the first is therapeutic. The relative lack of modern scholarship is surprising because many of the earliest scholarly investigations of the disease focused exclusively on the history of medicine.<sup>13</sup> This trend is shared by the history of human medicine. Only since the 1970s with the arrival of the “new” and “social history of medicine” have scholars seriously attempted to bring the majority of the experience of sickness and treatment (including the role of spiritual therapy) within the purview of their interests.<sup>14</sup> These attempts are crucial to the interpretation of animal diseases considering the close relationship between concepts of disease, religion, and medicine between humans and animals.

Second, the ideological approach to cattle plague is also important because it further clarifies the reciprocal relationships between natural and economic changes. Economic decision-making (including coping strategies) were necessarily dependent on the world of expectations, fears, and all manner of other interpretations of the natural world. The ideological approach is doubly important in the case of eighteenth century cattle plague because coping strategies were not uniquely limited to a single threat. Cattle plague was conceived as one part of a larger series of disasters and the interpretation and subsequent coping strategies reflect that fact.

#### *Responses to Cattle Plague: Spiritual Therapy*

Despite their prominent place in the history of medicine, public health and religious therapies have only recently been explored as a valid part of the popular medical milieu. The spiritual dimension of medicine did not fit within the narrative of the scientific control of disease. More often, scholars held “superstitious” beliefs or fatalistic outlooks responsible for the delayed acceptance of practices like the *Lancisi* system of culling infected herds, inoculation, or the development of veterinary schools.<sup>15</sup> In fact,

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<sup>12</sup> Donald Worster, “Transformations of the Earth: Toward an Agroecological Perspective in History,” *Journal of American History* 76, no. 4 (1990).

<sup>13</sup> Franciscus Cornelius Hekmeijer, *Korte Geschiedenis Der Runderpest: Benevens Eene Opgave Van Al De over Deze Ziekte Handelende Geschriften, Die Van De Vroegste Tijden Tot Op Heden Zijn Uitgekomen* (Amersfoort: Jacobs en Meijers, 1845).

<sup>14</sup> Mary Lindemann, *Medicine and Society in Early Modern Europe* (Cambridge: Cambridge University Press, 2010); Roy Porter, *Patients and Practitioners: Lay Perceptions of Medicine in Pre-Industrial Society* (Cambridge: Cambridge University Press, 2003); Marijke Gijswit-Hofstra, Hilary Marland, and Hans de Waardt, *Illness and Healing Alternatives in Western Europe* (New York: Routledge, 2013).

<sup>15</sup> These “advances” offer a spectrum of the newest developments in cattle plague response from the *Lancisi* system during the first cattle plague epidemic, to the rise of inoculation in the 1750s, to the rise of veterinary schools in the 1760s and 70s. See: Madeleine Ferrières, *Sacred Cow, Mad Cow: A History of Food Fears* (New York:

each of these ideas had its followers and antagonists in the Netherlands, though not necessarily conterminously or by a wide section of the population. It is beyond the scope (or interest) of this article to continue along this well-trod path of the history of science. The dominant, medical reactions to cattle plague in the Netherlands were based on theology and human medicine.

The arrival of cattle plague in the Netherlands usually prompted an immediate turn to spiritual interpretation. Theological reactions to cattle plague across Europe were based on the providential balance of sin and divine punishment.<sup>16</sup> Human sin could result in human disease according to this framework, but punishment could be dealt just as easily through animals.<sup>17</sup> The moral reading of the cattle plagues did not simply engender fatalism, nor should it be used merely as a lens through which to understand mentality. Providential literature was retrospective, therapeutic, and preemptive. It looked to history and memory for past examples of cattle plague upon which to draw reference. It prescribed moral salves that were as important as profane remedies. Finally, it offered a vision of a renewed and healed Netherlands, free of every type of disaster.

Religious and secular authorities alike encouraged their use to forestall the arrival of cattle plague, dampen and eradicate its influence, and prevent its reappearance. Prescriptions for change go beyond an examination of interpretation and mentality and enter the marketplace of competing remedies.<sup>18</sup> These prescriptions were both state supported and personally-oriented. Prayer, penitence, and giving thanks to God were considered efficacious means of averting or mitigating disaster in the early modern period.

The most common state-sponsored mechanism in the Netherlands were thanksgiving, fasting, and prayer days. Days of prayer had a deep history in the Netherlands and throughout Europe, but became especially prominent in the Netherlands in the early modern period.<sup>19</sup> They received official sanction during the Synod of Dordrecht and a steady stream of official proclamations persisted through the eighteenth century, either as *vaste bededagen* (fixed days of prayer) or in reference to special events such as wars, natural disasters, or political events.<sup>20</sup> Dictated by provincial governments or the Estates General and performed at local churches, Dutch scholars interpret these events as methods of disaster prevention and insurance, as coping mechanisms following extreme events, or as civil rituals.<sup>21</sup>

During episodes of plague, prayer days could be prophylactic, preventing the incursion of the disease into a protected area, or therapeutic.<sup>22</sup> Often, prayer days were instituted at the first sighting of

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Columbia University Press, 2006); C. Huygelen, "The Immunization of Cattle against Rinderpest in Eighteenth-Century Europe," *Medical History* 41, no. 2 (1997). J.F. Smithcors, *Evolution of the Veterinary Art: A Narrative Account to 1850* (Kansas City, MO: Veterinary Medicine Publishing Co., 1957).

<sup>16</sup> A. Walsham, *Providence in Early Modern England* (Oxford University Press, 1999), 150.

<sup>17</sup> Curth, *The Care of Brute Beasts: A Social and Cultural Study of Veterinary Medicine in Early Modern England*, 118.

<sup>18</sup> Until recently, the notion of a "medical marketplace" only applied to human medicine. Louise Curth, however, recently made a compelling case for its significance in animal medicine. *Ibid.*

<sup>19</sup> Nicholaas C. Kist, *Neêrland's Bededagen En Biddagsbrieven: Een Bijdrage Ter Opbouw Der Geschiedenis Van Staat En Kerk in Nederland. De Nederlandsche Biddagsbrieven* (Leiden: Luchtmans, 1849).

<sup>20</sup> See article 66 of the "Church Ordinance of the Services" approved at the Synod of Dordrecht. P. Biesterveld and H.H. Kuyper, *Kerkelijk Handboekje: Bevattende De Bepalingen Der Nederlandsche Synod En Andere Stukken Ven Beteekenis Voor De Regeering Der Kerk* (Kampen: J.H. Bos, 1905).

