The Manorial Society in Bohemia

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ABSTRACT

The subject of this thesis is the agricultural history of Bohemia, an area that shares both common features with neighbouring regions, as well as one which possesses features unique to itself. I chose this subject because I believe that it is essential to understand the agricultural system if we are to understand the society at all. I believe that we get closer to studying the real essence of human experience when we study social structure, economy and ecological adaptation, than if we study the course of great battles or the lives of great men.

My other interest in Bohemia relates to the modern world. Today Bohemia is a province of Czechoslovakia. Before 1918, it was a province of the Austro-Hungarian Empire. It has been difficult for historians, therefore, to separate the craft of their profession from the political events of the time. Not only do we have to live with an iron curtain in the present, but we also have to live with it in the past. I have found that most of what has been written on eastern Europe is concerned primarily with politics and has a strong

national bias. My chief goal has been, therefore, to strive for some degree of objectivity in the history of a region that has long been torn by political strife.

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DEDICATION

Dedicated to Nad'a, Doubravka, my father Bill, my uncle Jerome, to our cats Sylvestr and Lucy, to our little yellow bird Franz Josef, and to Fezoj

Chapter 1

INTRODUCTION

The objective of this thesis is to study the agricultural history of Bohemia, to see how the society took shape up until the eve of World War I when it was undergoing the final stages of the Industrial Revolution. Though today agriculture in Bohemia does not represent as significant a sector of Bohemia's economy as it did historically, one must bear in mind that Bohemia's Industrial Revolution was an outgrowth of an extremely successful agricultural economy. It is the agricultural origins of Czech society that I have found particularly relevant to an understanding of how the Czech state evolved and how it was to emerge in the fall of 1918. Throughout this paper, I have tried to link political changes to changes in the agricultural system that were happening simultaneously. In fact, I believe that a common thread which can be found throughout history is man's struggle for subsistence and surplus by seeking to control the environment in which he lives.

The origins of the agricultural economy are in the basic needs of human survival. In a state of nature, when an

individual is isolated from society, life is a daily task of finding something to eat. In other words, he seeks to eat well while expending a minimum amount of energy. Fortunately, such a situation only exists hypothetically. Since the beginning of time human beings have always existed as members of a society and the task of survival has been shared by all members of the group.

Nevertheless, many small societies have existed in relative isolation from each other. These so-called "natural economies" consisted of small groups of people who relied largely on those resources that could be found in their immediate vicinity.[1] In Europe "natural economies" were largely ones that exploited the resources of the forest. This could mean that they practiced a low intensity form of agriculture combined with semi-nomadic stock raising, hunting and fishing.[2] The labour requirements in

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[1] Marc Bloch, "Économie-nature ou économie-argent: un pseudo-dilemme," Mélanges historiques, Vol. 2 (Paris: S.E.V.P.E.N., 1963) 868-877.

[2] This type of agricultural system is described by Marc Bloch "...the most primitive and certainly the most ancient [agricultural system] was the temporary cultivation that the Germans called...*Feld-gras-wirtschaft*. This was simplicity itself: a field was cultivated ...for several years in succession, two, three, four or five, at the end of which it becomes evident that the soil does not bear any more crops. The land is then left fallow, that is it is left to develop freely grass and scrub brush. The duration of this fallow period is not fixed, but it is usually longer than the period of cultivation. Once the fallow has passed and it is decided that the field has sufficiently

such a society were minimal while the members could enjoy a varied diet. Such being the case they had little incentive to intensify their agricultural production and to specialize in producing particular agricultural commodities, since any change in that direction would invariably mean a decline in standard of living. That is, their diet would become more monotonous and less nutritious if they were to 'modernize'. Given this fact, the only factor that would motivate these people to intensify their agricultural production would be military conquest and capture.

The appearance of a market in agricultural commodities, however, provides a motivation for certain people to organize a more intensive mode of agricultural production. In Bohemia these people were the nobility, the group most capable of exercising military force on peasants so as to compel them to produce not only a subsistence crop but also a surplus large enough to justify expropriation. It was this agricultural surplus that made it possible for select sectors of society to divorce themselves from agriculture.

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rested ...a new crop is sown." "Le problèm des régime agraires," Mélanges historiques Vol. 2, (Paris: S.E.V.P.E.N., 1963) 650. This type of cultivation creates a characteristic landscape consisting of forests and intermittent clearings where one might find cattle grazing. Along side domesticated cattle it would not be uncommon to find wild animals. Only occasionally would one come across a field sown with grain.

The basic technology that made this surplus possible in Bohemia as elsewhere was the moalboard plough. This created a characteristic type of landscape consisting of enclosed villages and large open fields, ploughed in a strip formation. This landscape was made possible by the political and military power of the nobility.

The manor was thus a political expression of a society that used coercion to produce a grain monoculture. On the manor, decisions were coerced out collectively. That is, decisions when to plough, when to sow, when to reap and finally, when to drive one's cattle onto the stubble of the fields. The system was coercive because the peasant did not participate in it voluntarily. He was, nevertheless, allowed a certain fragile independence on rustical lands which he held. In this sense he shared with his lord the profits of the agricultural enterprise. Later, however, the system became even more coercive because the peasant was required to do labour without compensation on dominical lands held by his lord. Ultimately the manors were to evolve into grain plantations similar to the sugar plantations in the West Indies.

If it was intensification of agricultural production that caused the manor to flourish in the fifteenth century, it was the further intensification of agricultural production

that caused the manor to disintegrate in the nineteenth century. At this time, a number of new fodder crops were introduced into the agricultural system of Bohemia, which had the effect of eliminating the need for an essentially non-productive fallow year while providing better nutrition for cattle. Because the four-field system was more complex, however, it became more difficult to supervise the labour force. In fact, in order for the four-field system to work it was necessary to allow the peasant independence to work without supervision and provide him with an ample monetary incentive for a job well done. As the four-field system spread throughout the Elbian regions of Bohemia during the first half of the nineteenth century the Bohemian manor became progressively weakened.

The four-field system was extremely profitable in the nineteenth century. With the advent of the steam engine new markets were opened up both to river traffic and to goods moving along the expanding network of rails. This tied the fertile regions of Bohemia to all of the urban centres of the Hapsburg Empire and of the world. With the opening up of new markets there began a boom in agricultural commodities that would continue until the end of the nineteenth century. The profits from agricultural enterprises were, to a large extent, reinvested into

improving the fertility of the soils and buying agricultural machinery, This resulted in Elbian agriculture becoming even more profitable.

One of the most profitable crops in the four-field system was the sugar beet which rose to prominence in the 1860s. Sugar beet cultivation soon turned out to be one of the biggest users of agricultural machinery in the nineteenth century. It was because of the heavy demand for machinery in the sugar beet industry that the Czech lands developed a very advanced machine building industry. Originally, these factories specialized in building machines for the sugar industry. But by the twentieth century they had branched out into producing such diverse products as bicycles, automobiles and machine guns. The machine building industry was largely the product of an agro-industrial complex that owed its origins to the introduction of the four-field system at the beginning of the nineteenth century.

As a result of the agricultural changes of the nineteenth century Bohemia graduated from being part of Europe's periphery to being part of Europe's core. Today Bohemia occupies the easternmost extension of Europe's industrial heartland. But the Industrial Revolution that Bohemia experienced was not a phenomenon independent of agricultural production. As in other parts of the world agriculture

forms the most basic industry upon which all other industries are built. The sugar beet industry is of particular interest in the late nineteenth century because of its numerous linkages to other sectors of the economy. But these linkages became less important as the Bohemian agricultural economy diversified to produce products not connected to sugar.

In the course of this thesis we will gradually see how Czech society came to participate in the world economy. With this participation came a growing awareness of world affairs among Czech intellectuals. With this awareness they could no longer accept the anti-democratic and aristocratic assumptions that had governed their society for centuries. This was at the root of much of the conflict between speakers of German and Czech at the end of the century. German speakers more often than not feared democracy based on one man one vote because it would put them in a minority position in the Hapsburg Empire. If democracy were ever to come they preferred to see the Hapsburg Empire dismembered between the German Reich and Hungary, rather than see a Czech government in Bohemia.[3] It is this conflict that was one of the causes of Europe's second Thirty Years War which lasted from 1914 to 1945. Out of this conflict the

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[3] Elizabeth Wiskemann, Czechs and Germans: A Study of the Struggle in the Historic Provinces of Bohemia and Moravia (New York: Macmillan, 1967) 40-44, 101-105.

Czechoslovak republic was born.

Chapter 2

THE MANORIAL SOCIETY: AN OVERVIEW

Any study of the agricultural traditions of Europe at the outset of the nineteenth century must take into account the enormous heritage of past generations. At the outset of the nineteenth century, peasants worked the land with the same tools, and were governed by the same social and economic structures as had been their forefathers five hundred years earlier. It was this structural continuity that gave European society its continuity. But few realized to what extent this continuity was about to be undermined. The economic and technological changes that were to occur during the next hundred years were to destroy completely the former rural power system, based on the complete domination of the feudal manor, and replace it with a social system that can best be described as rural capitalism.

The primary determinants of European agricultural society were the soils upon which it was based, and the tools by which men were able to work them. In the Mediterranean world, the soils tended to be of the sandy type, and the primary tool of cultivation was a plough that the Romans

called an *aratrum* and which Lynn White calls a scratch plough. This device broke the soil along its path, but left the earth undisturbed between furrows. It was, therefore, necessary to cross-plough the field in order to leave the soil thoroughly broken. As a result, fields ploughed in this way tended to be equally wide as they were long, which gave the countryside an irregular patchwork appearance.[4]

This type of soil and plough also gave Mediterranean society its own particular characteristics. Most of the fields were enclosed by fences or hedges. Within the boundaries of these fields, it was the owner's decision alone which crops would be planted and when. His decision did not affect the decisions of other peasants. Furthermore, since the scratch plough did not need to be pulled by many oxen Mediterranean society tended not to place much emphasis on animal husbandry. Generally, cattle were not plentiful in the Mediterranean. Sheep and goats usually provided the peasant with milk and meat. In France, where most of the studies have been conducted, the scratch plough is closely associated with the south, where Roman influence was the strongest.[5]

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[4] Lynn White, Jr., Medieval Technology and Social Change (Oxford: Clarendon Press, 1962), 41-42.

[5] White, 44; Marc Bloch, French Rural History: An Essay on its Characteristics, trans. Janet Sondheimer, (Berkeley: University of California Press, 1966), 50, 56-57.

In the north, however, especially in the broad alluvial plains of the Loire, the Seine, the Rhine, and their tributaries, a different set of soil conditions prevailed. Here the soils were much richer, had a higher clay content, were heavier and more viscous. In this region, the 'scratch plough' was less useful. The furrows were likely to disappear in the thick muck as soon as the ground had been broken. Here a different kind of plough came to be used, which not only broke the ground but turned the soil over, leaving a deep and well-drained furrow. This plough was heavy, frequently needing up to eight oxen to pull it. It can often be identified in pictures by the set of wheels which supported its tremendous weight, from whence comes its French name, *charrue* or cart. The working parts of this plough were three: 1) a coulter, which was the knife-like blade which made a vertical cut into the soil, 2) an 'asymmetric' plough share which made the horizontal cut on one side only, and 3) a wooden 'moalboard' which turned the resulting slice of earth completely over.

The eight oxen thus powered a tremendous earth-moving machine which "handled the clods with such violence that there was no need for cross-ploughing."[6] The primary reason for the square fields, therefore, no longer existed. The heavy plough tended to produce fields in the form of long

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[6] White, 43.

narrow strips, since this was the most labour-efficient use of this particular plough. Since these ploughs tossed the earth to one side, they tended to produce over the years a system of ridges and valleys. During wet years the grain growing at the top of the ridge remained dry; during dry years the grain in the valleys remained moist. The moalboard plough, therefore, tended to produce an environment that was resistant to climatic fluctuations.

