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Veröffentlichungsversion / Published Version

Zeitschriftenartikel / journal article

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Empfohlene Zitierung / Suggested Citation:

Collet, D. (2010). Storage and starvation: public granaries as agents of "food security" in early modern Europe. *Historical Social Research*, 35(4), 234-252. <https://doi.org/10.12759/hsr.35.2010.4.234-252>

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Storage and Starvation: Public Granaries as Agents of Food Security in Early Modern Europe

*Dominik Collet**

Abstract: »Horten und Hungern: Öffentliche Getreidespeicher als Agenten frühneuzeitlicher Food Security«. The development of the 'food security' concept in the 1990s marked a significant change away from state-centred strategies that focused on food availability, towards policies aimed at food access and strengthening individual 'entitlements' (A. Sen) to food. This essay applies the food security approach to early modern food regimes, drawing on the example of the state-granary system in 18th century Prussia to investigate their agents, zones of conflict, and limits. The evident failure of technology-centred approaches raises questions about established periodisations, and modernisation narratives on the 'great escape' from hunger. The granary as a 'technology of risk' illustrates the social construction of 'security' through the labelling of security providers and security takers as well as the performance of exclusion and inclusion.

Keywords: Food security, famine, granary, Prussia, Frederick II of Prussia, food regime, security regime, entitlements, exclusion.

Food security is a relatively recent addition to the political concerns governing development, nutrition and human rights. The concept rose to prominence alongside 'human security' during several UN-sponsored conferences in the late 1990s. It marked a decisive shift away from earlier strategies that had focused not on food *security*, but on food *availability*. These earlier approaches considered food access only in terms of physical accessibility, resulting in programs to raise global food production and to ensure rapid deployment of stored grain during emergencies. By the 1990s, however, it had become depressingly obvious that the physical availability of foodstuffs alone did very little to prevent malnutrition and starvation. Even though per-capita production of food has grown, hunger has not gone away.¹

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¹ Hall 1998. The development of the 'food security' concept is closely related to that of 'human security', sharing its shift away from state-focused approaches to a wider scope of providers or 'agents' of security, analysing multi-polar 'governance' instead of state 'policy'. Translated into political action, it has also been accused of sharing the latter's neo-colonial undertones, facilitating the de-legitimisation and circumvention of non-Western governments.

Accordingly new approaches began to focus less on physical and more on economic and social access to food. These policies highlighted poverty, inequality and the shifting 'entitlements' (A. Sen) to foodstuffs. They would look at individual rather than household provisions, reconsidering the skewed distribution of food according to gender and age. They would identify cultural barriers to certain foods and distributive practices, and analyse the wide range of environmental challenges to food access. In short: the concept of food security shifted the focus away from technological towards political, socio-economic and cultural factors.²

Significantly for the historical sciences, this shift challenges established demarcation lines between contemporary and pre-modern societies. Railroads, for example – once cherished as the ultimate weapon against famine – are no longer regarded as crucial prerequisites to food security. In fact they have frequently been shown to exert a negative impact, facilitating outward as well as inward flows of food during shortages.³

In most historical narratives, however, it is still improved storage and transportation, silos and railways which delineate the advent of supposedly 'modern' and 'secure' food regimes. Historians have by and large ignored the challenge of development economics and held on to established modernisation narratives. Accordingly, they have focused predominantly on technological developments that supposedly mark a clear break, 'the great escape' to use David Arnold's term, from the pre-modern cycle of perpetual subsistence crisis: demographic growth, climatic disaster, famine, and population decline.⁴

This essay will test the reach of the 'food security' concept on one prominent example of early modern society's food regimes that figured strongly in historical debates as well as in later narratives: the public granary. I will briefly sketch its genesis, focusing especially on late 18th century Prussia, where they were widely regarded as a cure-all to food insecurity. In a second part I will discuss some of the conflicts that surrounded these structures and try to explain their ultimate failure to provide secure food access by looking at their socio-economic and cultural role in early modern societies. Finally, I will use these observations to speculate on the more general issues of security and risk as well as their periodisation.

The Ecology of the Granary

For most of the developed world, hunger resides in the past. In 2006 a study claimed that the 800 million clinically obese people now slightly surpass the

² Hall 1998, Chapter 3: The History of Food Security.

³ Davis 2002, 26-27, 332.