<sup>21</sup> M.H.D. van Leeuwen and J. van Gerwen, *Zoeken Naar Zekerheid: Risico's, Preventie, Verzekeringen En Andere Zekerheidsregelingen in Nederland, 1500-2000* (Verbond van Verzekeraars, 2000), 393; Leo Noordegraaf, "Of Bidden Helpt? Bededagen Als Reactie Op Rampen in De Republiek," in *Of Bidden Helpt? Tegenslag En Cultuur in Europa Circa 1500-2000*, ed. Marijke Gijswijt-Hofstra and Florike Egmond (Amsterdam: Amsterdam University Press, 1997); Peter van Rooden, "Dissenters En Bededagen. Civil Religion Ten Tijden Van De Republiek," *BMGN: Low Countries Historical Review* 107, no. 4 (1992).

<sup>22</sup> Noordegraaf, "Of Bidden Helpt? Bededagen Als Reactie Op Rampen in De Republiek", 38.

disease within state borders. December 15, 1714, for instance was both the first official recognition of cattle plague in Groningen as well as the provincial declaration of an “extraordinary day of fasting and prayer” to be held on January ninth.<sup>23</sup> Declarations were generally formulaic and specified the reason for a prayer (the “plague of infectious cattle disease that has befallen the province”), the date, and a penalty for failure to participate.

The ubiquity of penalties for non-participation is evidence that the effectiveness of this remedy was not universally recognized, however. At the very least, it is evidence that there were other cultural, social, and economic demands that competed for congregations’ attention. Days of fasting and prayer were intended to be specifically reserved for those functions, thus excluding both leisure and work. Into the late eighteenth century, Dutch clergymen complained about the lack of attendance and interest in prayer days.<sup>24</sup>

Individuals were also encouraged to practice private penance. Mennonites, in particular, shunned participation in public religious events in favor of private devotional practices. Disasters like cattle plague were, in the view of Mennonites and possibly the Arminians, local problems requiring individual solutions.<sup>25</sup> Reformed congregations were also encouraged to practice individual repentance, though not to the exclusion of public prayer, fasting, and thanksgiving events.

The first step to spiritually combat cattle plague on an individual level was for readers to recognize and interpret divine signals. The East Frisian minister Jacob Harkenroht, for instance, focused on individual actions in response to cattle plague, and stated that the first preventative step was to investigate causation. The majority of literature that imparted meaning to these disasters either explicitly or implicitly argued that the Netherlands experienced a fall from grace and that they had strayed from an (historically) righteous path. God as shepherd to His flock was a well-known analogy, but Dutch literature sometimes ascribed similar moral meaning to cattle. The most famous moralist was Amsterdammer poet and illustrator, Jan Luyken (1649-1712) who, in his *De Bykorf des gemoeds...* (1711), drew moral and scriptural meaning from the domesticated and dependent condition of livestock. Without God’s guidance, humanity would be (spiritually) lost.<sup>26</sup> The foolishness and forgetfulness of calves represented the tendency of people to forget lessons and fall into sin.<sup>27</sup> The “cow” specifically was a reminder of the Fall; the domesticated cow being a vestigial remnant of humanity’s former universal dominion over animals. (see Figure III)

Figure III.<sup>28</sup>

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<sup>23</sup> *Plakkat Van De Gedeputeerde Staten Van Stadt Groningen En Ommelanden*. 15 Dec. 1714. Staten van Stad en Lande. 1. 477. Groninger Archieven.

<sup>24</sup> Jan Willem Buisman, *Tussen Vroomheid En Verlichting: Een Cultuurhistorische En -Sociologisch Onderzoek Naar Enkele Aspecten Van De Verlichting in Nederland (1755-1810)* (Zwolle: Waanders, 1992), 201.

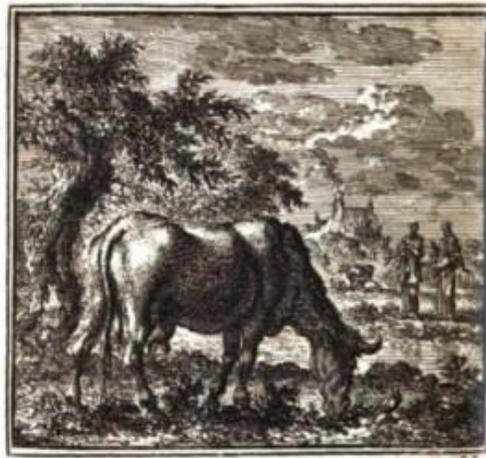
<sup>25</sup> Kate Cooper and Jeremy Gregory, eds., *Retribution, Repentance, and Reconciliation: Papers Read at the 2002 Summer Meeting and the 2003 Winter Meeting of the Ecclesiastical History Society* (Rochester, NY: Ecclesiastical History Society, 2004), 225.

<sup>26</sup> Jan Luyken, *De Bykorf Des Gemoeds, Honing Zaamelende Uit Allerly Bloemen. Vervattende over De Honderd Konstige Figuren. Met Godlyke Spreuken En Stichtelyke Verzen*. (Amsterdam: Arentz, P. van der Sys, K., 1711), 126.

<sup>27</sup> *Ibid.*, 330.

<sup>28</sup> *Ibid.*, 278.

Schuw voor minder schyn quaad.



*Want als de HEERE God, uit der aarden alle 't  
gedierte des velds, en al 't gevogelte des bemels gemaakt  
hadde, zo bragt hy ze tot Adam, om te zien hoe hy ze  
noemen zoude: en zo als Adam alle levendige ziele noe-  
men zoude, dat zoud' zyn naam zyn. Genesis II: 19.  
D'on*

Just as the healthy cow evoked moral references, cattle plague inspired theological interpretation. All three epizootics of the eighteenth century were interpreted as punishments for human sin.<sup>29</sup> This was not a reaction unique to cattle plague, however. Early modern writers interpreted disasters as disparate as human plague, fire, earthquakes, and warfare as punishment for human immorality. Like many of these afflictions, authors could find ample evidence of causation in the bible. The symbolic association of Dutch cattle with wealth led to obvious allusions to the “Golden Calf” of the Old Testament. Perhaps for this reason, idolatry is an oft-quoted sin responsible for the plagues. Dutch authors sometimes offered familiar passages from exodus or psalms to explain the presence of eighteenth century sickness, both relating to the plagues of Egypt.<sup>30</sup> This passage offered clear evidence that cattle plague was an historically employed weapon of divine punishment.