Fields in the strip formation and worked with heavy ploughs were more productive, but they posed certain problems. The great expanses of strip fields were hard to fence. Cattle had to be constantly watched, if they were not to wander into a neighbouring field under crops. Much more efficient was cooperative cultivation. The entire village would decide collectively which fields were to be planted, and which would remain fallow. This way all the fallow fields could be consolidated into one gigantic pasture, and the entire community would get the benefit of the collective manure. The moalboard plough, thus, had a political impact. It promoted the village as a self-governing unit.[7]

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[7] White, 55; Bloch, 58-60. This type of system also existed in Bohemia. Under the *régime* that existed into the 19th century, the system was closely policed by a manorial official called a *šafář*, who looked after the lord's interests. Václav Černý, Hospodařské instrukce: Přehled zemědělských dějin v době patrimonijního velkostatku v XV-XIX století [Economic instructions: Insight into

Very influential in societies based on the open field system were the owners of oxen. They owned the primary means of production. But few peasants could afford to own the eight oxen necessary to pull a single moalboard plough. Owners of oxen, therefore, had to cooperate with one another. The task of ploughing involved cooperative activity, the sharing of oxen. Usually, peasants who shared oxen owned fields that bordered on each other, and they worked them in common, regardless of kinship ties.[8] Cooperation in an open field society was much more a result of geographical proximity, than a function of kinship, as was the case in the Mediterranean world.

The alluvial soil conditions of northern France, however, are also characteristic of many areas of middle Europe, including the valley of the Thames in Britain, the valley of the Po in northern Italy, the valley of the Danube, and the valley of the Elbe in Bohemia. Besides their alluvial soils, furthermore, these regions were blessed by relatively good drainage. In addition, most of these regions were sheltered from the northern and the continental winds by a network of mountain chains, which created favourable

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agricultural history in the age of the patrimonial estates in the 15th to the 19th century] (Prague: Československá Akademie Zemědělská, 1930) 32.

8 White, 44. See also Jerome Blum, The End of the Old Order in Rural Europe (Princeton, N.J.: Princeton University Press, 1978) 120-125.

climatic conditions. Ecological conditions, therefore, favoured the open field system in a belt of soils that stretched across middle Europe from the headwaters of the Thames to the delta of the Danube.

One reason why such historians as Marc Bloch and Lynn White have shown such a great interest in the heavy plough was that not only did it create a distinctive society, but wherever this society became firmly rooted the industrial revolution occurred in the nineteenth century. In fact, it is commonly assumed that the Industrial Revolution could not happen in areas where it had not been preceded by an agricultural revolution.[9] The Industrial Revolution in England, for example, was preceded by an agricultural revolution about fifty years earlier. This provided the agricultural surplus that would later feed the growing industrial population. By the end of the eighteenth century England's agriculture had become one of the most productive in the world and its technological achievements were being widely emulated throughout Europe. Most notable of England's innovations was the introduction of the potato into Europe. But one of the most important components of English agriculture was the heavy plough. This was an

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[9] Paul Bairoch, "Agriculture and the Industrial Revolution 1700-1914", ed. Carlo M. Cipolla, The Fontana Economic History of Europe, vol. 3, The Industrial Revolution, (London: Collins/Fontana, 1973) 452-506.

implement which had been used over large areas of Europe for over a thousand years. The plough was an important element in England's achieving a high level of agricultural productivity. Although much more was required to produce the industrial capitalist society that would emerge in the nineteenth century, the Industrial Revolution did happen in those parts of Europe where the heavy plough had been in general use and had shared the same soil types and similar social structures.

The open field was not just an ecological adaptation, but a social one. It first evolved in northern France in the tenth century, and it gradually expanded outward from there. It is not until the end of the fourteenth and early fifteenth centuries that we see the open field system take root in the Elbe valley of Bohemia. The fifteenth century witnessed, therefore, a social and economic revolution in Bohemia, certain features of which resembled what could be seen in northern France five hundred years earlier. The moalboard plough greatly increased the agricultural productivity of the region, producing a surplus that would support a substantial feudal superstructure.[10]

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[10] The earliest archeological findings in Bohemia of the iron portion of moalboard ploughs (coulters and asymmetric shares) all point to a late appearance of this device. With few exceptions most of the early findings come from the period between 1390 and 1430. František Šach, "Počátky orebného nářadí v českých zemích (od pravěku do 15. století)" ["The beginnings of ploughing

Although the moalboard plough was the most productive tool for working these heavy soils, and the *aratrum* was more appropriate to light soils, the adoption of the heavy plough did not entail any basic change in the locus of population in Bohemia. Czechs were natives of the alluvial plain, and only settled the lighter soiled regions when the heavy soils could not support their population.[11] Heavy soils were naturally fertile, and could produce with very little effort enough food to maintain the minds and bodies of the inhabitants. The forest provided plenty of game as well as other needs of daily subsistence.[12] Domesticated animals, furthermore, could freely browse without interfering with the occasional cultivated plots. Needless to say this was a

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devices in the Czech lands (from the Dark Ages to the 15th century)"] Etnografický Atlas 1 (Prague: ČSAV, Ústav pro etnografii a folkloristiku, 1978) 141-150.

11 Zdeněk Bohač, "Osídlení středního Povltaví podle místních jmen" ["The settlement of the central Vltava region according to place names] Vědecké Práce Zemělského Muzea [Scientific Works of the Agricultural Museum] 8 (1969), 187-199, indicates a generally southward migration from the Elbe valley. The earliest chronicle is by Cosmas of Prague (1125). He tells the legend of the foundation of the Czech nation on the mountain *Říp*, which overlooks the Elbe plane, between its two tributaries, the Vltava and the Eger.

12 While looking over the Elbe plane, the *Praotec Čech* [Great Czech], the founder of the nation says: "We have as much land as we need, we will have full tables, there are enough game, birds, fish, and bees, and enough defenses against our enemies." Bohuslav Havránek, et. al., eds., Nejstarší Česká Rýmovaná Kronika tak Řečeného Dalimila [The Oldest Rhymed Czech Chronicle, of the So-called Dalimil] (Praha: ČSAV, 1958), 20.

low intensity form of agriculture. The population pressure on resources was slight. The role that the market played in agriculture was small. This society also supported a much smaller ruling class and did not, therefore, have the same need to produce an agricultural surplus. For this reason, Bohemia did not develop feudal institutions, nor the moalboard plough until 500 years after these had become well established in northern France. Paradoxically, these institutions became entrenched in Bohemia at the same time that they were breaking down in western Europe.

As Lynn White points out, the Roman style *aratrum* was not very useful in heavy soils. There was another type of plough used to till these soils prior to the fifteenth century. This plough has been a little studied factor in central European history. The *hák* or 'hook' was a type of animal drawn spade or hoe. In one sense, it was even more primitive than the *aratrum*. Certainly it was extremely light and could be easily carried. This lightness was achieved by the lack of a 'shoe' behind the ploughshare. This structural feature of the *aratrum* supported its weight, and aided the ploughman in maintaining a constant depth of furrow. As a result, the *hák* was much less efficient in terms of human labour, than was the *aratrum*, because the ploughman had to struggle constantly with his plough to

maintain the most elementary furrow. Despite this the *hák* continued to be used in the alluvial lowlands where the *aratrum* could not function. The *hák* was light, could be easily manoeuvered around tree stumps, roots and stones and because of its shovel shaped blade it could be twisted so as to turn the soil over.[13]

The *hák* based society was every bit as distinctive as those that formed around the two other types of ploughs. Societies that used the *hák* tended to be organized along tribal lines, and usually practised a form of slash and burn agriculture. This society was, however, one that could only survive in a situation of low population density. Each field had to remain fallow for a period of up to thirty years. As population grew, it became necessary either to intensify production or to migrate to new lands. Under ideal circumstances, however, this society could provide its members with a good livelihood. There were numerous possibilities for exploiting the environment. The growing of cereal crops was only one of many sources of wealth. During the Middle Ages, most of Bohemia's real wealth lay in its forests. But from the year 1000 onward, this resource was becoming increasingly depleted by the growing population and the expansion of tillage.

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[13] Drawings of such devices appear following page 198 in Josef Vařeka, Hannah Laudová and Vratislav Šmelhaus, eds., Etnografický Atlas 1.

The forests were suffering a general thinning out as a result of overbrowsing by animals, as well as more extensive cultivation. During this period a steady stream of Elbian farmers poured into the vast forest reserves of south Bohemia. It is here that Czechs adopted the *aratrum* on a wide scale, because of the sandy soils that predominated.[14]

Every time some forest was cleared for the growing of a grain crop, it reduced the amount of land that was available for grazing cattle. This put additional pressure on the forests that survived. It became, furthermore, increasingly difficult to keep animals out of cultivated fields. The cooperative village and the open field system were being increasingly forced on the population in the Elbian plain. They were the only solution to a worsening demographic situation. By the fourteenth century there were no new lands to settle. Migration was no longer a solution to the land crisis. The only option that remained was to intensify production. It is no surprise, therefore, that the

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[14] Czech archeologists distinguish very clearly between the many different types of ploughing instruments. In modern times, the *hák* is primarily used in the northern mountain chain. In western Bohemia, the predominant model is the perčák (ph), in the central region it was the mountain *hák* (hh), further east it is the Silesian *hák* (sh) and the Valášsko *hák* (vh). Likewise, the *aratrum* was used south of the Elbe valley. The Western Bohemian *rádlo* (zr), the south Bohemian *nakolesník* (n) and *plužice* (np), as well as the Bohemian-Moravian *rádlo*. The two types of ploughs, thus, form two separate regions, one north of the Elbe plane, the other to the south. Etnografický Atlas, 199-206.

moalboard plough spread very rapidly during the first decade of the fifteenth century.[15]

The spread of the moalboard plough was in many ways a political event. The village agricultural economy did not exist in a vacuum. As land became a scarce commodity, control of land became a source of power. The peasants had to share the land with the great military strongmen. Peasants were, thus, divided into classes based on their access to land. Most peasants were called rustical. They were a relatively privileged group, because they shared ownership of the land with their lords. The profits of agriculture were divided between the producer and the lord to whom he paid rent. The form that these payments took could vary, depending on the region. Not all rustical peasants paid the same rent. There was a whole hierarchy of rustical peasants, each owing their lord different amounts of rent. The names for these classes, as well as the rents that they owed could vary from time to time and from region to region. The lord, in addition, exploited a large proportion of the land directly. These lands were known as dominical lands. Most of these lands were worked by a

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15 Etnografický Atlas, 146-150, lists places and archeological findings with their estimated dates. It gives strong indication of an agricultural revolution beginning 1380 or 1390, and gaining momentum by 1400. The greatest activity was in the first decade of the 15th century, but the process continued until 1430. See also map 1.

special class of servants, residing on the manor. In Bohemia these were known as *čeledi*. In this sense the system did resemble a slave society.[16] The dominical peasants were not slaves, however, but peasants without land. The land crisis of the fifteenth century had rendered classical slavery obsolete. After the fifteenth century servants were held captive by their own poverty, rather than any kind of force that their master could impose on them.

To a large extent the lord had helped create the open field system. Through his monopoly of the forests he deprived the peasants of browsing land for their livestock. This worsened an already serious shortage of pasture and intensified the crisis in arable land. He could obligate peasants to graze their cattle on dominical lands, which often neighboured the rustical lands anyway. The lord's economic power was, thus, rooted in the cooperative economic structure of the village, a political system that he had helped create, and which he regulated. Peasants could also be required to deliver manure to the lord's fields from their own stalls. The lord reserved the right to hear cases involving his peasants. The lord was sovereign on the lands that he controlled. The lord usually, however, ruled without being physically present. From his palace in Prague he employed quite an extensive bureaucracy to see to it that

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[16] Černý, 101-107.

his privileges would be upheld at each of his manors scattered throughout Bohemia and other parts of Europe. The manor was, thus, a kind of miniature state, that was clearly defined by borders. The peasant needed the lord's permission to travel beyond these borders just as today we need a passport to travel outside the nation-state of which we are citizens. In addition to this, the lord enjoyed a number of strictly economic privileges. He had a monopoly over any industry that developed on the manor.

Bohemia was in one respect unique and cannot be compared to any other feudal society in Europe. Not only did feudal lords maintain the exclusive right to fish from the streams but they actually farmed the fish. Whole fields were flooded and seeded with fish. Usually, these fish were carp, although sometimes trout were caught in the streams and then transferred to the pond. The carp were harvested after three years. Each year they were transferred to another larger pond by a system of canals. After a period varying from three to five years, the ponds were drained and mucked out by a levée of local peasants. The Czech word for this form of coerced labour was *robota*, which at the time was confined primarily to fish farming. For the most part peasants detested *robota*, but they tolerated it because it involved relatively few days of the year.[17]

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[17] Černý, 377-378.

Fish farming was the primary economic activity of the rising feudal class. Much of the Elbian region was under water during the fifteenth and sixteenth centuries. On the dominical lands, in fact, fish farming represented a type of crop rotation. Fish could not be raised continuously on the same land any more than was the case with grain. Each pond had to be allowed to go dry for a certain period, during which time a grain crop could be grown in its very rich soils. During the dry period, the soils were subject to a different set of environmental conditions than was the case when the soils were flooded. This helped prevent the build-up of bacteria that could harm the carp.