⁴ Arnold 1988, 68-72.

numbers of malnourished humans living on our planet.⁵ This ‘balanced’ picture, however, cannot mask the fact that food deficiency has never left us, neither in the so-called developing world, nor in the industrialised nations. In fact, one of the reasons politicians in the West have embraced the ‘food security’ concept is the possibility of re-labelling the increasing number of poor people in Western, industrialised countries as ‘food insecure’, thereby avoiding the politically far more damaging term: hungry.

Even though the ‘right to food’ has only recently been incorporated into many national laws, the protection from want has always been a policy cornerstone. Indeed it lies at the very heart of why humans form a society. To secure access to food for his people is the prime responsibility of any ruler and a foundation of legitimate government. Some of the oldest written documents describe grain supply as a crucial statecraft. Chinese texts from the 5th century BC reckon that provisions for 9 years are advisable while 3 years are necessary for any government to survive and that only “when the granaries are full [the people] will know propriety and moderation.” Similar provisions abound in Roman scripture and the Bible.⁶

Public granaries can be found in most complex societies. The growth of towns constituted one of the driving factors for ever larger granaries. The ruins of ancient Rome’s public storehouses or the massive Chinese ‘ever-normal’ granaries continue to amaze people today.⁷ Europe’s earliest surviving buildings date from the heyday of medieval cities. Later public granaries followed the increasing division of labour to the sites of mines, manufactories and military garrisons that often lay too far away from farming resources to support their residents. In the 17th and 18th centuries, granaries rapidly expanded alongside the early modern state and its growing populations.

Early modern granaries occupied increasingly massive structures (Illustration 1). They were designed to support heavy weights and to protect the grain from fire, moisture and rodents, storing it in waist-high boxes, often on multiple low storeys with a raised ground floor and double walls to keep out humidity.⁸ Their solid appearance also reflected positively on their communal or noble patrons, visualising their respective commitment to the support of subjects or citizens, very much helped by the fact that granaries had to be placed in easy reach of large populations and were often situated right in the city centre (Illustration 2). A prominently positioned granary also marked and illustrated security claims in opposition to other providers of relief such as the church or

⁵ BBC, “Overweight ‘top world’s hungry’” 2006.

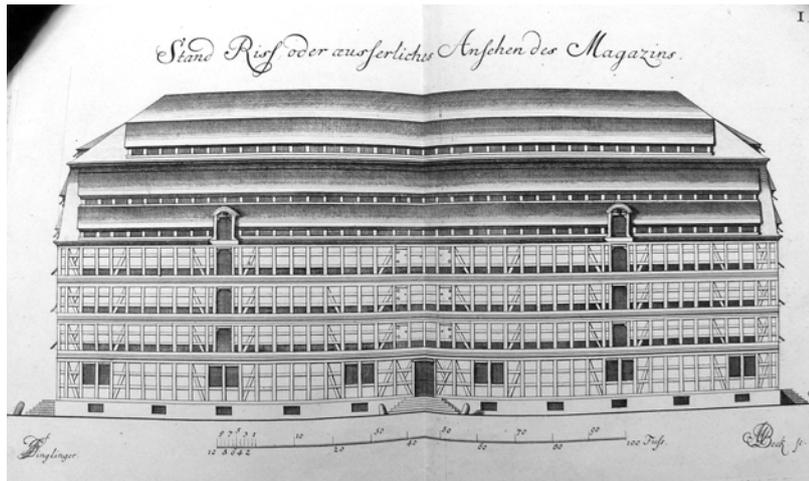
⁶ Cf. Will and Wong 1991, 2, 15, who also consider the establishment of a comprehensive public granaries system in early modern China as a consequence of the Qing conquerors’ increased need for legitimisation.

⁷ Cf. Rickman 1988.

⁸ On the structural design and the turning and preservation techniques of early modern granaries, cf. Dinglinger 1768.

private charity. Granaries only lost their prominence when improved transportation made it possible to store grain close to the producer and free precious city space during the 19th century. Even in today's distributed markets, however, the German government still keeps a strategic 'Bundesreserve' (federal reserve) of grain, stored in secret locations according to the 'Ernährungssicherungsgesetz' (food securitisation law) which last provided uncontaminated food supplies during the Chernobyl fallout of 1986.⁹

Illustration 1: Vertical Section of an Ideal Granary (1768)



Dinglinger 1768, Table 1 (Staats- und Universitätsbibliothek, Göttingen).