Exodus offered little in the way of specific instruction for pious early modern Dutchmen, however, and eighteenth century sermons and pamphlets usually offered alternate interpretations that gave a clearer indication of the specific sins of the Netherlands. Pieter Liesveldt offered a dialogue between

<sup>29</sup> Much has been made of the role of inoculation and Enlightenment ideas during the third epizootic in the 1770s. J.W. Buisman's investigation of the Enlightenment during the third rinderpest epidemic noted that relatively few sources explicitly reference what (in his opinion) can be regarded as “enlightened” notions. The self-evident nature of sin-punishment causation in disasters was also waning, however. Buisman, *Tussen Vroomheid En Verlichting: Een Cultuurhistorische En -Sociologisch Onderzoek Naar Enkele Aspecten Van De Verlichting in Nederland (1755-1810)*, 108-110.

<sup>30</sup> Taken from Exodus 9:3 of the state translation of the Bible. With the sixth plague, Moses promised that God “sal zijn over u vee dat in 't velt is, ...over de runderen, ende over het kleyn vee: door eene seer sware pestilentie.” anon., *Biblia, Dat Is: De Gantsche H. Schrifture (Statenvertaling 1637)* (Leiden: Paulus Aerts van Ravensteyn, 1637), pg. 4v.

God and the “*inwoonders*” of the Netherlands. When asked why He inflicted this sickness upon the Netherlands, God responded that the Dutch brought this disaster upon themselves with their “pride, lying, whoring, deception, violation of his name, and drunkenness.”<sup>31</sup> Harkenroht reiterated these sins, adding to the list “idolatry, forgetting the word of God, insensitivity, excess and waste.”<sup>32</sup> These sins were frequently couched in the history of a region (in this case the Frisian areas of the Netherlands and Germany). Harkenroht took pains to connect the agrarian character of this region to biblical counterparts. As with most *strafpredicaties* from this era, however, the sins were also general enough to be applicable on a regional or national scale.

Finally, commenting on the first wave of epidemics, Harkenroht offered an interpretation of Isaiah 7:21 that foretold future disaster.<sup>33</sup> This cattle plague, like the biblical plagues, was a warning of “more terrible disasters.”<sup>34</sup> Harkenroht justified this interpretation by referencing the recent history of the northern Netherlands which had been subjected to multiple disasters from the medieval period to the eighteenth century, in particular flooding. Appended to this published sermon was Emden minister Gerardus Outhof’s dialogue between two farmers. The fatalistic farmer, Damon, worried that this cattle plague “only foretell[s] of future disasters, even more severe.”<sup>35</sup> Memory of past disasters and recognition of the divine origins of the present were keys to preventing future occurrences. Outhof and many of his contemporaries thought this plague was only a prelude; God giving them a chance to repent.

Harkenroht and his contemporaries’ diagnoses of the causation of cattle plague led to obvious remedies: the confession of sins, self-improvement and conversion, and lastly personal prayers for the country as whole.<sup>36</sup> These measures, Harkenroht assured the reader, were panacea that would not only cleanse the East Friesland of cattle plague, but every other disaster leading to a reinvigoration of the countryside.<sup>37</sup> This, he noted, was in contrast to another option frequently chosen by afflicted farmers: profane medicine.

#### Responses to Cattle Plague: Profane Therapy

“No human help or skill,” Harkenroht argued, “much less any superstitious or idolatrous measures, can cure this cattle sickness.”<sup>38</sup> Prayer, for him, was the sole means of salvation. This exclusivity and pessimism was not universal, however. Much more common were remedies that blended spiritual care with profane treatments. First person accounts of farmer’s medical choices for their cattle are rare, but

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<sup>31</sup> Pieter Liesveldt, *Neerlands Oordeel, Ofte Levendig Verdoog Van De Slaande Hand Gods, over De Bedroefde Sterfte Onder Het Rund-Vee. Voorgesteld in Een Saamenspraak*, vol. 17498 (Nieuwkoop: Joh. van Abkoude, 1745), 8.

<sup>32</sup> Jacobus Isebrandi Harkenroht, *Kerkreede over Oostfrieslands Rundvees Pest, Gevreest, En Helaas Gekoomen, Aangevoont Uit Jes: Vii. Vs. 21. ... Op Een Maandelijke Bededag Aan De Gemeente Te Larrelt in Oostfriesland*, vol. 16305 (Emden: Enoch Brantgum, 1716), 25-27.

<sup>33</sup> Isaiah 7:21, “Ende 'tsal geschieden te dien dage, dat yemant een koeyken in't leven sal behouden hebben, ende twee schapen.” anon., *Biblia, Dat Is: De Gantsche H. Schrifture (Statenvertaling 1637)*.

<sup>34</sup> Harkenroht, *Kerkreede over Oostfrieslands Rundvees Pest, Gevreest, En Helaas Gekoomen, Aangevoont Uit Jes: Vii. Vs. 21. ... Op Een Maandelijke Bededag Aan De Gemeente Te Larrelt in Oostfriesland* (Emden: Enoch Brantgum, 1716), 7.

<sup>35</sup> Jacobus Isebrandi Harkenroht and Gerardus Outhof, *Kerkreede over Oostfrieslands Rundvees Pest ... Aan De Gemeente Te Larrelt in Oostfriesland* (Emden: Enoch Brantgum, 1716).

<sup>36</sup> Harkenroht, *Kerkreede over Oostfrieslands Rundvees Pest, Gevreest, En Helaas Gekoomen, Aangevoont Uit Jes: Vii. Vs. 21. ... Op Een Maandelijke Bededag Aan De Gemeente Te Larrelt in Oostfriesland* (Emden: Enoch Brantgum, 1716), 38-41.

<sup>37</sup> *Ibid.*, 40-41.