Fishponds were not the only industry that was controlled by the manor. Flour milling was also included in the list of manorial monopolies. Another important source of revenue in the fifteenth and sixteenth centuries was beer making. This particular privilege was called *propinatio*, or the right to offer drink. In Bohemia, as well as other parts of eastern Europe, beer, wine or distilled spirits could only be manufactured by the lord. As a result, a good many manorial employees were engaged exclusively in beer making. This included the gardener who grew and guarded the valuable hops, the maltner, the brewer, and the publican. Both the beer and fish monopolies, furthermore, had their own bookkeepers on most manors.

The manor was, thus, not only a political entity but also an economic one. The manor, moreover, existed in the broader economic context of the world economy, just as it existed in the broader political context of the feudal state. In this greater economic world the lord was the only true participant. The lord was the only person represented on the provincial, or royal diets. The lord was also the primary participant in regional and the world economies. This was because of his monopolies, such as the trade in beer and carp, or alternatively because of the productivity of his lands, as was the case with the grain trade down the Elbe. The peasant's world, on the other hand, rarely extended beyond the village, beyond a subsistence economy.

The manorial system was, thus, integrally tied in with the open field system as it evolved at the end of the fourteenth and the beginning of the fifteenth century. The open field system, in turn, was the result of a combination of social and technological factors. In fact, the five centuries during which the moalboard plough spread from northern France to Bohemia, brought with it revolutionary social transformations. If one were to look at Europe as a whole, it would appear that this revolution was happening at a glacial pace. But if one were to look at Bohemia during the few short decades in which this transformation was

occurring, the change was sudden and violent. It is no wonder that consequent to these social economic changes, Bohemia was plunged into a bloodbath, a class war of epic proportions that historians have called the Hussite Wars.[18] It is important to remember, however, that even though economic transformations are the basis of all social and political change, this fact was only dimly understood by contemporaries. As in other parts of Europe, peasant revolts tended to be sparked by religious heresies. But behind these heresies economic and social forces were at work.

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[18] See John Martin Klassen, The Nobility and the Making of the Hussite Revolution (New York: Columbia University Press, 1978).

Chapter 3

THE MANOR AND WORLD TRADE

Some of the freshest outlooks on Europe "east of the Elbe" to date are the results of Immanuel Wallerstein's *world systems analysis*. To a large extent this is based on the model of the 'third world' in the twentieth century. The same processes, however, were present in the fifteenth, sixteenth, but especially in seventeenth and eighteenth centuries. At this time, eastern Europe was the primary 'third world', or "periphery", as Wallerstein would call it.

"Periphery" is a term that is juxtaposed with "core". This is Wallerstein's means of separating the parts of the world that provide the centres of most trade and industrial production (core), from the regions that provide mostly raw materials (periphery). By the seventeenth century this system had become more or less established. Holland was the core, which would be shortly joined by France and England. Most of eastern Europe, by contrast, became devoted to mass production of commodities. The price that a peripheral producer would receive for his commodity was considerably less than the price that a core producer would receive for a

comparable commodity. The difference in price between the core and the periphery was absorbed by transportation costs and middlemen.[19]

The primary commodity of the eastern European periphery was the grain produced on the dominical lands of the great estates. As the Bohemian nobility became increasingly active in trade with the west, the grain trade gradually replaced the trade in dried, salted and pickled fish. Grain thus pushed out fish. We see, therefore, a declining amount of acreage devoted to fish farming in the seventeenth and eighteenth centuries.[20] This grain monoculture was more costly to the soils than was mixed grain and fish economy. It was also more costly in human terms. Grain production, unlike fish farming, was labour intensive. After the Battle of White Mountain (1621), a new nobility was brought into Bohemia with the invading armies. This new class restructured the *robota* system into virtually a plantation economy.[21]

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19 Immanuel Wallerstein, The Modern World-System I: Capitalist Agriculture and the Origins of the European World-Economy in the Sixteenth Century (New York: Academic Press, 1974), 349-350.

20 Černý, 247.

21 Although the groundwork for this had been laid in the sixteenth century, the effects were not evident in most of eastern Europe until the seventeenth century. Wallerstein, The Modern World System II: Mercantalism and the Consolidation of the European World-Economy, 1600-1750 (New York: Academic Press, 1980), 129-145.

Many of Wallerstein's conclusions are based on earlier German scholarship. German historians had often noted how the Elbe river seemed to form a kind of dividing line. To the west there prevailed a kind of agrarian capitalism, called *Grundherrschaft*. Rents were paid in cash, and the amount was largely determined by market forces. To the east the feudal system remained strong; a system called *Gutsherrschaft* prevailed.[22] Here rents were collected in the form of forced labour. Peasants worked only under the threat of the lash.[23] The system was not unlike the one

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See also William E. Wright, "Neo-Serfdom in Bohemia" Slavic Review 34(1975) 239-252; and Josef Tlapák, "K otázce vzniku a rozšíření nezakoupených poddanských hospondářství v někdejším Táborském kraji", ["On the question of the development and the expansion of unredeemed servile agriculture in the former Tábor territory".] Vědecké práce 14(1974), 63-107. On the grain crop under serfdom see Josef Křivka, "Skladba osevu zemědělských plodin v poddanaských hospodářstvích na roudnickém panství v 18 století" ["The organization of the planting of agricultural crops in the servile economies of the Roudnice estate in the 18th century"] Vědecké Práce 20(1980), 65-83.

22 The terms *Grundherrschaft* and *Gutsherrschaft* were first described in 1887 by Georg Friedrich Knapp in Die Bauern-Befreiung und die Ursprung der Landarbeitern in den älteren Teilen Preussens [Peasant Emancipation and the Origin of the Agricultural Worker in the Older Part of Prussia] (Leipzig, 1887), cited by László Makkai "Neo-Serfdom: Its Origin and Nature in East Central Europe", Slavic Review, 34(1975) 226.

23 A common word for estate supervisors in Bohemia was *karabačník* after the *karabáč* or the whip that they carried around to drive on peasants. Jerome Blum, Noble Landowners and Agriculture in Austria, 1815-1848: A Study in the Origins of Peasant Emancipation of 1848, Baltimore: Johns Hopkins Press, 1948, 186.

that existed in the sugar colonies of the West Indies. Indeed, in the sixteenth and seventeenth centuries, a peripheral region was by definition one where coercion was the primary means of motivating labour.

Gutsherrschaft, however, was not typical of a feudal system in its prime. It was instead a product of the world capitalist order. Not all parts of Europe, however, were equally affected by the world economy. The economic system that prevailed in Bohemia during the fifteenth and sixteenth centuries could be better described as *Wirtschaftsherrschaft*[24] reflecting the fact that Bohemia still had an autonomous regional economy. Here the lord was more likely to exploit the local market through his beer and fish monopolies. These industries did not require great amounts of human labour. There was little use of forced labour. On the contrary, it was in the objective interest of the lord to stimulate a prosperous peasantry and provide a lucrative market for manorial products.

Typical of this system was the manorial monopoly on the production and the sale of beer. Here the lord produced something that contributed to the average peasant's enjoyment of life. Most peasants drank beer in considerable quantities. The lord profited from selling to his peasants something that was a comparative luxury. The lord had,

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[24] Wallerstein, The Modern World System II, 201.

therefore, an economic stake in maintaining the standard of living among the rustical peasants at a certain level where they could afford to buy beer. Carp, likewise, was a manorial monopoly and an important source of protein for much of Bohemia's population. Carp was not marketed much outside of Bohemia. Most was probably eaten on the estates where it was produced.[25]

The manorial monopolies were more than just a means by which feudal lords made profits from the peasants without exploiting them directly. The manor was also a major employer. Manorial officials kept close watch on the monopolies at every level of production. Feudal estates maintained an entire staff of bookkeepers to keep track of rents, of fish, and of all of the tightly controlled ingredients involved in beer production. The village publican, a manorial employee, had to account for every pint of beer that was drunk. All considered, as much as one third of the rural population earned their living from the manorial system either as servants or as officials who oversaw the monopolies.[26]

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[25] Pickled, dried or salted carp was marketed as far away as Bavaria and the Alpine provinces. Within Bohemia, however, they were the least expensive source of meat and an important part of the diet of the poorest strata of society. Černý, 238-239.

[26] All considered, the administrative costs of feudalism were quite heavy. Manorial employees in Bohemia, however, could be roughly divided into three classes.

Under the system of *Wirtschaftsherrschaft* the lord's primary concern was to maintain a certain independence from the world economy. This was both the cause and the result of Bohemia's relative isolation up until the seventeenth century. Most of the activities of the feudal lords were the result of a policy of import substitution. Lords tried, as much as possible, to produce everything that was needed on the manor. The survival of *Wirtschaftherrschaft* served as a block to the penetration of the world economy. The very complexity of the manorial economy made it unlikely that forced labour would be used on any wide scale. Trade tended to be primarily on a local scale, between the towns and their immediate countryside, or between manors.

Gutsherrschaft did not become the predominant mode of production in Bohemia until the Thirty Years War. The effect of millions of soldiers, camp followers, and refugees moving back and forth across the countryside, murdering and pillaging as they went, so disrupted the local economy that it was not possible to reconstruct a self-sufficient economy again. After 1621, the year of the Battle of White Mountain, the economy that emerged from this devastation had

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Such officials as chief bookkeeper, castle count, and regent were called officers. Then there was the bureaucracy, consisting mostly of minor bookkeepers. Finally, there were servants (*čeledi*) that included foresters, brewers, blacksmiths and fish masters, as well as shepherds, and door men. Černý, 41-42.

more in common with the sugar plantations of the West Indies than it did with the economic structure that had existed previously. Bohemian society had to reorient itself to the mass production of grains for export to core regions. Most of this production was occurring on dominical lands that were being rapidly expanded as a result of seizures of formerly rustical lands whose occupants had either been killed or forced to flee. The existing population of dominical peasants was insufficient to put these newly acquired lands into production. In order to produce a grain crop the lords forced the rustical peasants to perform increasing amounts of *robota* as the century progressed.[27]

The decline of population during the Thirty Years War put a great strain on the manorial system. Many lands were left abandoned and free for squatters to occupy. There was no longer a natural shortage of land which had previously been the source of noble power. In order to maintain their power the nobles had to rely increasingly on the naked use of military power. They passed laws which forbade peasants to travel. The use of forced labour may have been motivated by their quest for profits, but it also became a political system in and of itself. *Gutherrschaft* was, however, destructive to people as well as the soils, and it contributed to the population decline as much as did war,

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[27] Makkai, "Neo-Serfdom...", 225-238.

famine and pestilence. It robbed the rustical peasant of his incentive to produce and to maintain the fertility of the soils. This created a situation of chronic malnutrition and recurring famines even at times when there were no ravaging armies.

The economic thrust behind *Gutherrschaft* was the expanding grain market. In part this was due to the growing trade down the Elbe to Hamburg. In part it was also the demand created by a century of warfare. Warfare in particular affected the price of oats, which were the main source of fodder for the heavy military supply horses. Prior to every important military campaign governments were in the market for large quantities of oats. This caused a significant inflation of prices, as well as a tendency for grain producers to favour oats over bread grains, such as wheat or rye.[28]

Associated with the expansion of grain production was the decline of fish ponds.[29] As a result, the protein consumption of peasants was also declining, which partially explains the dramatic decline in health. The heavy and prolonged warfare, the recurring famines and the raging epidemics of seventeenth century Bohemia were, thus, just

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[28] Fernand Braudel, Capitalism and Material Life 1400-1800, trans. Miriam Kochan (New York: Harper and Row, 1967), 73.

[29] Černý, 247.

symptoms of a social crisis that was largely man made.[30]

The Battle of White Mountain marks, therefore, not just the rise of absolutism in Bohemia, or the fall of Bohemia as an independent Czech kingdom, but the beginning of a new economic order. The economic dislocation brought on by the war resulted in increased dependence on the world market. For the first time forced labour, or *robota*, had graduated from being an extraordinary measure involving only a few days of the year, to a major drain on the peasants' productive time. Forced labour was a primary means of producing a grain crop for export.[31] From 1626 through the eighteenth century there was a steady increase in the number of days of forced labour the peasants were required to perform.[32]

As a result of the Thirty Years War, Bohemia lost much of its population. By one estimate it had lost half of its prewar population after the Peace of Westphalia. The end of

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30 Karl F. Helleiner, "The Population of Europe from the Black Death to the Eve of the Vital Revolution", eds. E.E. Rich and C.H. Wilson, The Economy of Expanding Europe in the Sixteenth and Seventeenth Centuries vol. 4, in The Cambridge Economic History of Europe (Cambridge: University Press, 1967), 1-95.