This brief sketch of the granary's genesis already hints at some zones of conflict. Many depots originated not from the need to provide secure food, but to store tribute grain – grain constituting not just a food resource but a form of currency in pre-monetary societies.¹⁰ The appearance of granaries in towns, mining villages and the sites of factories illustrates the momentous inequalities in supply between producers and consumers. Similarly, the construction of storage for military purposes foreshadows conflicts of access and precedence, relief and war. Finally many granaries, such as the Roman storehouses, started as private enterprises and became 'public', that is controlled by the authorities, only through coercion or forceful appropriation – a process that indicates di-

⁹ These reserves cover only a few weeks demand and would thus have met with strong disapproval from ancient China's statesmen. Cf. Horn 2005.

¹⁰ Cf. Karl Polanyi's concept of the storage economy and 'Staple Finance vs. Market Finance' in his pioneering work on the cultural anthropology of economics: Polanyi et al. 1957, esp. 243-270.

verging interest between private trade, governments and consumers.¹¹ Granaries occupied a strongly contested field, divided between the state and private actors, military and humanitarian interests as well as fiscal and charitable policies.

Illustration 2: Mauthalle, Nuremberg,
Built by Hans Behaim the Elder as a Public Granary in 1498-1502.



Photography: Andreas Praefcke.

The Prussian ‘Granary State’

All these ruptures are visible in what is possibly the most daring and most highly publicised European endeavour at a comprehensive storage system: the Prussian state granaries of the 18th century. Contrary to what a host of accompanying tracts claimed, their origins lie not in the people’s welfare or economic policy. Instead they owe their existence to the effects of the ‘military revolution’. The need to support a large, well-disciplined and increasingly mobile army without damage to the growing fiscal state required an extended provisioning system.¹² However, the enormous costs of their upkeep in peacetime quickly generated ideas about additional uses.

¹¹ Rickman 1988, 164-173.

¹² Cf. Atorf 1999, 66-67.

Grain deficits were common in Prussia as in most of Europe. The effects of the Little Ice Age and rapid demographic growth resulted in large parts of the population going hungry or living close to subsistence level. Three major harvest failures in 1709, 1740 and 1771 as well as the aftermath of the Seven Years' War led to all-out famines, with population losses of up to 10%. But even in normal years, grain prices fluctuated and rose steadily the longer the harvest had passed, indicating that few people could afford to stockpile provisions in autumn.¹³

Eminent cameralists such as Justi, Bergius or Sonnenfels argued that the finances tied up in state granaries could be put to use by employing them as price-balancing mechanisms. By releasing grain when the price was high, and buying when the price was low, they could support grain producers and city consumers in turn through a 'just price'.¹⁴ Others petitioned for the granaries to artificially inflate prices, thereby supporting grain producers and preventing servants and labourers from becoming "willfull and unruly" in times of abundance.¹⁵ Many more lobbied for low prices in order to stimulate trade and industry and assist city artisans or even the poor.¹⁶ Some scholars pointed to the success of contemporary fire insurance and argued for an extension of granary schemes to cover the whole population, thereby exterminating the hated grain traders often denounced as 'Corn-Jews'.¹⁷

The 1709 famine spurred some of these plans into action in Prussia, but when another harvest failed in 1721 most of these new granaries were found empty.¹⁸ Prussia's granary schemes finally gathered momentum when Frederick II became king in 1740 during yet another catastrophically failed harvest. He immediately realised the granaries political potential and dramatically opened Berlin's magazines to coincide with his accession ceremonies (Illustration 3). A fresh spell of new granaries followed, leaving Prussia with 32 major state magazines at the beginning of war in 1756.

While they served the Prussian war effort well during the extended campaigns of the Seven Years' War, they also helped to combat the sharp price hikes that followed the military clashes.¹⁹

¹³ Von Münchhausen 1772, 118 and Abel 1972, 34-37.

¹⁴ Cf. Bergius 1777 and Justi 1771, 4, 22 and 96; Sonnenfels 1777, 376-381.

¹⁵ D. V., "Untersuchung" 1752, 136.

¹⁶ Justi 1771, 75-78, 102.

¹⁷ D. V., "Untersuchung" 1752, 136 and Wehrs 1791, 142.

¹⁸ Atorf 1999, 124.

¹⁹ Atorf 1999, 182, 214.

Illustration 3: Johann David Schleuen, Berlin's Grain Magazines are Opened During the Famine of 1740 on Occasion of the Oath of Allegiance to Frederick II



In: Schultz 1988, 44.