<sup>38</sup> *Ibid.*, 41.

the profusion of “cures” for cattle plague advertised in pamphlets or newspapers as well as recipe books that were handed down between family members, are a reliable indication of interested customers.<sup>39</sup>

There is little scholarship focusing on early modern, popular medicine as it related to animals.<sup>40</sup> What little exists usually treats medication as an ineffective precursor to the advances of the nineteenth century and only revealing of “the helpless state of veterinary knowledge.”<sup>41</sup> On the contrary, eighteenth century medicine worked on a different level of assumptions about efficacy and the usefulness of “cures.” Rather than producing a desired state of health, early modern medicine was oriented to the production of desired results: such as purging or vomiting.<sup>42</sup> This was in keeping with dominant human models of health, disease, and therapy in the eighteenth century. While some authors could certainly be characterized as fatalistic in their outlook on medicine, it would be a mistake to call Dutch efforts to combat cattle plague as “helpless.” There existed an extensive array of options drawing on Galenic and perhaps Paracelsian models of medicine. These models were drawn from a deep continuum of gradually adapted medical knowledge and they informed individual and community choices regarding remedies for infected cattle as well as public regulations.

A wide variety of “remedies against the contagious sickness” were published following the first episode of cattle plague and these continued through the third outbreak at the end of the century.<sup>43</sup> These documents could be handwritten or published and occasionally several were compiled in a single publication.<sup>44</sup> Remedies were internationally transmitted and the progress of new translations of foreign recipes occasionally made the newspapers.<sup>45</sup>

The extent to which these recipes were employed, their distribution, and the popular appreciation of their effectiveness is still debatable. Based on the distribution of publications, it can be inferred that there was widespread interest among the reading public across the Netherlands. Authors offered a wide spectrum of confidence regarding their effectiveness. The government of Gelderland, for instance, published a recipe in 1749 “whereby, many of the sick animals, as many as which were treated, have been returned to health.”<sup>46</sup> On the opposite end of the spectrum, the *Leeuwarder Courant* published a largely pessimistic appraisal provided by “a doctor” who concluded that “people will probably never find a suitably cure for the disease,” but based on its similarities to other diseases, it may be possible to

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<sup>39</sup> Many of these recipes are now found in family archives or houses of the nobility, for instance, “Rapporten over waarnemingen van ziekte onder het rundvee te Westbroek en Achttienhoven, met mededelingen over symptomen van deze ziekte en middelen tot bestrijding, 1744-1774.” Huis Zuilen *Het Utrechts Archief*, 76.145.

<sup>40</sup> Two notable exceptions are: Curth, *The Care of Brute Beasts: A Social and Cultural Study of Veterinary Medicine in Early Modern England.*, and Lise Wilkinson, *Animals and Disease: An Introduction to the History of Comparative Medicine* (Cambridge: Cambridge University Press, 1992).

<sup>41</sup> Reinhold A. Dorwart, “Cattle Disease (Rinderpest?): Prevention and Cure in Brandenburg, 1665-1732,” *Agricultural History* 33, no. 2 (1959), 84.

<sup>42</sup> Porter, *Patients and Practitioners: Lay Perceptions of Medicine in Pre-Industrial Society*, 119.

<sup>43</sup> While my search is by no means exhaustive, I have yet to encounter recipes during or before the first outbreak in 1713. The highpoint of publication seems to be the 1730s and 40s, immediately preceding and during the second outbreak.

<sup>44</sup> Anon. *Remedien Tegen De Contagieuse Siekte Onder De Paarden En Hoornbeesten* (Eds. Paulus and Isaac Scheltus). 1732. Stads- en Gemeentebestuur van Beverwijk. Noord Hollands Archief, 3769.266.

<sup>45</sup> The *Middelburgsche Courant* 28 September 1769., for instance, gave an update over a translation in progress regarding the “Fransche remedie van de Ziekte onder het Runvee” and also alerted the readers to the publication of new Dutch publication: Reinier Arrenberg, *Kort Vertoog Nopens Den Aart Der Tegenwoordig Woedende Ziekte En Sterfte Der Runderbeesten, Mitsgaders Een Op Reden Steunend, En Door De Bevinding Beproefd, Middel Ter Genezing Voorgesteld* (Rotterdam: Gerard ten Haaff, 1769).

<sup>46</sup> *Nederlandsche Jaerboeken, Inhoudende Een Verhael Van De Merkwaardigste Geschiedenissen: Die Voorgevallen Zyn Binnen Den Omtrek Der Vereenigde Provintien, Sedert Het Begin Des Jaers Mdcclvii* (Amsterdam: F. Houttuyn, 1749), 90.

lessen the effects of the sickness.<sup>47</sup> The majority of authors were careful to couch their “cures,” however, in a language of cautious optimism.

The close connection between human and animal medicine is evident in nearly every aspect of their treatment, from the particular ingredients of “cures” and “preservatives” to the public emphasis on quarantines. What may seem now to be a bewildering array of ingredients seemingly randomly combined were by and large remedies in keeping with Galenic medicine. This medical tradition was dominant into the eighteenth century. According to this view, health and disease were on a continuum always out of balance. Too much or too little of one of the four humors prompted sickness.<sup>48</sup>

Many early modern treatments attempted to restore Galenic balance. Just as in humans, the intake and output of animals was critical to restoring balance. Managing food, blood-letting, purgatives, and close monitoring of diet were commonly prescribed prophylaxes and therapies for cattle as well. Many of these cures had medical roots in antiquity and variations of particular methods or recipes can be found in a variety of European contexts.<sup>49</sup> In a list of instructions sent from Brabant and Holland and printed by the government of Groningen, the authors advised farmers to purge their animals every eight days with a mixture composed of “a half pound senna and a half pound tartar, cooked together for a half hour in a pot of clean water.”<sup>50</sup> It was then cooled, decocted, and given it to cattle once or twice a day. This preservative treatment was redoubled if the animal became sick. The treatment also recommended blood-letting and restriction in diet to clean, dry hay and limited oats, all of which were in keeping with humoral medicine.

Environmental influences were as important to early modern diagnoses as humoralism. Indeed, they were often interlinked as polluted environments destabilized bodies’ humors.<sup>51</sup> This was just as true of cattle as it was for humans. Environments could be just as *besmettelijk* (infectious) to cattle as they were to each other. Pastures and stalls could each infect cattle.<sup>52</sup> Damp, miasmatic environments were particularly dangerous and serious efforts were made to clean and dry cattle surroundings. Draining land was one possibility, but more frequently, cattle stalls were cleaned, fumigated, and aerated. Many publications suggest burning gunpowder inside the stalls as an additional means of drying the air.<sup>53</sup>

The Galenic tradition had no monopoly on explanations for disease or cures, however. In addition to providential therapies like those of Harkenroht, authors drew on other medical traditions. There was no shortage of recipes, for instance, that drew on the Paracelsian elements of salt, sulfur, and mercury

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<sup>47</sup> *Leeuwarder Courant*, 30 August 1769, 1.