31 Černý, 107-110.

32 The course of this development is described in Robert Joseph Kerner, Bohemia in the Eighteenth Century: A Study in Political, Economic and Social History With Special Reference to the Reign of Leopold II, 1790-1792 (Orono, Me.: Academic International, 1969), 276-278.

the war, furthermore, did not bring about any post-war population revival. Political and economic pressure on the peasants would continue to depress the population well into the eighteenth century. As a result of the population decline, pasture land was abundant.[33] On the surface, this would seem to be an advantageous situation. Increased pasture should mean an increased supply of protein. Cattle raising, however, interfered with grain monoculture. Nobles cared little for the protein requirements of peasants, nor did they understand the beneficial effects cattle manure had on soil. Once the decision had been made that grain would be the principal crop there was no turning back.[34]

Yet, the coerced cash crop system quickly became self destructive. After the initial fertility of the soil had become exhausted monoculture could no longer produce large harvests. Even if the total harvests were smaller, however, under conditions of extreme coercion a larger proportion of the crop was appropriated by the nobility. Nevertheless, a society practicing a monoculture is always in search of virgin lands. The excess of pasture over arable could not have lasted long. Forced labour, furthermore, reduced the amount of time peasants could spend on their own fields.

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[33] Hans Renner, Studien zum tschechischen Frühnationalismus: Motivationen, Anfänge und Initiatoren der tschechischen Wiederweckung, 1974, Erlangen, phil. Diss., 108.

[34] Černý, Hospodářské instrukce..., 107-110, 239-247.

Despite all of the grain being exported, peasants were still starving to death. Every time there was a crop failure, starving peasants were forced to sell their oxen.[35] A general decline in the supply of oxen was causing a breakdown in the open field system. If peasants could no longer muster enough oxen to pull the heavy plough, they had to revert to the *hák*. This guaranteed a future decline in productivity.

The surviving animals were, furthermore, less healthy than before and therefore weaker. The overworked peasants had little time to devote to the care of their livestock. The animals were poorly fed. One can only get from cattle what one feeds them. Manure from malnourished cattle not only was not as good, but was less abundant. Poor manuring contributed to the incidence of soil exhaustion and crop failures. Given the general situation of a downward spiral in the agricultural economy, it is no surprise that historians have attributed great importance to the advent of the potato, a plant that provided food where no other crop could.

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[35] Josef Křivka, "Prodej dobytka v poddanských hospodářstvích na roudnickém panství v 1 polovině 18 století" ["The sale of livestock in the servile lands on the Roudnice estates"] Vědecké Práce 24(1984), 107-123.

A major problem with the system of *Gutsherrschaft* was the general lack of motivation among peasants. Until the nineteenth century, it was still necessary for ploughmen periodically to stop work and sharpen their plough share with a file. This activity, however, was difficult to supervise. If the ploughman was just fulfilling his *robota* obligations he was not likely to carry out this simple task. Dominical lands were usually ploughed with dull shares. Such fields were less able to absorb manure and became exhausted very quickly.[36]

By the end of the eighteenth century, it had become clear in the minds of many feudal lords that monoculture was no longer working in Bohemia. Soil exhaustion was outpacing profits. Bohemia's soils could no longer rival virgin soils of Hungary and the Ukraine. By the end of the eighteenth century, monoculture was expanding beyond the Leithe river. To the west of this line, however, there was nothing but a path of devastation. Bohemian grain producers could not compete with their new rivals. They sought the protection of internal tariff boundaries instead. The Leithe river increasingly became, therefore, a boundary that divided the Austrian empire in two.

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[36] Černý, 110.

Grain monoculture was growing in Hungary just as it was declining in Bohemia. For the first time, Bohemia, Moravia, and Austria were united into one Zollverband or customs union, in the 1780s.[37] They were three provinces that, although divided by language, evolved together. The soils of the Vienna plain are essentially the same as those in the Elbian plain of Bohemia. On either side of the linguistic frontier, producers were faced with the same crisis. The solution was to diversify crop production, to use more manure and improve agricultural techniques.

In order to have an industrial society it is necessary to have a firm agricultural base. The model for this was the Norfolk system in England. In England, an agricultural revolution preceded the industrial revolution by a hundred years. This was based on mixed agriculture, which placed a great emphasis on animal husbandry, combined with the growing of a greater variety of crops. This helped restore the fertility of the soil. The new crops improved the nutrition of both people and animals.[38]

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[37] Kerner, 205-206. Blum, Noble Landowners..., 91

[38] František Lom, "Vývoj osevních postupů a soustav hospodaření v českých zemích - Metodologická studie" ["The development of agricultural processes and the foundations of husbandry in the Czech lands - Methodological Studies"] Vědecké Práce 13(1973), 236; see also Lumír Loudil, "Rozsah pěstování polních picnin - jetelovin v Čechách (1787-1856) a jejich vliv na provozní system zemědělské výroby." ["The spread of the cultivation of pasture crops - clover in Bohemia

The primary pattern of crop rotation prior to the nineteenth century was the so-called three field system. The basic characteristic of this system was that it stressed the production of four basic grains; wheat, rye, barley and oats. The only other crop that was grown to any large extent was peas. The planting followed a distinct pattern. In the first year spring grain was planted. In the second year winter grain was planted. In the third year the field was ploughed but not sown. It was allowed to remain fallow and unproductive, depending on the fertility of the soils, for a period of one or more years. During the fallow years animals were allowed to browse on the weeds and their manure would regenerate the soil. No special crops, however, were sown for the animals and the value of weeds as fodder was questionable.

Mixed agriculture was, on the other hand, more complex and it made greater provisions for animals. This is often called the four field system. Like the three field system it began with two grain crops. The difference lay, however, in the fallow period. Instead of leaving the planting to nature special crops were sown over a two year period. This could consist of a fodder crop such as clover and a root crop such as potatoes, turnips or beets. The root crops

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(1787-1856) and its influence on the agriculture production system"] Vědecké Práce 6(1966), 173-228.

could be eaten by people or they could serve as fodder crops. Swine, in particular, could consume root crops, and since they could dig them up themselves they not only spared the peasant the work of harvesting but they also spared him the effort of ploughing the field for the next season. The four field system, therefore, did much to relieve the protein deficiency of humans, as well as the manure deficiency of the soil.

Potatoes were introduced into Bohemia early in the eighteenth century, and they formed one of the first root crops in Bohemian mixed agriculture. It was not until the famine years of 1771-1772, however, that potatoes became an important staple food for people, though they had proven their value as food for swine much earlier.[39] A native of South America, the potato did not yet have any natural pests in Europe. Potatoes grew with very little input of human labour. They actually flourished in sandy soils during what would have been the fallow season. The peasants, furthermore, learned to enjoy eating potatoes, which provided a welcome substitute for the not terribly abundant grain supplies. The very fact that potatoes were a root crop proved to be an advantage. In times of war, potatoes were safe from being trampled by armies, and marauding soldiers were unlikely to go to the trouble of digging them

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[39] Blum, Noble Landowners..., 107.

up.

Potatoes were a bulky commodity, since much of their volume was taken up by water. They had to be processed on location into a marketable and shippable commodity. One such commodity could be potato fattened pigs. The two primary commodities associated with the potato in Bohemia, however, were alcohol and starch. The potato was not just a crop that helped peasants raise their nutritional level, but it was also the first raw material base for Bohemia's emerging food processing industry.[40]

By the beginning of the nineteenth century, therefore, we see the gradual disappearance of fallow in the Czech lands, as potatoes and clover are increasingly grown in the fallow fields. This process was most advanced on the noble estates, but gradually it was filtering down to the peasants. By the 1850s, the so-called 'green fallow' had almost totally replaced the earlier medieval three field system.[41]

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[40] Blum, Noble Landowners...,109-110. Potatoes actually produced more alcohol spirits per acre than would the traditional grain crops. František Dudek, "Territorial Organization of the Agricultural Industry and its Raw Material Base in the Czech Lands in the 19th Century" Historical Geography 23 (Prague: 1984), 222, 228.

[41] Blum, Noble Landowners..., 156.

Another root crop that was, until 1850, still largely in the experimental stage was the sugar beet. The sugar beet could form the basis of a commodity production that would not only supplement grain production, but could even prove to be more lucrative. The problem with beet sugar was, however, that it could not even begin to compete with cane sugar in the absence of government protection. Even with the protection, Bohemian sugar producers had to develop new techniques before they could compete with their West Indian counterparts. Despite these handicaps, sugar production could potentially be extremely profitable. To cultivate sugar beets, however, it was necessary to develop new methods of managing labour. Sugar beets were grown in well groomed rows. Hoeing weeds was a delicate task, and the beets could be easily damaged. Forced labour was out of the question and sugar growers had to depend on hired workers.[42]

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[42] A description of a 1940 beet harvest in Manitoba gives an indication of the tremendous amounts of care and labour involved in the process. "The farmers, their wives and children... crawled along the rows,... separating beets with knives or hacking them out with short handled hoes... weeds would choke *them* out... crowding them so they are puny and of poor quality... suddenly the hoards of hobos and derelicts had vanished, sucked up by industry..." Heather Robertson, Sugar Farmers of Manitoba: The Manitoba Sugar Beet Industry in Story and Picture, (Altona, Manitoba: The Manitoba Beet Growers Association, 1968) 77. Such were the conditions characteristic of the sugar beet industry. The labour shortage in particular was only partially alleviated by a massive introduction of farm machinery. For this reason sugar beet cultivation has always gone hand in hand with an extremely advanced level of mechanization.

Unlike potatoes, beets were unaffected by the blight that swept Europe in the 1840s and caused a famine in Ireland. This made the sugar beet a particularly desirable root crop.

For one reason or another, from the eighteenth century onward, a growing number of nobles were becoming disillusioned with the old system of forced labour. The coerced cash crop was no longer profitable and many nobles were trying to diversify. This meant, however, that their economy was becoming more complex and they had to provide their work force with money incentives, as well as to educate them about better agricultural techniques. These nobles were, therefore, at the forefront of a movement to provide schools for peasants.[43] Most famous of these progressive nobles was Kaspar von Sternberg, who in the 1820s provided money and encouragement to František Palacký when he first arrived in Prague.[44] His brother, Joachim

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[43] Herman Freudenberger, "Progressive Bohemian and Moravian Aristocracy," Joseph Held and Stanley B. Winters, eds., Intellectual and Social Developments in the Hapsburg Empire from Maria Theresa to World War I, Essays dedicated to Robert A. Kann. (Boulder, Col.: East European Quarterly, 1975), 115-130.

[44] Under his tutelage and financial support, Palacký became editor of the Časopis společnosti vlastenského musea v Čechách [Journal of the Society of the National Museum in Bohemia]. Later he would become a great historian, author of the first major 19th century text on Czech history, in the Czech language, Z dějin národu českého. Eventually, he would become a statesman who would dominate Czech nationalist politics into the 1870s, all while enjoying the support of the Sternberg family. Josef Frederick Zacek, Palacký: The Historian as Scholar

Sternberg, did much to turn his Děčín estate into a model of progressive management and authored an article on the smelting of iron.[45]

The Sternbergs were typical of many nobles who although German in language, considered themselves Bohemian patriots. They wanted to see a return to the political conditions that prevailed before the Battle of White Mountain. They wanted to have an autonomous and self-governing Bohemia within the Austrian Empire, which they hoped would be dominated by nobles like themselves. Looking at medieval precedents, they visualized a federalized Austria made up of the historic provinces, i.e., the Kingdom of Bohemia, the Margravate of Moravia, the Kingdom of Hungary, etc.

Even when they were not receiving much encouragement from the central government, these "self-styled patriots" had very practical concerns. They formed their own organization, called the Patriotic Economic Society, which during the second decade of the nineteenth century strove to promote agricultural improvement and the building of schools. The result of the efforts of this organization was a general explosion of literacy among the peasant population, a factor that promoted the continued expansion of the use of Czech as a language of literary expression.[46]

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and Nationalist (The Hague: Mouton, 1970), 19-20, et passim.