Their biggest challenge, though, was still to come. In 1770 a sharp winter with snow that lasted until June followed by catastrophic rainfall destroyed crops all over central Europe.²⁰ What ensued has been branded by Borussophile historiography as an “immensely successful fight against famine”, “an example of superior social policy”²¹ that transformed Prussia into “an island of security”²², thereby following the assessment of Frederick II in his famous ‘political testament’:

²⁰ A comprehensive study of this momentous disaster is still lacking. An overview can be found in: Abel 1972, 191-266.

²¹ Atorf 1999, 385 closely following the assessment of Naudé 1905, 178.

²² Hinrich 1933.

In the year 1770 frost destroyed all crops. Fresh suffering threatened the people [...]. The King, however, had great granaries in Silesia and other places. These wise measures protected his people from famine [...]. The agony experienced by the subjects of other states was due to the fact that no country save Prussia had [sufficient] grain magazines. Only here was one prepared for emergency and could resolve it by policies dictated by reason.²³

Historical sources covering grain and food supply abound, as their supervision resided at the core of early modern government. In the case of Prussia, however, a critical rereading of the sources is complicated by substantial losses, the limited governmental perspective of surviving documents and the political spin the administration deliberately introduced to embellish their own efforts.²⁴ This tendency is further aggravated by the fact that for the ordinary consumer the bakery, not the storehouse, constituted the point of contact with governmental food regimes.

However, even the few surviving records show that at the start of 1770 the granaries lay half-empty. King Frederick's repeated appeals to his administrators to buy grain during the bumper crop of the previous year had been futile. Most of them were military men who saw few merits in this laborious task during peacetime.²⁵ They were supported by local landowners eager to avoid the strenuous transport to outlying depots. Cunning merchants even managed to convince the authorities to support the export of grain, as the recent war had supposedly shrunk the population and "led to a higher percentage of children who need less food".²⁶ As the state benefited from export taxes and was itself one of the largest producers of grain, permission was granted promptly. Accordingly, all through 1770 Prussia continued to export large quantities of grain. When the central administration finally realised the extent of the shortfall and closed all borders, the Frisian territories had already managed to sell the largest share of their reserves at good profit to the prosperous Dutch states rather than the state granaries.²⁷ The King was soon petitioned for magazine

²³ Volz and Oppeln-Bronikowski 1913, 63-64.

²⁴ As large parts of the *Preussische Kriegsmagazinsverwaltungsakten* have been lost, most modern studies had to fall back on Skalweit's edition of documents, often, however, without reflecting on their tendentious and highly selective nature. A prominent example is Atorf's dissertation (Atorf 1999) that credulously echoes Skalweit's benign assessments. For a rare critical assessment of Frederick II poor policies see: Kluge 1987.

²⁵ Cf. Cabinet Orders, Berlin Dec-Jan 1769/79, in: Skalweit 1931, 258-259.

²⁶ Nor did the report from Silesia fail to mention potatoes and meliorations, two favourite projects of the Prussian sovereign: Skalweit 1931, 267.

²⁷ Correspondence of the General Directory with the Chamber of East Frisia, in: Skalweit 1931, 268-287. The reports illustrate the scope for strategic disinformation by local parties with trading interests. Harvest predictions only changed from "quite good" to a catastrophic "loss of 50%" when challenged by the centre. Similarly, Magdeburg's petitions to continue free trade in order to acquire grain from abroad were soon suspected of being pretexts for internal grain speculation. Accordingly, the administration had to resort to sending out in-

supplies from all regions. Quite unusual for his time, Frederick II dealt with many of these supplications personally. His focus, however, was centred firmly on provisioning the army and the capital city. Rural petitioners were addressed in Frederick's usual candid style: "I have nothing to give, go and buy on the market" or "What an evil letter! They are a restless and riotous people", or "They must be mad, in Saxony grain stands at twice the price" or "The village is right on the border, they must have sold their grain to the Saxons, and now they dare expect it back from our magazine!"²⁸

When the harvest catastrophically failed for a second and even a third time in 1771 and 1772, complaints reached the King of his famished subjects being reduced to eating unhealthy food substitutes for sustenance. Storage grain was accordingly provided for soldiers and their families, who constituted a large part of the population in Prussia.²⁹ Supplies, however, largely failed to reach the poor, who were expected to pay 'normal' grain prices at a time when they had spent their assets, often including all their possessions and even their clothes.³⁰ At the same time, many soldiers and well-to-do citizens were able to resell magazine grain to rich city consumers at substantial premiums.³¹ As the magazines emptied rapidly, the administration stepped up campaigns against scapegoats: "Corn-Jews" who supposedly hoarded grain, distillers, rich foreigners or the "lazy", "idle" or "incompetent" tradesmen who failed to provide relief.³²