<sup>48</sup> Lindemann, *Medicine and Society in Early Modern Europe*, 9-10.

<sup>49</sup> For a list of “desperate remedies” in national context, see: Spinage, *Cattle Plague: A History*, 333-372.

<sup>50</sup> *Aanwysinge Der Teeken en Van De Vreemde En Quaadaardige Siekte Onder Het Rundvee, Met Eenige Remedien Daar Tegen Uit Brabant En Holland Overgesonden: Op Orders Der Edele Mogende Heeren Gedeputeerde Staten Van Stadt En Lande Gedrukt*. 1744. Staten van Stad en Lande, Groninger Archieven 1.484, 5.

<sup>51</sup> Annemarie Kinzelbach, “Infection, Contagion, and Public Health in Late Medieval and Early Modern German Imperial Towns,” *Journal of the History of Medicine and Allied Sciences* 61, no. 3 (2006).

<sup>52</sup> *Placaaat Op De Invoer En Uitvoer Van Het Rundvee*. 1769. Ambachtbestuur van Welsen. Noord Hollands Archief. 3701. 490.

<sup>53</sup> This preventative makes an appearance in many Dutch publications as well as John Mills, *A Treatise on Cattle: Shewing the Most Approved Methods of Breeding, Rearing, and Fitting for Use, Horses, Asses, Mules, Horned Cattle, Sheep, Goats, and Swine; with Directions for the Proper Treatment of Them in Their Several Disorders; to Which Is Added, a Dissertation on Their Contagious Diseases* (W. Whitestone, 1776), 454: “In fact, nothing is fitter to correct the bad qualities of a putrid air, than that excellent antiseptic, the sulphurous and nitrous acid set at liberty by the deflagration of gun-powder.”

though the focus on astrology was notoriously weak in the Netherlands.<sup>54</sup> Paracelsus' assertion that disease was caused by outside agents rather than humoral imbalances may have also blended well with developing notions of contagion, cleanliness, and quarantine. One of the more interesting treatments found across Europe was a silver fork. Possibly derived from a French treatment in the 1730s, Dutch documents advocated the use of a large hoe-like instrument made of "pure silver" and mounted on a foot long wood or iron pole.<sup>55</sup> This instrument scraped blisters and pustules on the tongue to release the vile effluvia. Like many of these treatments, the use of silver here is an enticing, though puzzling, historical problem of derivation. Silver was a very popular remedy from antiquity to the early modern period, but it was also a crucial element in the medical and hermitical beliefs of Paracelsus. The difficulty in determining the origins of these popular remedies is an indication of the interconnectedness of these models of health and disease.

The most visible attempts to combat cattle plague were in the realm of public health. Cattle plague rarely took governments by surprise. They were well-documented events across Europe and the dense network of information that connected the eighteenth century Netherlands to the greater continent gave governments' ample time to publish updates on its approach and make preparations for its arrival.<sup>56</sup> These precautions were in keeping with public health regulations at least as old as medieval bubonic plague episodes and demonstrated the resilience of medical therapies. They included the careful monitoring and control of disease spaces.<sup>57</sup> This was typically accomplished on a provincial level and included local quarantines, certificates of travel, and general restrictions on the import and export of cattle.

The resolutions of the governors of Groningen (*Staten van Stad en Lande*) offer historians an illuminating look into the bureaucratic mechanisms of disease prevention and control in the Netherlands. They run from *before* the arrival of the first cattle plague episode through the second episode and highlight the significance of provincial means of combatting the disease. Importantly, they exhibit the continuity of official reactions to cattle plague across the first half of the eighteenth century.

The first official recognition of cattle plague in Groningen occurred in 1713. At this point, the disease had reached near panzootic proportions and, having ravaged eastern and southern Europe, travelled northwest. Reports filtered into Groningen in the waning days of 1713 that cattle plague had reached Holland and Overijssel and the *Staten* took the necessary steps to avoid bringing the contagion inside provincial borders. They forbid the import of all cows, as wells as hides and hay, specifically from these infected provinces.<sup>58</sup> Groningen had likely received reports outlining possible means of transmission from neighboring provinces. By early 1714, further reports were also received from Gelderland and Friesland that the disease could be transmitted via beggars' dogs or on the clothes of travelers. As a result, the *Staten* placed restrictions on human movements and ordered that unattended dogs be killed

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<sup>54</sup> This trend had already begun in the early seventeenth century. See: Hans de Waardt, "Breaking the Boundaries: Irregular Healers in Eighteenth-Century Holland" in *Illness and Healing Alternatives in Western Europe* (London: Routledge, 1997).

<sup>55</sup> The provenance of the silver instrument comes from: Dorwart, "Cattle Disease (Rinderpest?): Prevention and Cure in Brandenburg, 1665-1732.", 84; Anon., "Remedien Tegen De Contagieuse Siekte Onder De Paarden En Hoornbeesten (Eds. Paulus and Isaac Scheltus)", 6.

<sup>56</sup> This system was well-established by the second cattle plague epidemic as newspaper accounts across the Netherlands gave frequent updates on the progress of the disease across eastern and central Europe. For instance, over the course of 1746, the *'s Gravenhaegse Courant* followed the apparent end of a "veepest" episode in Russia only to see it spread across Poland into central Europe. See: 18 Feb. 1746, 14 Sep. 1746, and 14 Nov. 1746.

<sup>57</sup> Indeed, local quarantine efforts occurred in Europe as early as the fourteenth century. Timothy Newfield, "Epizootics and the Consumption of Diseased Meat in the Middle Ages," in *Religion and Religious Institutions in the European Economy, 1000-1800.*, ed. F Ammannati (Firenze: Firenze University Press, 2012).