The expansion of school attendance was truly phenomenal. By 1795, there was over 60% school attendance in Bohemia; by the 1840s, this figure had risen to over 95%. The real problem was not getting children to attend school, but getting enough teachers for them. But even here progress was made, raising the teacher to school ratio from about one per school to two per school.[47] This points to the growth of a Czech-speaking intelligentsia under the tutelage of the Bohemian nobility. As a result, there was a new breed of feudal administrators, one which not only spoke Czech, but kept ledgers in Czech as well.[48] Increasingly Czech was being used in situations that had previously been the exclusive domain of German.

Another activity of the Patriotic Economic Society was to promote new agricultural techniques and new agricultural equipment. Of particular significance, in view of the growing importance of root crops, were improved ploughs

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[45] Freundenberger, 125.

[46] Renner, 116-119.

[47] Renner, 116-119; Kerner, 344-363.

[48] Many of these people were brought together by the *Patriotic Economic Society* which included in its membership great estate owners, clergymen and bourgeois with interests in agriculture. Miloslav Volf, "Organizační vývoj Vlasteneckohospodářské společnosti," ["Organizational development of the Patriotic Economic Society"] Vědecké Práce 7(1967), 57-82. Blum, Noble Landowners..., 130-131.

which worked the soil more completely. One of the first of these was the Hohenheimer plough derived from the Small plough that had recently come into use in Great Britain. This type of plough was a modern version of the moalboard that took full advantage of falling prices of steel as a result of the Industrial Revolution.[49]

The basis of this kind of plough was the incorporation of the moalboard and the plough share into one single curved sheet of metal. Ideally, this new type of plough would incorporate both the vertical and the horizontal cutting edges. This plough cut the soil with less friction than was the case with the old wooden plough. The steel on this type of plough share was, furthermore, tempered only on one side. This made one side harder than the other creating a controlled pattern of uneven wear. Such a plough share sharpened itself in the process of ploughing.[50] Because of the lower amount of friction as compared to the wooden plough, the Hohenheimer plough could be pulled by just two oxen.

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[49] Vratislav Šmelhaus, "Základní vývoje zemědělství v českých zemích v období 1750-1850," ["Fundamental development of agriculture in the Czech lands during the period of 1750-1850"] Vědecké Práce 19(1979) 57.

[50] Olga Beaumont, and J.W.Y. Higgs, "Agriculture, Part I, Farm Implements", eds., Singer, Charles, E.J. Holmyard, A.R. Hall and Trevor I. Williams, The Industrial Revolution, vol. 4, A History of Technology c. 1750 to c. 1850 (Oxford: Clarendon Press, 1958) 2-3.

This new plough spread very quickly on the dominical lands in the heavy soil regions of Bohemia. It solved many of the problems that had been plaguing manorial agriculture. Such problems such as insufficient animal pulling power, or dull plough shares could be alleviated by using the new industrial type ploughs. But the problem of poor motivation continued as long as the *robota* system survived. Even though the lord could allow a peasant to use his plough while performing *robota*, he was much less likely to allow him to use his oxen.[51] Many manors had fine herds of full-blooded cattle, which contrasted sharply with the scrawny peasant animals. But forced labourers are notorious not only for their poor work, but also for their mistreatment of beasts of burden. Hired labour was necessary if one had particularly valuable draught animals.

Some peasants also took an interest in designing new types of ploughs. They were, indeed, the experts on this subject. Peasants usually maintained a constant partnership with the village blacksmiths. The peasant created the concept, the blacksmith made it a reality. This is what happened between 1824 and 1827 in the vilage of Ribitví, near the town of Pardubice, in the Elbian region of eastern Bohemia. The plough was the result of a joint effort between a peasant, named František Veverka, and his cousin

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[51] Blum, Noble Landowners..., 194-195, 200-201.

the blacksmith, Václav Veverka. Together, they designed a new kind of plough share, that was like a double moalboard.[52]

This new kind of plough, the *ruchadlo*, as it became known, incorporated the large curved moalboard from the Hohenheimer and Small ploughs. The difference between the two kinds of plough lay, however, in the fact that the traditional moalboard plough turned the soil over on one side only, while the *ruchadlo* turned the soil over on both sides. The *ruchadlo*, however, had to do double the work of a single moalboard plough. It was more practical, therefore, in the light to medium soils,[53] and tended to replace the *aratrum*, rather than the moalboard plough.

All of these changes were making agriculture more intensive during the first half of the nineteenth century. As it became more intensive, it also became more complex. This made the task of supervising a coerced labour force all the more difficult. A complex agricultural system relied heavily on personal initiative on the part of the peasant. The lord could only achieve this initiative by increasing the economic incentives to his peasants, so that they would

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[52] Tempír, 48-49.

[53] František Šach, "Rozšíření ruchadla v českých zemích po jeho vynálezu ve dvacátých letech 19. století. ["The spread of the *ruchadlo* in the Czech lands after its invention in the twenties of the 19th century"] Etnografický Atlas 1, 207-215.

work more conscientiously. In the course of the period between the Napoleonic wars and the Revolution of 1848, therefore, the institution of *robota* was becoming increasingly a costly anachronism. Everywhere, lords were transforming their economy from the cereal-based system employing the "dry fallow", to a mixed economy that placed greater emphasis on animal husbandry and that employed a "green fallow". While grain crops continued to play an important role, they were now supplemented during the fallow years by fodder crops such as clover and root crops such as beets, turnips and potatoes. The root crops, in particular, could be used for human consumption, as fodder or as industrial raw materials. This gave the new agricultural economy a great deal more flexibility, and it was better able to adjust to fluctuations in the world price structure.

Chapter 4

THE MANOR IN A CHANGING ECONOMY

The golden age of cooperation between the rustical peasants and the nobility lasted from the abolition of *robota* in 1848 to the formation of the Dual Monarchy in 1867. After the political military defeat of the German and Magyar nationalists during the Revolution of 1848, there was good reason to believe that the Hapsburg regime would be friendly to the aspirations of the various Slavic nationalities who agreed on the concept of a federated Austria. In the end, however, the German and the Magyar parties gained the upper hand over the Slavs and the Rumanians of the Hapsburg lands. In 1867, two states were created out of the former Austrian Empire. To the west was the centralized and German dominated state that became known as Cisleithania, after the Leithe river which partially forms the boundary between it and Hungary. This state included all of the German-speaking provinces, as well as parts of northern Italy and Dalmatia, the largely Polish and Ukrainian province of Galicia and, of course, Bohemia and Moravia, the two Czech provinces. East of the Leithe was

the Kingdom of Hungary that included the entire Panonian basin, rimmed to the north by the Tatra Mountains, to the east by the Carpathians and southwest and south by the Julian and Dinaric Alps. Besides Magyars, the kingdom was inhabited by Serbs, Rumanians, Croats and Slovaks.

In spite of the slow progress, the Bohemian manor had shown itself to be a remarkably adaptable mode of social organization. Generally, the Bohemian nobility did not oppose changes, but welcomed them. When in 1848 the entire feudal order was challenged across Europe, for the most part the nobility made a political alliance with the Czech nationalists. This alliance was grounded in the principle of Bohemian autonomy and the ideal that Austria should be a federalized monarchy consisting of all of the historical crown lands being represented equally in the Imperial Diet.[54] The German Liberal Party, by contrast, advocated a strong centralized state, which would unify all German speakers both inside the Austrian Empire, as well as in the other lands of the former Holy Roman Empire. They were perfectly willing to see all of the Kingdom of Hungary become independent, but Bohemia as a former component of the Holy Roman Empire was to be absorbed into a German state.

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[54] This position was represented by Palacký in his answer to the Frankfurt "pre-Parliament" on April 11, 1848. See Stanley Z. Pech, The Czech Revolution of 1848 (Chapel Hill, N.C.: University of North Carolina Press, 1969), 81.

Fortunately for Czech nationalists the largely German-speaking Bohemian nobility feared a centralized state for reasons entirely its own.

The Bohemian nobility was only gradually weaned away from its alliance with the formerly rustical peasants, and many vestiges of goodwill continued until the end of the nineteenth century. At the same time, however, Czech society was becoming increasingly industrialized and the political frustration with Dualism was steadily mounting among the Czech middle class and intelligentsia. By the end of the century Czechs found themselves in the paradoxical position of being totally without voice in the capital yet at the same time being one of the most economically successful groups in the empire.

As seen in the previous chapter the feudal nobility was in many ways at the forefront of social, economic and technological change, and certain nobles even tried to dismantle the system of forced labour on their own estates. During the century prior to 1848, the position of the peasant had improved considerably. The general expansion of the population seems to suggest better health as a result of better nutrition. Certain technical improvements in ploughs could be introduced without fundamentally interfering with the basic social structure.

Many manors developed in the 1820s and 30s into models of scientific agriculture. As this was happening the continued existence of *robota* became an increasing hindrance. Moreover, a significant gap still existed between the great estates, and the peasant land. The peasants, out of ignorance or out of stubbornness, persisted in their traditional methods despite aristocratic attempts at education. On the level of the rustical peasants agricultural progress was at best a gradual development. However, this time also saw the beginnings of industrial development of mining and glass-making.[55] In both cases industries developed without any strong connection to agriculture. Industrial goods were essentially 'cash crops', that were produced in areas incapable of delivering a grain crop.

Iron-making, and to a lesser extent glass-making were both industries that were heavily dependent on close supplies of fuel. Until the 1850s this fuel was practically always charcoal, which was gotten from burning enormous amounts of wood. Wood was, however, a manorial monopoly, because the wood supplies were to be found in the lords' forests. Over much of south Bohemia the soils were poor and sandy, and the rivers provided little access to markets.

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55 Jana Pšeníková, "Antonín Emanuel Komers u děčinských Thunů" ["Antonín Emanuel Komers and the Thun family of Děčín"] Vědecké Práce 17 (1978), 163-181.

Profits in agriculture were, therefore, low. Feudal lords were more interested in expanding their forest holdings and planting trees than in expanding agricultural land.[56] By the end of the nineteenth century, much of south Bohemia was controlled by the large estates, and middle-sized peasant holdings hardly existed in this region.

The traditional industry of clothmaking, by contrast, had long been the primary occupation of the non-agricultural German-speaking areas in the mountains of north Bohemia. This region was dominated by the 'linen nobility'. *Robota* was done by villagers who performed various tasks involved in producing linen cloth. The villagers also produced cloth on their own account. This was an industry that was more than any other built on the poverty of the region. In the little villages nestled in the mountains the agricultural possibilities were limited. Instead entire families worked carding, spinning and weaving linen and wool into cloth. Clothmaking was to these people what agriculture was to the lowlander, the sole means of survival. So precarious was the survival of the spinners and weavers, that the lord usually had to pay his dependents by giving them food while

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[56] This combined very well with an aristocratic lifestyle of maintaining private game reserves. Josef Tlapák, "Hospodářská skladba a výrobní výsledky velkostatku Častovice v pobělohorském období", ["Economic foundations and the consequences to production on the Častovice estate in the post White Mountain era"] Vědecké Práce 13(1973), 69.

they were performing *robota*.[57] This paid "*robota*" was more a reflection of the desperate material conditions in the region, than a sign of any more lenient version of the feudal régime.

By the midpoint of the century room for making changes within the system was rapidly disappearing. Forced labour was becoming inefficient in a complex agricultural system. Agriculture was increasingly placing greater demand on the skills of the peasants. The labour force needed a much higher level of motivation than could be provided by direct coercion. By the nineteenth century Bohemian monoculture could no longer compete with the bumper grain harvests made on the virgin soils of North America, Hungary, and the Ukraine. Grain prices had stabilized at a level lower than was profitable for Bohemian producers. Future profits from agriculture could only be achieved by diversification away from grain production, to a more balanced economy. This meant that Bohemian producers had to place an increasing emphasis on fodder crops, such as clover, and industrial crops, like the sugar beet.

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[57] On the feudal exploitation of linen workers see Rudolf Anděl, "Pěstování a zpracování lnu na statcích drobné lenní šlechty na Frydlantsku v 17 století," ["The sowing and working of linen on the estates of the petty linen nobility in the Frydlant region in the 17th century"] Lnářský Průmysl 4(1981), 72.

Mixed agriculture was much better for the soils, but it required a different form of social organization than did monoculture. When only one crop was grown, work could be reduced to a few simple tasks that could be easily supervised, and the only incentive provided to the worker were lashes from a good strong whip. This is the reason why monoculture and forced labour tended to go hand in hand. When many crops were grown, however, work consisted of many tasks, not all of them simple, and very little of it could be easily supervised. Workers had to be their own supervisors. Incentives, such as money wages, had to be provided to encourage the worker to use all of his mental and physical faculties in the most efficient way possible.