In this situation the king chose to move his troops deep into neighbouring Poland under the pretext of erecting a safety cordon against epidemics raging there. This strategy proved successful in two ways. It provided forage for the large number of soldiers involved and yielded, through force, intimidation and requisitioning, fresh grain supplies for the King's granaries. The move efficiently turned the granaries from storehouses into clearing-houses of Polish grain.³³ While it exported the famine eastwards, it allowed the King to uphold

speciation teams of their own recruited from the military: Skalweit 1931, 269, 278-279 and Cabinet Orders to the Ministers Hagen and Derschau, Sep. 26th, 1770, Skalweit 1931, 271.

²⁸ Skalweit 1931, 275, 307-308.

²⁹ Skalweit 1931, 109.

³⁰ While the intention to provide for the poor ("die Armuth") was occasionally mentioned, specifications for handouts listed soldiers and their families only. See Skalweit 1931, 273. The administration certainly hoped that provisioning the military – often more than 30% of Prussia's urban consumers – would reduce market pressure with benefits to other consumers. The inflexible demand for grain, however, resulted in sharp price hikes even during smaller shortfalls, quickly pricing the poor out of the market.

³¹ Skalweit 1931, 312.

³² Skalweit 1931, 281, 285-286, 291, 309 and Geheimes Staatsarchiv Preussischer Kulturbesitz, I. HA, Rep. 96B, Nr. 72 (1771), 441 and (1772), 395.

³³ Geheimes Staatsarchiv Preussischer Kulturbesitz, I. HA, Rep. 96B, Nr. 72 (1771), 146, 163, 261, 308, 324, 333, 342 and (1772), 61, 140-141. The famine eventually proved consequential for the ensuing First Partition of a weakened Poland in 1772. Frederick II's eager enquiries about the magazine supplies of his rivals illuminate the extent to which he regarded

the well-publicised fiction of granaries as sources of food security, even though they served only a selected few, had been plagued by neglect, and encouraged complacency, profiteering and misappropriation.

Illustration 4: The Great Granary in Berlin-Kreuzberg (1801-1805)



Engraving by T. Barber. Landesarchiv Berlin / Photography Marburg.

At the height of the crisis the price of grain almost tripled, a disaster for a population that regularly spent two-thirds of their income on food. It resulted in a serious rise in deaths from starvation, exhaustion and disease as well as a significantly reduced rate of marriages and offspring. Indeed, fear and desperation had become so widespread that even two average harvests in 1773 and 1774 failed to improve the situation. Many countrymen anxiously held onto their food, leading to a renewed wave of accusations against suspected “Jewish mischief”.³⁴

granaries as part of warfare rather than provisioning: Volz 1913, 354, 400, 472, 584, 673. At a ministerial request for rural aid he replied: “My war magazines are not built with the intention to supply subjects with bread, fodder and seed [...] To feed the country as well [as well as my soldiers, D.C.] is simply impossible.” Geheimes Staatsarchiv Preussischer Kulturbesitz, I. HA, Rep. 96B, Nr. 72 (1771), 37.

³⁴ Skalweit 1931, 309, 651-653 and the reports about famine victims and population decline in Prussia in: Geheimes Staatsarchiv Preussischer Kulturbesitz, II. HA, Tit. CCLXV, Nr. 6, Vol. 1, 108-109 and I. HA, Rep. 96 B, Nr. 72 (1772) 15. Based on notoriously unreliable

The Prussian experience, however, was far from unique. In a second step I will therefore try to map four areas of conflict for granary-based food regimes:

I. The Politics of Inequality

As in the case of Prussia, granaries were often imagined and publicised as tools of redistribution. What they illustrate, in fact, is the high levels of inequality, the distorted distribution of risk, security and entitlements in a stratified society. Food shortages pitted rich against poor, the military against civilians, producers against consumers. They put country folk against town people, smaller cities against larger cities, and larger cities against capitals.³⁵ Elsewhere, the local communities on Lake Constance and the Rhine struggled hard against the superior purchasing power of the Swiss and Dutch communes draining their food stocks. Similarly, the Leipzig authorities justly feared that the advent of the spring fair in 1771 with its influx of affluent traders would result in a famine amongst the town's poorer inhabitants.³⁶