<sup>58</sup> *Resolutie (21 Dec. 1713)*. 1713. Staten van Stad en Lande. Groninger Archieven. 1. 477.

and buried.<sup>59</sup> Recognizing that imported cattle from Jutland and Denmark were another possible avenue of disease transmission, the *Staten* placed near complete restrictions on import and export of cattle later that year.<sup>60</sup>

Each of these restrictions were imposed prior to the arrival the disease in Groningen. The effectiveness of these measures is reflected in absence of disease for the better part of two years even though the province was surrounded on all sides by infection. The providential implications of this plague-free condition were not lost on Groningers. Acknowledging the prophylactic effects of prayer as well as continued restrictions of the cattle trade, the *Staten* consistently referenced the divine protection in their resolutions. To prayer was added penance, however, on the first officially recognized day of cattle plague in Groningen on the 15<sup>th</sup> of December, 1714.<sup>61</sup>

For the most part, these public regulations were in keeping with a *contagionist* model of disease. Cattle plague was thought to spread from animal to animal (including animal products) or humans to animals. This is evident in the most common qualifiers for cattle plague: either *contagieuse* or *bessmettelijk*, both of which denoted contagion. This focus on contagion was not mutually exclusive from miasmatic theories of disease transmission, however. Often, regulations referenced both models. Instructions on the burial of dead cattle served, on the one hand, to prevent the spread of disease via dogs, but on the other, prevented the further pollution of the environment. A resolution in May, 1740 required that all dead cattle be buried within 24 hours to prevent the “evil stench and greater perils of infection.”<sup>62</sup> Additionally, provinces occasionally codified some of the miasma-oriented recommendations provided in pamphlets, books, or newspapers for individual response to cattle plague into law. The *Staten*, for instance, recommended adhering to the same “remedies” provided by the *Staten* of Holland and West-Friesland and reprinted them in Groningen.<sup>63</sup>

#### *The Eighteenth Century Disaster Period*

The eighteenth century was marked by a series of debilitating disasters that, collectively, affected every province. With the exception of warfare, the majority of these events would today be classified as “natural disasters.” In Groningen, there were three outbreaks of cattle plague, reoccurring animal and plant pests, coastal flooding, and disease. Famously, the 1730s were marked by the invasion of a tropical invasive mollusk (*Teredo navalis*) that forced the redesign and rebuilding of the majority of the Netherland coastal water infrastructure, including in Groningen.<sup>64</sup> Many of these individual disasters, as well as the many frosts and unseasonably wet winters have been linked to climatic changes during the notoriously erratic Little Ice Age.<sup>65</sup>

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<sup>59</sup> *Resolutie (4 Jan, 1714)*. 1714. Staten van Stad en Lande. Groninger Archieven. 1.477.

<sup>60</sup> *Nederlandsche Jaerboeken, Inhoudende Een Verhael Van De Merkwaardigste Geschiedenissen: Die Voorgevallen Zyn Binnen Den Omtrek Der Vereenigde Provintien, Sedert Het Begin Des Jaers Mdccxlvii*.

<sup>61</sup> *Resolutie (15 Dec. 1714)*. 1714. Staten van Stad en Lande. Groninger Archieven. 1.477.

<sup>62</sup> *Resolution (13 May, 1740)*. 1740. Staten van Stad en Lande. Groninger Archieven. 1.478.

<sup>63</sup> *Remedien Tegen De Contagieuse Siekte Onder De Paarden En Hoornbeesten*, (Groningen: Gesina Elama, 1732).

<sup>64</sup> For more on the shipworms, see: Baars, "De Paalwormfurie Van 1731-1732 En De Schade Aan De West-Fries Zeedijk; "Herstel Van De Paalwormschade Aan De Zuiderzee Dijken Beoosten Muiden," *Waterschapsbelangen* 74(1989); Pieter E. Korver, "De Grote Paalwormplaag Van De 18de Eeuw En De Verandering Van De Nederlandse Dijken; H.P Moelker, "De Diemerdijk: De Gevolgen Van Paalwormvraat in De 18e Eeuw," *Tijdschrift voor Waterstaatsgeschiedenis* 6 (1997).

<sup>65</sup> Conclusively linking individual disasters to climate change, especially climate change, is notoriously difficult. Efforts have been made, however, to relate climate to longer *periods* of flooding, windstorms, and even social unrest leading to warfare. Alfons Fransen, *Dijk Onder Spanning : De Ecologische, Politieke En Financiële Geschiedenis Van De Diemerdijk Bij Amsterdam, 1591-1864* (Hilversum: Verloren, 2011); Geoffrey Parker, *Global Crisis: War, Climate Change and Catastrophe in the Seventeenth Century* (New Haven: Yale University Press, 2013).

These disasters were not unique to the eighteenth century, but they were markedly more problematic because they coincided with a period of what Dutch contemporaries interpreted as a near total decline “on all levels, in all human endeavor—moral, economic, social cultural, and political.”<sup>66</sup> Modern historians tend to avoid absolute judgments about the degree or condition of Dutch eighteenth century “decline,” preferring more nuance in their analysis. Eighteenth century commentators may have traced their decline to moral decay, but modern historians prefer “retrogression,” “depression,” or occasionally “crisis” when discussing the secular agrarian condition spanning the majority of the eighteenth century.<sup>67</sup> Regardless of terminology, few would disagree that the mutually-reinforced economic and environmental circumstances of the eighteenth century were subject of profound concern to the Dutch.

The many natural disasters of the era contributed to the dire economic straits. Dike rebuilding after floods like the devastating Christmas Flood of 1717 and efforts to combat the shipworm resulted in higher taxes. The reduced income due to repeated inundation, frosts, pests, and (mostly especially) cattle plagues amplified these burdens in every province.<sup>68</sup> These costs were then passed on to urban populations.

It is difficult to gauge the effect of these disasters on an ideological level. These were not the first cattle plagues to hit Groningen, but they were the first true panzootics since the famous cattle plagues of the fourteenth century.<sup>69</sup> In most literature, they fit within an overarching sense of decline that was more recent in origin. The Dutch in the eighteenth century were well-aware that the golden days of the previous century had passed and cultural and political historians highlight the explosion of literature bemoaning the decline of the United Provinces.<sup>70</sup> The psychological effect of these particular disasters (particularly on a communal scale) is less well-known, particularly in the first three quarters of the century.<sup>71</sup>

Many sources that provide insight into the cultural perception of cattle plague are equally applicable to general disaster-oriented studies. Source material frequently references cattle plague in accompaniment to other proximal disasters like recent floods, frosts, or warfare. Hendrik Carel van Byler’s *Historis-Verhaal van de sterfte die in vorige eeuwen onder het Rundvee...* (1719), for instance, listed each of the historic episodes of cattle plague, but this did not prevent him from including strong winters, floods, famines, and other disasters (many of which he connects to cattle plague, either

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<sup>66</sup> E.H. Kossmann, "The Dutch Republic in the Eighteenth Century," in *The Dutch Republic in the Eighteenth Century: Decline, Enlightenment, and Revolution*, ed. Margaret C. Jacob and Wijnand W. Mijnhardt (Ithaca: Cornell University Press, 1992), 28.