Education became an important aspect of economic efficiency. This is why the nobility had shown such a great interest in building schools. Peasants had to be taught the principles of scientific agriculture, which meant they had to be schooled and given the gift of literacy. An educated peasantry, however, was also a peasantry that was less easy to dominate. It was a peasantry that had a consciousness of itself, as a class, and as a nation. Peasants who could read quickly discovered that all over Bohemia there were peasants like themselves, and that together they were a political force that the elites could not ignore.[58]

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[58] Naděžda A. Ložkovová-Spilka, Literary Language Death and

The nobles realized that a Czech-speaking peasantry had to be educated in Czech. The peasant who ploughed the black soils of the Elbe valley rarely spoke any other language. Those who lived off the products of their labour, the landlords, the administrators of the great estates, the merchants in the towns, were likely to be bilingual Czech and German. Since the Battle of White Mountain, however, German and Latin had been the only written languages used in Bohemia. This gave native speakers of German a distinct advantage. Czech-speaking peasants were usually not familiar with the language of the contracts that governed their lives.[59]

Literacy, however, had been rapidly spreading among Bohemia's peasants ever since the 1780s. The administrative use of Czech had also been growing on the manorial and parochial level. Not only had 95% of the peasantry achieved the fundamentals of literacy by the 1840s, but Czech had also become an easier language to read.[60] In the previous decade Czech writers had developed a simplified standard of

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Literary Language Revival: A Sociolinguistic Study of Literary Czech, University of Victoria, M.A. Thesis, 1986, 1-6.

59 Naděžda A. Ložkovová-Spilka, "Literary Language Death and Literary Language Revival: A Case Study of Czech", Working Papers of the Linguistics Circle: University of Victoria, No. 1, vol. 6, (June, 1987) 25-41, see also Zacek, 16-28.

60 Renner, 116-119.

spelling that made it easier to learn. Much of the credit goes to the linguists Joseph Dobrovský, František Palacký and Pavel Šafařík. Other writings of these men, Palacký in particular, also helped to foster a sense of national consciousness among Czechs. Literacy, therefore, while it helped Czechs absorb new technology, and thus contributed to the generally high level of economic growth, generated as well political consequences which were not necessarily what the defenders of the *status quo* had in mind. While the Cisleithanian state was being consolidated by German speakers, economic factors worked inexorably towards an increasing role for the Czechs.

The greatest strides in education were made prior to 1848, when Bohemian peasants were subject to a brutal system of economic exploitation. Literacy did not, however, turn peasants into revolutionaries. The great peasant revolts of the seventeenth century were conducted by a largely illiterate peasantry. The revolts did not, however, cause the rulers to pause in their drive to extract more labour from the hides of the peasants. Literate peasants, by contrast, knew how to bide their time, and to forge political alliances. At times they could go out on strike, but then they could sit down at the bargaining table and negotiate.

The hundred years prior to 1848 were an exceptionally peaceful time, in terms of peasant unrest. Much of the resistance was passive in nature, which, while much less visible, was probably much more effective in improving the lot of the average peasant. The revolutions that paralyzed the Hapsburg lands in March of 1848 were not just an urban phenomenon. The barricades in the streets of Prague during the month of June were highly visible signs of urban protest, as were the barricades in Vienna in September. One must keep in mind, however, that during that long summer, peasants did not work a single day of forced labour. One can assume that the entire system of forced labour had come to a grinding halt because of the breakdown in the means of coercion.[61]

The abolition of *robota* in September of 1848, therefore, represents more of a compromise between the feudal nobility and the peasantry. The nobility knew that forced labour was not profitable. They were afraid, however, that unless provisions were made, the abolition of *robota* could bankrupt

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[61] Actually the system of forced labour had already begun to lapse after the Galician peasants revolted in the Tarnów district in 1846. The Austrian government, as a result, passed an agrarian "reform" bill on December 18, 1846. The "reform" actually proved to be no reform at all. The peasants actually thought that a reform had been made, and the entire growing season of 1847 was disrupted by peasants refusing to do their *robota*, and the situation had been growing increasingly tense. Blum, Noble Landowners..., 225-238.

them with labour costs. They hoped to extract from the peasants some vestige of their former privileges. They chose, therefore, to view forced labour as a "property right", which they would not surrender without due compensation. By September the political situation had turned in favour of the nobility and the peasants had no choice but to accept the noble proposal.

According to this the lord was owner of all the land, whether rustical or dominical. The peasant who was allowed to occupy the rustical land had to pay a rent in the form of forced labour. The peasant could, thus, be given the opportunity to buy the rustical lands that he and his ancestors had worked for centuries. The purchase and the sale of these lands would be facilitated by the government. Payments were made yearly, and they extended over a period of twenty years.[62]

This new compromise seemed to benefit both sides. Peasants were given the opportunity to buy their own land, and had, therefore, some control over their future. The nobility, on the other hand had a guaranteed source of income for twenty years. When the law was enacted on

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62 František Dudek mentions this source of income frequently in his book on the rise of the sugar industry. See Vývoj cukrovarnického průmyslu v českých zemích do roku 1872 [The evolution of the sugar refining industry in the Czech lands up until the year 1872] (Prague: Akademie, 1979), 97 et passim, Blum, Noble Landowners and Agriculture..., 234-238.

September 7, 1848, it created what has been known as the "Prussian road" to industrialization. It allowed nobles to use remnants of the feudal mode of production to invest in industry. In eastern Europe most of the rising capitalist societies had this type of feudal substrata. Nobles invested their income in improving their dominical lands or they bought industrial stocks.[63]

The Revolution of 1848, therefore, provided the nobility with an opportunity to escape from an economic system that was no longer bringing in profits. The great Viennese money-lending houses, such as the Rothschilds, which had previously existed to provide ready cash to spendthrift nobles, suddenly became transformed into joint stock banks with enormous reserves of capital. Their objectives were equally enormous. These newly created capital reserves were being channelled into building railroads.[64] During the 1850s, the railroad network expanded rapidly throughout the Hapsburg lands. Most of the building happened, however, in areas that were endowed with the most fertile soils, namely the very heartland of Bohemian feudalism, the Elbian basin.

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[63] František Kutnar, "K problematice set'ové a sklizňové techniky v době Bachova absolutismu," ["On the problem of sowing and harvesting technology in the era of Bach absolutism"] Vědecké Práce 7(1967), 83-107.

[64] Richard L. Rudolph, Banking and Industrialization in Austria-Hungary: The role of banks in the industrialization of the Czech Crownlands, 1873-1914 (London: Cambridge University Press, 1976), 94-95.

This created a curious parallel. Bohemia's Industrial Revolution began in those areas where the manor had prospered, which in turn were those areas with the heavy soils that could be easily turned over by a moalboard plough. The towns and the cities in these areas began to grow rapidly. As railroads were built they attracted industry, which in turn brought in migrants from poorer regions.

The built-up region in the nineteenth century thus coincided with the heavy-soil moalboard plough region of the fifteenth century. Industrial expansion, therefore, was not an isolated phenomenon that can be confined to the bounds of the nineteenth century. The Industrial Revolution was just one stage in an economic evolution that began almost a thousand years earlier. Industry was attracted to a particular region, not out of chance but because of particular environmental, social and economic factors existing there.

Railroads were attracted to areas of great agricultural potential. The building of railroads affected the future economic development of the region. The regions that had a more dense railway network benefited not only from more fertile soils, but subsequently also enjoyed cheaper freight rates, and had easier access to the markets. Railroads also attracted industry. They, thus, accentuated the differences

between the Elbe valley, which was well served by railroads, and south Bohemia, which was poorly served by railroads. This meant, that when an Elbian peasant made his yearly payment to his feudal lord, he could be reasonably certain that the lord would invest it locally, because local opportunities for profitable investment existed in abundance. Whereas when a south Bohemian peasant made his contribution, the money would probably be invested some place far away. Thus, south Bohemia became increasingly peripheralized, because the Elbian region was becoming industrialized.

The process at work here was one whereby small differences between regions were to become great differences. South Bohemia had always differed from the Elbian region in soil types and in the technologies used to exploit the soils. By the nineteenth century, however, this resulted in the two regions evolving in different directions. The more fertile lands of the Elbian region tended to attract capital. Many nobles reorganized their estates into joint stock companies.[65] The society that evolved in the region where the moalboard plough predominated became increasingly industrialized. The

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[65] This often resulted in the original family losing control of the estate. Dr. Ed. v. Seidl, Die Entwicklung einer österreichischen Zuckerfabrikwirtschaft..., (Vienna: 1910), 1.

society that evolved in the south of Bohemia, by contrast, remained in many respects feudal, often maintaining the fish ponds economy, while at the same time evolving along an Irish pattern of underdevelopment.[66]

Nothing provided a better incentive for the mechanization of agriculture than the sudden abolition of forced labour. In quick succession, the McCormick's reaper and the steam driven threshing machine were introduced replacing large numbers of workers.[67] Reaping had previously involved mobilization of the entire local labour force, as well as a large number of migratory workers from the mountains.[68] This job had to be done quickly in order to get the crop in

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[66] South Bohemia, indeed, shared at least two traits in common with Ireland. One was the potato, the other was emigration. Not only did south Bohemian peasants flock in growing numbers to the industrial suburbs of Prague, but they were also drawn by the higher pay in the Chicago stockyards. As the century progressed, a growing number of Czechs were living in North America. Peter Heumos, Agrarische Interesse und nationale Politik in Böhmen 1848-1889: sozialökonomische und organisatorische Entstehungsbedingungen der tschechischen Bauernbewegung (1. Aufl.) (Weisbaden: Steiner, 1979), 78.

[67] Kutnar, 83-107.

[68] For the migratory and landless workers who formed most of the hired help, threshing could prove to be a quite profitable employment. Not only were they paid with a portion of the grain, which they threshed, but some of them even managed to steal another portion. Even though they were closely watched by a manorial overseer, known as a *šafář*, many manors reported losses of up to one quarter to one third of the total. This figure may not, however, be correct since it could be covering the embezzling of the manorial officials themselves. Černý, 113.

before the rains. Work was not finished, furthermore, after the harvest. Sheaves of wheat took up every cubic foot of barn space. Threshing by hand was work that would take several men all winter, but with a steam thresher it could be accomplished in a few hours. The steam-driven threshing machine not only saved time, therefore, but it also freed up barn space for animals.

The steam thresher soon made steam engines a common sight in Elbian agriculture. Equipped with a set of wheels, so that they could be moved from site to site, they looked more like some sort of monster proto-tractor. Elbian peasants soon became adept at working with steam engines, and feudal lords were constantly searching for new uses for steam power. One of the more notable experiments was to replace the humble ploughman with a steam engine. This involved placing a steam engine on opposite ends of the field, to pull a special plough back and forth by means of ropes. Needless to say, this system did not replace the ploughman as much as it replaced the old reliable horse with two unreliable pieces of machinery each run by a crew of two men.[69]

Many of the agricultural improvements in the first half of the 1850s related to grain production. Most important of these were the McCormick's reaper and steam driven

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[69] Seidl, 5-7.

mechanical grain thresher. The seed drill, by contrast, was most useful to crops that needed to be planted in neat rows that were easy to hoe. Potatoes, like grain, could be broadcast in a field to grow in a haphazard manner. Such was not the case with the sugar beets which after the potato blight of the 1840s had become the most profitable root crop.[70] Sugar beets had to be cultivated in an almost garden-like fashion. The use of the seed drill is thus closely associated with expanding sugar beet industry from the 1850s until the crash of 1873.

By the 1850s, it had become evident that a successful European sugar industry had to be based on the large-scale production of sugar beets. Ever since the eighteenth century it had been known that root crops, especially the sugar beet, could rival sugar cane as a source of refined sugar. The sugar content was, however, a tricky problem. Beets only produced enough sugar when grown in optimal conditions. Good land, plenty of manure and a highly

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70 That the sugar beet today accounts for about 40% of the world's sugar production can be explained by the nature of the beet itself. Its sucrose content may reach as high as 20%, but averages 16%. Sugar cane by contrast averages 13%. The original white "Silesian" beet of the eighteenth century from which the modern sugar beet is descended had a sucrose content of only about 5%. Most of the difference in sucrose production can be accounted for not only by intensive selective breeding but also by the fact that sugar beets are grown in the best soils and are heavily manured. W.R. Aycroyd, The Story of Sugar (Chicago: Quadrangle Books, 1967) 96-98.

motivated work force were essential. Under any other circumstances, even the 'sugar' beet did not produce significantly more sugar than any other root crop.