When the Prussian administration tried to fill their storehouses, they too became subject to competition along those divisions. Even in famine times, Berlin's distillers turned grain into spirits to cater to the wealthy. Prussian regions such as Silesia, Pomerania or Minden boycotted the centre's 'national' agenda and stopped the delivery of granary grain, while rich neighbours and private traders continued to buy up supplies at prices the Prussian agents could no longer afford to pay.³⁷

More often, however, the state reinforced and strengthened asymmetrical power relations: it prioritised the gentry, people close to the king, such as the Oder colonists, and above all the military ("Meine Truppen müssen leben" ["my troops must live"]). At the same time the rural population and the urban poor remained excluded from direct support.³⁸ Civil granary distributions in Prussia, as well as elsewhere, remained firmly focused on the capital.³⁹ When deciding on granary interventions in the periphery, the King and his administration dealt not with individuals but with communal representatives. Accordingly, granary handouts never discriminated between the needs of well-off artisans and working poor, large landlords or smallholders, thereby supporting

demographical material Prussia's population losses in 1770-1772 have been estimated at 7%. Kluge 1987, 77.

³⁵ Examples of such conflicts persist even in the carefully selected edition of Skalweit 1931. See 286, 291, 322.

³⁶ Cf. Schmidt 1994, 252-272; Skalweit 1931, 284.

³⁷ Skalweit 1931, 285, 289-290, 310, 329.

³⁸ Skalweit 1931, 81, 294-296, 302, 312.

³⁹ Skalweit 1931, 271; Atorf 1999, 132. For non-Prussian examples see Will and Wong 1991, 511; Kaplan 1984 or Revel 1975.

and even deepening social divisions.⁴⁰ Means-tested distribution schemes, as advocated by Enlightenment thinkers such as Justi or Georg Friedrich Wehrs, failed to materialise as did the contemporary obsession with a disinterested state, levelling the playing field or a “just” or even a “natural” price suitable for producers, consumers, rich and poor alike.⁴¹ Instead, magazine schemes enacted regimes of exclusion that mirrored rather than mellowed the inequalities of a stratified society.

II. The Government of Fear

It is little wonder that under these circumstances, panic and fear of inadequate individual food supplies could be triggered easily. Unlike other natural disasters, crop failures develop slowly, allowing plenty of room for speculation and rumours. Extended spells of unfavourable weather quickly fostered panic buying and hoarding. As a result, it was often the fear of shortages, not shortages themselves that led to rising prices and famine.⁴²

Granaries performed poorly as instruments of price balancing or as backbones of food supply. What granaries did, however, was to act as confidence measures. They constituted “the best security against danger” and panic.⁴³ Examples can be found as far back as Roman Antiquity. Emperor Augustus was known to have warded off imminent panic by publicly destroying granary grain, supposedly in order to make room for the imminent arrival of fresh stock. His celebrated ploy allegedly ended grain hoarding and opened up the cities’ frozen grain markets.⁴⁴ A similar confidence trick is reported in the 1770s from Neuwied, when the strong rains “had led the common man to be afraid and fear a famine”. People reacted immediately by reporting inflated figures of their demand and lowered ones about their supplies to the local Duke. The Duke, however reacted by “making it known in his city to the sound of drums, that fresh supplies were under way, and that until they arrived every man was free to take whatever he needed from the public granary” – an offer that supposedly restored public confidence to such an extent that only a handful

⁴⁰ Differences in the market share play an important role in a famine economy. Accordingly, in 1771 price hikes meant that large estates actually managed to increase their profits even though the production total had fallen. At the same time flocks of small-scale farmers were forced to ‘sell’ future harvests at cut prices to their well-off neighbours in order to feed their families, thereby perpetuating their disadvantages. The King, however, regarded the ‘Landmänner’ as a homogeneous group. Skalweit 1931, 302 (memorandum of the Minder-Kammer, 26.6.1772) and 307 on the refusal to deal with individuals.

⁴¹ Cf. Wehrs 1791, 144; Bergius 1771, 22 and Justi 1771, 83, 104-105.

⁴² Münchhausen 1772, 21, 41 and 167. See also Rau 1862, 291, 295; Justi 1771, 111 and more generally: Ferrières 2002.

⁴³ Münchhausen 1772, 170.