<sup>67</sup> The last quarter of the eighteenth century, however, witnessed an economic rebound that dampened the negative effects of the third cattle plague epidemic. Roessingh, "Landbouw in De Noordelijke Nederlanden, 1650-1815." J. de Vries, *De Economische Achteruitgang Der Republiek* (De Haan, 1955).

<sup>68</sup> Roessingh, "Landbouw in De Noordelijke Nederlanden, 1650-1815.", 19.

<sup>69</sup> Hendrik Karel van Byler offered a chronological list of historic cattle plagues, from the biblical plagues to the first contemporary outbreak in 1710. He lists the first cattle plague in the north of the Netherlands was in Friesland in 1225 and was caused by heavy winds and unseasonable snowstorms in April. Hendrik Carel van Byler, *Historis-Verhaal Van De Sterfte Die in Vorige Eeuwen Onder Het Rundvee, in Deze En Andere Landen Geweest Is, En Nog Duurt*. (Groningen: Jurjen Spandaw, 1719), 53. For more on the first medieval panzootic, see: Philip Slavin, "The Fifth Rider of the Apocalypse: The Great Cattle Plague in England and Wales and Its Economic Consequences, 1319-1350," in *Economic and Biological Interactions in Pre-Industrial Europe, from the 13th to the 18th Centuries*, ed. S. Cavaciocchi (Firenze: Firenze University Press, 2010).

<sup>70</sup> Kossmann, "The Dutch Republic in the Eighteenth Century", 21.

<sup>71</sup> Jan Buisman nicely investigates the effects of many eighteenth century disasters on mentalities, though his investigation is largely limited to the last quarter of the century. Buisman, *Tussen Vroomheid En Verlichting: Een Cultuurhistorische En -Sociologisch Onderzoek Naar Enkele Aspecten Van De Verlichting in Nederland (1755-1810)*.

environmentally or theologically).<sup>72</sup> Similarly, the anonymously authored *Treurdigt, ter droeviger gedagtenisse van den vreeselyken en verderffelyken watervloed*'s primary purpose was to detail the effects of the disastrous Christmas Flood of 1717, but not without also mentioning the "burning fire of plague and the dead cattle strewn everywhere."<sup>73</sup>

The eighteenth century tendency to interpret cattle plague as merely one among many connected disasters should be reflected in scholarship, but rarely is. The notable exception to this oversight is economic history, where cattle plague was a significant determinant in economic troubles on a decadal timescale.<sup>74</sup> Evidence of the severity of these catastrophes is evident from records of *spadestaking* (giving up of land due to inability to pay for its upkeep)<sup>75</sup>, grain and dairy production<sup>76</sup>, the growing consolidation of smaller farms into larger units of production, and the spasmodic price changes in the urban centers.<sup>77</sup> Price fluctuations were likely one of the most visible effects of cattle plague in cities so far removed from the countryside. During the second wave of cattle plague, diarist Jacob Bicker-Raye noted as much, "loss of cattle continued and the price of milk steadily increased," he stated, "for a liter of sweet milk must pay more than three stuivers."<sup>78</sup> The association of increased dairy prices with these instances of plague is highlighted in the below figure.

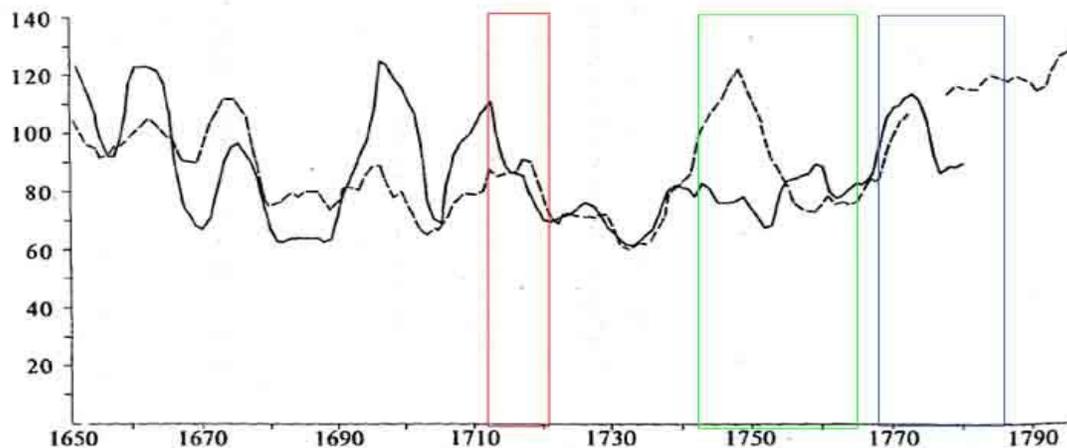


Figure adapted from: H.K. Roessingh, "Landbouw in de Noordelijke Nederlanden 1650-1815." *Algemene geschiedenis der Nederlanden*, 8 (Haarlem, 1979), 18. The three boxes indicate the three episodes of cattle plague. The dotted line signified the rolling seven year average of white cheese prices. The period 1651-1674=100.

<sup>72</sup> van Byler, *Historis-Verhaal Van De Sterfte Die in Vorige Eeuwen Onder Het Rundvee, in Deze En Andere Landen Geweest Is, En Nog Duurt*. (Groningen: Jurjen Spandaw, 1719).

<sup>73</sup> H.F., *Treurdigt Ter Droeviger Gedagtenisse Van De Vreeselyken En Verderffelyken Watervloed Den 25sten Van Wintermaan Mdcxvii En Enige Volgende Dagen, Gebragt Oover Holland, Friesland, Omlanden En Derselver Naburen*, vol. 16410 (Amsterdam: Johannes Douci, 1718).

<sup>74</sup> See, for example, A.G. van de Steur's analysis of an individual farm's account books during the second cattle plague outbreak. A.G. van der Steur, "Een Warmondse Boerenboekhouding Uit De Tijdvan De Veepest 1742.1749," *Leids Jaarboekje* 62 (1970).

<sup>75</sup> Franssen, *Dijk Onder Spanning : De Ecologische, Politieke En Financiële Geschiedenis Van De Diemerdiijk Bij Amsterdam, 1591-1864*.