The Bohemian sugar industry had its beginnings during the Napoleonic wars. The first sugar factories were converted from cane sugar processing plants. During the war years sugar had been virtually unobtainable in Europe because of the British blockade. This provided the impetus to find some European raw material that would replace sugar cane. Many of the sugar manufacturers were more interested in the all purpose potato, as a raw material, than the highly specialized sugar beet. In addition to root crops, these refineries would also processed maple syrup.[71] None of these raw materials could possibly compete with cane sugar and the search for domestic sources of sugar ceased after the restoration of normal trade links with the West Indies.

The European sugar industry differed from the sugar industry in the West Indies in that it was not possible to cultivate sugar beet as a monoculture, and it was, hence, incompatible with forced labour. Root crops were an integral part of a mixed agricultural economy. Sugar beets, furthermore, required careful hoeing to thin out the beets and to eliminate weeds. Special care had to be taken not to damage the valuable roots. Slave labour was used to grow

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[71] Dudek, Vývoj, 19.

sugar cane, but sugar beets required a work force that was motivated by a wage incentive. The sugar beet industry was intimately connected with a society that was moving away from forced labour as a mode of production. It could be argued, in fact, that the survival of the system of coerced labour retarded the growth of a sugar industry in Bohemia. Such was not the case in the West Indies.

The Austrian government, however, had every reason to promote the sugar industry. Imports of sugar had been an important drain on foreign exchange. Exports of sugar, by contrast, could reverse this flow. It would provide the money needed to buy machinery, especially English textile machinery, and raw materials, such as cotton. Sugar was thus a key element in the industrialization of the Austrian Empire, and of Bohemia in particular. The sugar industry, for this reason, was seen as strategic and benefited from government protection by means of customs policy.[72]

Sugar production involves two stages of industrial transformation. The first stage is the transformation of the raw material into unrefined sugar. This process is usually done in small sugar factories close to the source of raw material supply. Neither sugar beets nor sugar cane could be easily shipped. The raw material was instead brought to a rural sugar factory, where the sugar bearing

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[72] Dudek, Vývoj, 78.

juice was pressed out. The juice was then boiled in special pans, and reduced to syrup. Afterwards, the syrup was allowed to crystalise in special clay molds. The part of the syrup that did not crystalise was known as molasses. In regions of heavy sugar production, the quantity of molasses could be enormous. It could be used for making rum, or feeding livestock.

The loaves of raw sugar, in their characteristic cone shapes, were an easily transportable commodity. Raw sugar could, therefore, be sent to a refinery in a 'core' area to be reprocessed. This secondary transformation was known as clarification. It usually involved crushing these sugar cones, and remelting them. When the sugar was finally reduced to syrup, chemicals were added that caused the remaining traces of molasses to rise to the surface. When the sugar was finally allowed to recrystalise, it lost its tawny colour, and produced the familiar white sugar.

During the first half of the nineteenth century, the sugar industry consisted primarily of refineries that transformed raw cane sugar brought in from the West Indies into refined white sugar. Sugar beets did not effectively begin to be considered as an economic alternative until the 1830s. In order to maintain their advantage sugar beet processors had to be more technically innovative than their

West Indian competitors. In 1838 Bohemian refiners discovered a new method of clarifying raw sugar. It was variously known as the Weinreich-Kodweiss method, the "Czech" method, or Saturation. This technique involved boiling the melted sugar with hydrochloric acid. This caused the impurities in the raw sugar to float to the top where they could be skimmed off. The method provided a more reliable method for producing white sugar and it allowed Bohemians to gain an edge in the sugar trade.[73]

But the really critical technical improvements involved the extraction of juice and the production of raw sugar and molasses. In the West Indies sugar cane was fed continuously through a roller press that was usually driven by oxen.[74] With sugar beets the process was more complicated and involved more human labour. After sugar beets were brought into the factory, they had to be washed and grated into a mush before being pressed into juice in a device similar to those used to press apples into cider or grapes into wine.

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[73] Dudek, Vývoj, 35.

[74] For a description of this see Manuel Moreno Fraginals, The Sugarmill: The Socioeconomic Complex of Sugar in Cuba 1760-1860, trans. Cedric Belfrage (New York: Monthly Review Press, 1976) 34-38. Such a device was also common in North Carolina in the 1930s.

The problem with the sugar beet industry was, in part, that there were too many steps involved in extracting the juice. There was a limit to what labour saving improvements could be made given the traditional sugar press technologies. A beet root grater could be operated by pedal power or it could be run by a steam engine. But the sugar cane did not have to be grated at all. The beet press could operate on the screw principle, or it could be a hydraulic press, but it was a long way from the continuous motion achieved by the roller press in the West Indies.[75]

During the 1850s there was a steady progression of technical improvements and specialization of equipment. The traditional screw press was being replaced by the hydraulic press, resulting in a certain savings in time and labour. Sugar factories began making important use of steam engines for operating beet root graters. Most importantly sugar manufacturers were using steam to heat syrup. Steam proved to be a much more reliable means of heating than did the open fire because it did not scorch the liquid,[76] it was less wasteful of energy and it allowed producers to keep a much closer control over temperatures.

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[75] Dudek, Vývoj, 31-35.

[76] Dudek, Vývoj, 77-79; Dudek, "Energy Base of the Foodstuffs Industry in Czech Lands during the Industrial and Technological and Scientific Revolution," Jaroslav Purš, ed., Energy in History (Prague: 1984), 77-78.

Experiments were also being made on more efficient means of extracting juice from sugar beets than the labour intensive sugar press. One system was called *Maceration*. It involved boiling the grated beet root without pressing. This process, however, resulted in the extraction of a number of impurities in addition to sugar. Centrifuging was another method which proved unreliable.

It was the *Maceration* process, however, that attracted the interest of Julius Robert, the son of the owner of the feudal estate of Židlovice. He began experimenting with immersing sliced sugar beets into different temperatures of luke-warm water to find the optimal temperature to cause sugar molecules to diffuse through the cell walls into the surrounding water. This optimal temperature proved to be somewhere between 40-50° R. The discovery of this principle allowed Julius Robert to patent a machine called a diffuser, a pressure cooker-like device that extracted juice more economically than any sugar press. A related invention was a machine that sliced beets for the diffuser.[77]

Bohemia's sugar processing technology evolved along the same lines as brewing technology at that time. Both brewers and sugar manufacturers were making heavy use of two important scientific instruments. The densimeter, sometimes called sacharometer, determined the sugar content of a

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[77] Dudek, Vývoj, 105-106.

liquid by measuring its density. The thermometer was used to regulate carefully the temperature in food processing to eliminate the possibility of errors in judgement. Both of these instruments made possible the rationalization of industrial processes which facilitated the increased use of machinery.

The invention of the diffusion process dramatically expanded the ability of the sugar beet industry to compete with cane sugar. Previously sugar beets had been grown largely on plots of land that were operating under contract with a particular sugar factory. Because of the quantities of labour involved, opening a sugar factory had been a major undertaking reserved to the owners of large estates. With the adoption of the diffusion process, the labour requirements fell. As the processing capacity of the sugar factories was always well above the available supply of raw material, they had no recourse but to buy sugar beets on the free market. This meant that the owners of the large estates had to compete on the same basis as any of their former serfs when selling beets to the sugar factories. Increasingly, the small to middling peasants with their greater dedication to their miniscule plots of land began to earn a greater share of the sugar beet market. The peasant profited because he could produce better quality beets than

could the noble. As the industry continued to expand, the peasants saw even greater profits coming their way as competing sugar factories offered them ever higher prices.[78]

During the 1850s Elbian society became increasingly capitalistic. This was a boom decade when the prices of commodities were generally on the rise. The price of sugar, in particular, was being pushed upward by the growing demand that could not be met by an increased supply. At first, this process affected only the large landowners, but two decades later it had filtered down to the ordinary peasant.

The economic and political partnership between the peasantry and the nobility was beginning to bear fruit. The nobility provided the peasants with an opportunity to absorb new technology and thereby improve their economic position. After 1848, furthermore, peasants also enjoyed more political independence, which allowed them to exploit the market economy free of noble interference. In return, the rustical peasants supplied noble enterprises with valuable raw materials, just as they provided the *status quo* with needed political support. The sugar boom of the 1860s was the first big opportunity peasants had really to profit from the market economy. New ideas were intermingling with the old ones. Both nobles and peasants were increasingly idealizing the free market that was bringing them both such

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[78] Rudolph, Banking and Industrialization, 70-15.

great economic benefits. Few of them realized to what extent the capitalism that they were espousing was undermining the society that they had known; that as a result of the free market, Bohemian society was becoming increasingly egalitarian and hostile to privileges based on birth. Not everybody could see that Bohemia was in the throes of a quiet revolution that was transforming the entire social structure, and social attitudes, without a single shot being fired.

Chapter 5

THE END OF THE MANOR

The Industrial Revolution can be understood as a series of technological innovations which transform the production of a particular commodity. Cloth making was transformed in eighteenth century England by the spinning jenny and the flying shuttle. Likewise, sugar making was transformed in nineteenth century Bohemia by the saturation and diffusion methods.[79] But these new technologies did more than produce an old commodity more efficiently and in greater abundance. They also shaped society, just as the moalboard plough had once done. In the nineteenth century, however, the society was becoming increasingly complex. It was being shaped by many more factors than had been operating in the Middle Ages. The plough was no longer the primary factor shaping society. By this time one had to take into account railroads and steel production. A prosperous agricultural base remained, nevertheless, an important precondition for industrial growth. In fact, the original impetus for

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[79] Jaroslav Purš, "The Industrial Revolution in the Czech Lands: Some Theoretical Problems of the Industrial Revolution," Historica II, (1960), 223.

building railroads had been the importance of getting agricultural commodities to distant markets. For the first time the Elbian peasantry was just as oriented to the market economy as the nobility had been earlier. The introduction of the sugar beet, furthermore, made agriculture much more profitable. The profits they derived from the trade in agricultural commodities allowed them to expand their small subsistence holdings by nibbling away at the large feudal domains. This had the effect of changing the foundations of the feudal system by reducing the inequality that had existed in land ownership.[80] The peasant holdings that were thus created were large enough to produce a marketable surplus, but small enough so that the peasant could devote his full energies to producing a labour intensive crop.

Sugar beets could not be grown efficiently on large estates. A beet grower had to dedicate himself to the day to day details of sugar beet growing. Only this would insure that he would have the optimal sugar content in his beets that would bring them highest price on the market. The sugar beet industry, thus, spawned a class of relatively prosperous middle peasants, well-versed in scientific agriculture, a class that had sprung from the former rustical peasants. So successful was this particular class

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[80] Bruce M. Garner, The Young Czech Party 1874-1901 and the Emergence of a Multi-Party System (New Haven, Conn.: Yale University Press, 1978), 23.

of peasants that many of them could live in the small provincial Elbian towns, such as Kolín, Kutná Hora, or Poděbrad, where they could participate to a greater extent in the political and cultural life of the Czech nation,[81] but at the same time keep close watch on their vital economic activities.

The sugar boom did not mean an end to the aristocracy. It just meant it competed for influence on the local level with the rising middle peasantry. The average size of the noble estates in the Elbian region was smaller, but since they were now totally dedicated to beet production, and probably included a raw sugar factory, their profits were greater than ever. Capitalist modes of production, furthermore, had totally replaced the manor. This was not the case in the south of Bohemia, where the chasm separating lord and peasant continued to be enormous, where the peasant holdings were small, and kept getting smaller every time a holding was divided among children.[82] Here the average great estate remained united in 20,000 ha. holdings. For the south Bohemian peasant economic advancement meant emigration; either to America or to the industrial suburbs of Prague. In south Bohemia few peasants found prosperity in agriculture.

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[81] Heumos, 28.

[82] Heumos, 76.

The Industrial Revolution thus fostered two patterns of urbanization. Impoverished south Bohemian peasants went to Prague, while successful Elbian sugar growers established themselves in the provincial Elbian towns. The children of sugar growers did not always have to go back into agriculture. They could go into professions, which might also bring them to Prague. The social gap between the two types of emigrants, however, remained immense.