⁴⁴ Garnsey 1988, 223-224.

ever took up his offer. As the Duke's publicist remarked proudly: "We have created grain, without producing it."⁴⁵

Of course, the use of the granary for political spin could turn in other directions as well. Emperor Augustus was also known to create artificial famines, only to relieve them by opening up his granaries in order to stage himself as a saviour of the Roman people.⁴⁶ Similarly, many 18th-century scholars voiced their concerns about the high public profile of granaries as an encouragement to abuses. They warned that their prominent position in public policy could lead people to carelessly sell on their own provisions, expecting them to be replenished and alimeted out of public stores. Large parts of the population also bought into official rhetoric that opposed good granaries to evil trade, eagerly supporting calls for the denunciation of supposed 'Corn-Jews'.⁴⁷

Granaries therefore amount to much more than physical sources of food. They constituted the nodes of a 'security regime' that governed food consumption not just in materialistic terms, but through public discourse, scientific rationalities, emotions and disciplinary measures.

III. The Moral Economy of Hunger

While these discourses undoubtedly helped to shape the perception of food security and risk, they did not go unchallenged. The sources list numerous forms of deviance, appropriation and resistance, famously described in E. P. Thompson's seminal study on the 'Moral Economy'.⁴⁸ Granaries suffered from persistent thefts and misappropriations by their labourers. People used fake identities and documents to apply for higher rations. Inflated or twisted supplications to the granaries were common and, as the Prussian records show, often successful. Many town dwellers managed to turn granaries into a source of regular supplements rather than emergency relief.⁴⁹

While such collaborative actions mark the fringes of food regimes, critics have also pointed to the fact that they served a small number of well-organised people who were able to enter into a process of negotiation.⁵⁰ Indeed, for many of the disenfranchised poor, alternative sources of relief remained crucial. The churches, fraternities, guilds, neighbourhoods and extended families continued to be the key provider of aid and charity. Additional strategies focused on a rich tradition of substitute foods, sub-market economies, temporary migration

⁴⁵ Anonymous 1787, 485-486, 496.

⁴⁶ Garnsey 1988, 220.

⁴⁷ Cf. Gailus 2001.

⁴⁸ Thompson 1971.

⁴⁹ Wehrs 1791, 138.

⁵⁰ Stevenson 1987, 218-238.

or even drug abuse – practices that have led Piero Camporesi to speak of a “culture of hunger” that effectively subverted official food regimes.⁵¹

IV. The logic of corruption

In addition to the play of security discourses and the practices of resilience, granaries faced significant structural problems. Management issues posed serious challenges: While the public held the sovereign accountable for providing secure food access, the day-to-day administration of the granaries was organised by local authorities, who were well aware of this distinction.⁵² Even a mid-sized granary such as the one in Rohrschach had a staff of 98 people: a director, cashiers, clerks, sworn surveyors, carriers and drivers, many with work that left them ample room for personal gain.⁵³ The competing and often ambivalent targets of granaries – balancing prices, providing relief, securing military operations – gave administrators further leeway to pursue their own interests. Granaries were simultaneously expected to keep grain prices high to support farming and to keep them low to support city labourers. They were charged with regulating market prices, without, however, damaging the grain trade that swelled the state’s tax coffers. They were asked to keep stocks for times of dearth, while being expected to sell their stocks to pay for their own upkeep.⁵⁴ Such inconsistencies opened granaries up to corruption and favouritism. Accordingly, complaints about skewed measurements, biased price fixings, bribery, and sleaze abound.⁵⁵

The scale of corruption resulted not least from the enormous sums involved. While grain might not have carried the same stigma as money, it was certainly worth as much. Prussia spent huge sums of its tax income on granaries. However, the total value of food consumed by its population vastly exceeded the early modern state’s financial capabilities. China – a veritable ‘granary state’ – devoted 25% of its total tax revenue to pay for granaries, an enormous amount that nevertheless bought less than 3% of annual consumption.⁵⁶ Under such circumstances comprehensive control of food markets remained out of the reach of the early modern fiscal state. The considerable sums involved, however, served to attract fraud and misappropriation.

⁵¹ Camporesi 1989.

⁵² Cf. Shiue’s discussion of Chinese granary (mis-)management which raises more general points on storage administration, asymmetrical information flows and competing targets: Shiue 2004. For the ‘loyal non-cooperation’ strategy of local elites, see: Skalweit 1931, 284.

⁵³ Rau 1862, 288.

⁵⁴ For examples of conflicting and often mutually exclusive targets, see Wagemann 1802, 266, 270 and Schreiber 1772.

⁵⁵ Cf. Wagemann 1802, 272; Bergius 1771, 28-30; Wehrs 1791, 143; Skalweit 1931, 68.

⁵⁶ Shiue 2004, 105.