<sup>76</sup> Roessingh, "Landbouw in De Noordelijke Nederlanden, 1650-1815.", 18.

<sup>77</sup> This last point was convincingly asserted by Otto S. Knottnerus, "Moral Economy Behind the Dikes Class Relations Along the Frisian and German North Sea Coast During the Early Modern Age," *Tijdschrift voor Sociale Geschiedenis* 18, no. 2 (1992), 6.

<sup>78</sup> Jacob Bicker Raye, *Het Dagboek Van Jacob Bicker Raye, 1732-1772 : Naar Het Oorspronkelijk Dagboek Medegedeeld*, ed. F. Beijerinck and Michiel George de Boer (Amsterdam: H.J. Paris, 1935), 119.

Contemporaries were not as temporally precise as economic historians in their appraisal of the disaster. Memory of previous disasters ran deep and pamphlets like van Byler's chronological list of former cattle plagues worked on millennial or secular timescales. There is ample evidence that, ideologically, the cattle plagues of the eighteenth century existed in this longer frame of reference. Thanks, fasting, or prayer days from this era connected disasters separated by many years. Even though the second epidemic had yet to hit Groningen, a resolution from 1730 dedicated a day of repentance to combat the "terrible floods, cattle plague, the uncommon sicknesses and deaths of people, decline of commerce and unemployment... and the uncertain situation of Europe."<sup>79</sup>

In the case of Groningen, government resolutions and legal documents reveal an agrarian population under pressure to obey necessary restrictions on importing, slaughtering, and exporting their cattle, and the economic necessity of continuing in these necessities. Historical scholarship tends to blame decentralized Dutch governance for its inability to enforce quarantines and import restrictions. The Dutch farmers and merchants who circumvented these restrictions are likewise condemned. From a contemporary perspective, it immediately becomes clear that provincial governments actively instituted and enforced restrictions, but that the weight of the combined disasters of the eighteenth century virtually forced many Groningers to evade them.

Popular sentiments regarding the exacting toll of these restrictions are evident in material and textual sources. Jan Smit's *Gods Slaandehand over Nederland*, for instance, featured a government official (probably the *schouw*) dictating directives to farmers pleading for respite.<sup>80</sup> Judging from the accompanying text (not to mention visual cues like the carriage, servants, and fashionable dress of the *schouw*) it is very easy to apply a class-based argument to this image. Regardless, the despair of the farmers is evident. The governmental orders for the disposal of bodies, the import and export of cattle, and regulations for slaughter only exacerbated the disaster in the countryside.

Groninger legal archives are littered with evidence of penalties brought against merchants, farmers, and butchers for illegal transport, false certification, and slaughtering of cattle.<sup>81</sup> The many placards printed and distributed by the province clearly lay out these penalties, but the repetition of their regulations every few weeks is further indication that they were not always followed. One resolution from May 28<sup>th</sup>, 1714 condemned the "profit-seeking men" who avoided a ban on importing calves from Friesland.<sup>82</sup> Another during the second wave of epidemics, the Groningen's *Staten* recognized that "our previous placard containing necessary precautions" concerning the slaughter and sale of infected meat "is not being observed in many areas" and thus, they repeated their restriction.<sup>83</sup>

The rationale for this lawlessness was occasionally acknowledged by the *Staten* as something other than "profit-seeking." The depressed condition of the countryside prompted continual efforts to alleviate the toll of multiple disasters. Restrictions on import and export of cattle, for instance, were repeatedly withdrawn and reinstated based on perceived risk of infection vs. economic necessity.<sup>84</sup> This back-and-forth was also responsive to other disasters. The Christmas Flood of 1717 placed

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<sup>79</sup> *Resolutie (20 Feb., 1730)*. 1730. Staten van Stad en Lande. Groninger Archieven. 1.478.

<sup>80</sup> See Figure I.

<sup>81</sup> See: *Joahannes Haekenbergh Wegens Het Vervalsen Van Verklaringen over De Gezondheid Van Vee*. 1731. Volle Gerecht van de stad Groningen, 1475 - 1811. Groninger Archieven. 1534.1758. Also, inventory numbers: 2074, 2613, 1447, 1465, 2581, 2338.

<sup>82</sup> *Resolutie (28 May, 1714)*. 1714. Staten van Stad en Lande. Groninger Archieven. 1.477.

<sup>83</sup> *Resolutie (31 May, 1745)*. 1745. Staten van Stad en Lande. Groninger Archieven. 1.478.

<sup>84</sup> The adaptability of legislation is in keeping with recent scholarship that stresses the contested nature of early modern governance. See: Dominik Hünninger, "Cattle Plague in Early Modern Germany: Environment and Economy / Knowledge and Power in a Time of Crisis," in *Elements - Continents. Approaches to Determinants of Environmental History and Their Reifications*, eds. Bernd Herrmann and Christine Dahlke (Stuttgart: Nova Acta Leopoldina, 2009), 238.

Groningen in the awkward position of reiterating their restriction on cattle importation, despite the destruction of the majority of the healthy herds in the flood.<sup>85</sup> Two months later, recognizing the impossibility of the situation, they not only forbid the export of cattle from Groningen, but allowed for importation despite the continued threat of plague.<sup>86</sup>

### *Conclusion*

Dutch interpretation and response to eighteenth century cattle plague was immediate and active. The case of Groningen indicates that much of this response was informed by providential interpretations of sin/punishment causation and historically resilient, often Galenic notions of medicine. These models of disaster response influenced public policy and individual actions to prevent and cope with the disease. In particular, providential and medicinal therapies highlight the close connection between human and animal diseases. Significantly, governmental, religious, and personal documents attest to the perceived connectedness of these disasters with other eighteenth century disasters that preceded and continued during the cattle plague epidemics. This examination of the ideological foundations of Groninger response to cattle plague also clarifies the reciprocal relationships between natural and economic changes. Economic decision-making was necessarily dependent on the world of expectations, anxieties, but also evaluations of risk. Public records indicate that the combined toll of multiple disasters prompted Groningen to continually reassess their position regarding the necessities of disease control and economic and social stability.

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<sup>85</sup> *Resolutie (25 Feb., 1718)*. 1718. Staten van Stad en Lande. Groninger Archieven. 1.477.

<sup>86</sup> *Resolutie (29 Apr., 1718)*. 1718. Staten van Stad en Lande. Groninger Archieven. 1.477.

*Middelburgsche Courant* 28 September 1769.

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