Furthermore, the state's actions generated a string of unintended consequences. Paradoxically, more security measures can encourage more risky behaviour.⁵⁷ The protection offered by public granaries was prone to result in the reduction of private stocks, the delay of agricultural investment and the discouragement of trade, effectively increasing rather than decreasing the need for public grain supplements. Liberal donations of subsidised granary grain only tended to be bought up by affluent traders and resold elsewhere at higher market prices. Carefully controlled handouts, however, cut into the margins of local merchants, thereby damaging rather than supplementing essential markets, resulting in even greater shortfalls. Granaries could even create artificial famines by deterring the import of grain with their submarket price fixings or by driving up prices through purchases in a volatile market with an inflexible demand. As Reimarus briskly put it in 1770: Granaries "never produced security, disturb the trade, and do more harm than good."⁵⁸

Considering the potential for political conflict, the likelihood of corruption, the consistent spending necessary for their upkeep and their detrimental side-effects, the granaries' limited impact is hardly surprising. In fact, there are numerous reports of granaries that had been initiated at the height of famine but at the onset of the next crisis were found to have been abandoned or even "disappeared".⁵⁹ While public granaries undoubtedly benefited prioritised parts of the population and played an important declamatory role in the symbolical construction of security and good government, they failed as agents of food security in the modern sense.

Food Security?

There are obvious flaws in the technology-centred narrative of 'the great escape' from hunger. Food availability does not secure food access. Even in early modern Europe, starvation is regularly the result of "people not *having* enough food to eat. It is not the characteristic of there *being* not enough food to eat" – to quote Amartya Sen again.⁶⁰ Participation, inclusion and 'entitlements' to food are what the malnourished were missing, not food per se. The examples discussed here strongly suggest that the eventual reduction in famines was due less to agrarian 'revolutions', improved and bigger storage, railways or market

⁵⁷ Cube 1990.

⁵⁸ Reimarus 1772, 1070. For examples of granaries deterring trade and creating even greater shortfalls, see Skalweit 1931, 293, 305. For Justi's verdict that granaries constituted "Säugammen der Faulheit", fostering idleness, see: Justi 1771, 75 and Jacobi 1773, 1517.

⁵⁹ Rau 1862, 293; Atorf 1999, 80, 124; Monahan 1993, 35. Rome, with its long-lived 'Annona' system of price control and public storage, was certainly exceptional in its scope though less in its ineffectiveness. See Reinhardt 1991.

⁶⁰ Sen 1981, 1.

integration, than rather to changes in participation and strengthened entitlements to food – a result that raises questions about the traditional periodisation focusing on food availability and technological change.

It has become obvious, in fact, that public granaries are more than just a storage technique. They occupy a central position in a security regime that aimed at governing public discourse, emotions and discipline. In a marked departure from earlier approaches, the security it was hoped to foster was conceptualised as universal.⁶¹ Its advocates saw the granary as a crucial technology of risk that helped societies “sich wegen der Zukunft in Sicherheit zu setzen” (secure themselves for the future). As a concept, this is strikingly reminiscent of Anthony Giddens’ ‘colonising the future’ – not least because putting it into practice was fraught with uncertainty, exclusion, and the creation of new risks.⁶²

Embracing the ‘food security’ approach can therefore prove instrumental in identifying hidden zones of conflict, reassessing state-focused approaches, encouraging a critical rereading of partial source material and discovering additional agents of security that are easily masked by modernisation narratives.

However, it has also become evident that the ‘food security’ concept employs ‘security’ in the far too limited sense of ‘safety from harm owing to protection from or the absence of danger’. While an institution such as the granary might have failed to provide safety from hunger, it was certainly instrumental in encouraging a feeling of security that – far from being a mere “security theatre” (B. Schneier) – could itself become an effective deterrent.

‘Security’ in this sense is a social construction that could manifest itself in public discourse and practices as well as in buildings. The creation of a granary constituted a symbolic act that visualised political claims and secured food policy against competing institutions. It constituted a policy by marking its patrons as security conveyors and its customers as security takers, while simultaneously illustrating social distinction via the constant performance of inclusion or exclusion. Even though it did not deliver physical access to food, it was thus intimately tied to the ruler’s claim to power and constituted an important part of pre-modern security regimes. In the words of the Duke of Neuwied: It created security without producing it.

⁶¹ Rüter, “Sicherheit im Mittelalter” [forthcoming].

⁶² Jacobi 1773, 1517 and Giddens 1991, 117, 133.

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