But Elbian society did not just consist of embourgeoised peasants and nobles who lived in towns and sent their children to university. There was a vast Elbian working class, which may not have owned land, but did much of the 'grunt' work of the sugar production. This included the people who hoed the rows of beets and the workers in the sugar factories. Much of this labour was seasonal. It also included skilled labourers such as those who operated the steam engines, the machinists, and the steam fitters. These people enjoyed greater stability in employment and better wages. This class probably sprang from the former class of *čeledi* and the poorer rustical peasants, as well as from south Bohemian immigrants.

The boom that followed 1848 produced a period of prolonged growth that lasted until the crash of 1873. It affected all aspects of the economy. In Cisleithania, as

the western part of Austria-Hungary was called, the sugar industry became the focus of intense speculation. The price of sugar was rising on the world market. It was, therefore, relatively easy to get investors interested in starting up new sugar factories. As sugar production in Bohemia and Moravia rose, growing amounts of foreign exchange flowed into Cisleithania. It was only because of this positive balance of payments that citizens of the western part of the Hapsburg Empire could expand industries such as cotton textiles which were heavily dependent on imported raw materials and machinery. Had it not been for the sugar industry the cotton magnates such as the Liebig family in the north Bohemian German-speaking town of Liberec would not have been able to import the British machinery and the American cotton which was necessary for their industry. Sugar thus became the primary motor of the Industrial Revolution in Bohemia, which by the end of the century had become the industrial centre of the entire Austro-Hungarian Empire. [83] Linked with this constant rise in the price of sugar was a nearly parallel growth in the price of sugar beets, as competing raw sugar manufacturers were all willing to pay the top price for the peasants' crop. As the price

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[83] František Dudek, Monopolizace cukrovarnictví v českých zemích do roku 1938 [Monopolization of sugar production in the Czech lands up until 1938.] (Prague: Academia, 1985), 29.

of sugar beets rose, peasants began devoting an increasing amount of land to them. Fish ponds, especially, disappeared in the Elbian region as the land had more profitable uses.

One result of the boom was that it placed previously unheard of amounts of money in the hands of peasants. It meant that peasants in sugar producing areas made the last few installments toward the rustical lands virtually painlessly. It meant that when the rustical lands were finally paid for, it was possible to buy more land. In the beet producing regions, the size of the holdings of peasants was increasing, while the noble estates were getting smaller. It is true many nobles were reluctant to sell the dominical lands that had been in their families for generations. But the sale of land did improve the cash flow that allowed them to make profitable investments. Even honour had its price.[84] Peasants, in a very capitalist

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84 The effects of these land acquisitions can be seen by the first decade of the twentieth century. Bruce M. Garner, The Young Czech Party 1874-1901 and the Emergence of a Multi-Party System (New Haven, Conn.: Yale University Press, 1978), 23. A total of 28.31% of total acreage in Bohemia was held in estates of more than 2000 ha. The bulk of these 'latifundia' were in the south of Bohemia. The statistics also showed a strong middle peasantry. 17.24% of the acreage was in units of 10-20 ha., and 19.98% was in the realm of 20-50 ha. *Ibid*, 335. The middle peasantry seemed to be largely concentrated in the sugar producing region. A contemporary study in the Poděbrad district did not reveal a single estate that even approached the 2000 + ha. range. The largest feudal estate had only 703 ha., and the average size for the district was only 293 ha. F.J. Čečetka, F. Šorm,A. Vlček, "Zemědělství," ["Agriculture"] Karel Kožíšek, ed.,

manner, chose to form their own joint stock companies and cooperative sugar factories. In this way they hoped to maximize their profits, if not through producing raw sugar, at least by giving themselves a better price for their sugar beets.[85]

The sugar boom created something of a credit crunch. The great Viennese banks had already become quite overextended in the railway boom of the 1850s and did not have sufficient capital to spare to take advantage of the profits of the sugar industry. Generally, it was the custom of the German-speaking Viennese bankers to deal only with members of the nobility and they shared many of their prejudices about peasants. As a result, their lending practices tended to favour large investments such as mining, metallurgy and railroads. As German speakers, furthermore, they tended to consider themselves racially and culturally superior to

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Poděbradsko: Obraz minulosti i přítomnosti, [Poděbrad County: Images of past and present] Part 1 of Popisu politického Práce učitelstva okresu [Description of the political work of the teachers in the county] (Poděbrady: "Unie", 1906), 147.

85 Jana Janusová, "Rolnický akciový cukrovar v Plzni v letech 1869-1874," ["Peasant Joint Stock Sugar Factory in Pilsen during the years 1869-1874"] Vědecké Práce 14(1974), 177-188. Most of these were cooperative enterprises in which the peasant provided not only the capital in the form of the stock which he bought, but also agreed to produce and sell a certain number of sugar beets to the factory. Stanovy rolnické akciové společnosti pro vyrábění cukru v Ouvalech [The articles of the Peasant Joint Stock Company for Producing Sugar in Ouvaly] (Kolín: Naklad. vlastním, 1870).

Slavs and they were unlikely to learn Czech. Nevertheless, it was these Slavic peasants who suddenly had tremendous amounts of money and had investment projects that, to peasants, were very ambitious. They reciprocated the Viennese loan officers' contempt for Slavic customers by boycotting 'German' banks. They united peasant savings with peasant investment by forming rival financial institutions. Central to these was the *Živnostenská banka pro Čechy a Moravu* in Prague, which in 1868 began to function as the primary financial backer for all other 'Czech banks'. The *Živnobanka*, as it was called, began financing most peasant land acquisitions. As a result, Cisleithania soon found itself with two rival financial communities, one composed of Czech speakers and based in Prague, the other consisting primarily of German speakers centring on Vienna.[86]

The sugar boom, however, was chaotic. The high price of sugar covered a lot of inefficiencies. Not every new sugar manufacturer was able to buy a specialized diffuser for producing sugar. All that was really necessary to make raw sugar was a simple wine or cider press, and other implements that were already common in every village.[87] In times of

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[86] Rudolph, Banking and Industrialization, 122-123.

[87] Sugar presses continue to hold their own against diffusers throughout the boom period. After the crash of 1873, however, the number of sugar presses began to decline dramatically while the number of diffusers continued to expand. Marliese Reinhardt, Die Entwicklung

rising prices, the general expansion of raw sugar production benefited everybody. Sugar refiners cared little how the raw sugar was produced. The end product was the same and the generally high prices absorbed the costs of inefficient producers.

The main reason for the survival of the sugar press was lack of investment capital. Many of the new sugar factories were undercapitalized. This included practically all of the plants that were started with peasant capital. Also affected were the sugar factories that were built in regions where the soil conditions were less than ideal. This included the vast sweep of south Bohemia. Here a number of interlocking factors converged, which not only meant that the region was underdeveloped, but that it would continue to be so. Not only were the soils poorer, but the most common plough used was less effective in breaking them up. This produced harvests that were small relative to the human labour required to produce them. Much of the surplus was eaten; very little was left over for the market. Poor and unprofitable agriculture did not encourage railroad investment. Since the area was more poorly served by railroads, peasants had less access to distant markets than would otherwise be the case. The freight rates that they

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der österreich-ungarischen Rübenzuckerindustrie von ihren Anfängen bis zum Jahre 1914 (Vienna, phil. Diss. 1975), 43.

paid were generally higher. High freight rates meant higher priced coal, which was the primary energy base for Elbian sugar. High priced coal was a further disincentive to industrialization. Not only did each one of these factors produce the next, but the effect was cumulative. If south Bohemia ever did manage to manufacture something, chances were that it could be manufactured cheaper and better in the Elbian basin. The cost of producing sugar in south Bohemia was not only affected by higher freight and fuel costs, but also by the basic poverty of the soils. Poor soils produced beets with a low sugar content. Once the industry passed its experimental stage, south Bohemia could no longer compete in sugar production.[88]

The high prices of sugar, however, tended actually to subsidize inefficient methods of production. Sugar production could make profits no matter how it was done, if the general price of sugar was high. The real revolution would only happen when the boom ended and the prices collapsed. As long as the prices were high, peasants had little incentive to produce higher quality beets. For the

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88 It was during this period that the sugar producing region became a well defined territorial entity. Dudek, "Territorial Development of Sugar-Beet and Sugar Production in the Czech Lands at the Time of the Industrial Revolution" Historical Geography 19 (Prague, 1980) 285 et passim 283-303. Of particular note is the collection of maps showing the gradual concentration of the sugar factories in the Elbe region, and their disappearance in other parts of Bohemia.

most part they simply converted from a grain monoculture to a beet monoculture.[89] Sugar manufacturers often had no choice but to accept any beets: beets that had been grown in soil that had already produced a beet crop for several consecutive years, beets that had been grown in land that had formerly been considered too poor even for grain, beets that had not been given sufficient manure. The fact is, beets are hardy plants that will grow almost anywhere, but not all these beets were what the sugar industry needed. As competition became more intense, sugar manufacturers had little choice but to pay whatever price the peasant demanded. At the outset of the boom the price of sugar was quite high, and it only began to drop as expanding sugar beet industry increased the supply of sugar on the world market. Simultaneously, the price of sugar beets was rising, as a growing number of entrepreneurs was competing for the rather scarce raw material.[90]

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89 In the fifties and sixties even pasture fell victim to the intensification of agriculture, as growing amounts of land were being ploughed up. By the 1880s, pasture was being allowed to recover, as marginal land was being abandoned. Leoš Jeleček, "Kapitalistická pozemková renta, zemědělská revolucie a půdní fond v Čechách ve 2 polovině 19 století," ["Capitalist land rent, agricultural revolution, and the quantity of soil available in Bohemia in second half of the 19th century"] Československý časopis historický 5(1981), 698.

90 Dudek, Vývoj, 188.

The financial crash of 1873 was an opportunity for the market to regain its stability. After the crash there were massive closures of sugar factories. This, in turn, relieved the raw material pressure on the sugar industry, since there were now fewer factories to process the sugar beets. The crash of 1873 marked the beginning of the end of the sugar press. The same went for any sugar processing plant that was built in regions where soil conditions were less than ideal.[91] The sugar processing plants that survived were now capable of processing much larger quantities of sugar beets. They were, furthermore, located in regions possessing the best soils that produced the highest quality beets.

After 1873 it became possible to speak of a specific sugar-producing region with well defined frontiers. It covered the entire broad plain of the Elbe, bordered in the north by the foothills of the Sudet mountains, which formed as much an ecological frontier as a linguistic one, and in the south by the hills of south Bohemia. Similarly, the sugar producing regions of Moravia were the Haná region, and the broad fertile Viennese plain that extended southward from Brno, merging imperceptibly with the predominantly German-speaking province of Lower Austria.

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[91] Dudek, "Territorial Development of Sugar Beet...," 283-303.

With the sole exception of the outskirts of Vienna sugar had become an industry that was dominated by speakers of Czech. The sugar industry's role as Cisleithania's primary motor of economic growth thus played a major role in giving Czech speakers a political voice within Cisleithania. A type of ethno-linguistic guerrilla warfare ensued that pitted nine million German speakers against six million Czech speakers. The linguistic battles were fought in the streets of Vienna as well as in Prague. The smaller provincial towns of Austria, Moravia and Bohemia, on the other hand, tended to be monolingual. Outside of the two capitals, a clearly defined linguistic frontier came to be drawn, separating two self-contained societies.

The importance of the sugar industry to the overall economy was widely realized by Czech nationalists in the nineteenth century. In judging this we must realize that the sugar industry consumed about 20% of the total steam horse power in Bohemia. This reflects its approximate size relative to the rest of industry.[92] Other industries such as machine building and railroads were also big users of steam engines. However, the biggest user of steam was the Liberec cotton textile industry. In 1841 three-fourths of all steam engines were involved in the cotton textile industry; by 1876 one-third of all engines were employed

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[92] Dudek, "Energy in History", 84.

textiles. However, one must be wary of quantifying data without qualifying them. Most of the cotton textiles were destined for the internal Austro-Hungarian market, whereas 70% of the sugar was exported. Furthermore, sugar was not an industry that was dependent on imports as was the case of cotton textiles. Much of the machine building industry was producing agricultural machinery and machinery for processing agricultural commodities. In addition, the railroads were primarily involved in serving the agricultural sector. Sugar can, therefore, be considered the prime motor of the Bohemian industry because much of the rest of the economy depended on it.[93]

The political power of Czech-speaking leaders was thoroughly grounded in the growing industrialization of the Czech-speaking, sugar-producing lands of Bohemia and Moravia. In the 1820s, cities such as Prague had been predominantly German speaking. This is not to say they were ethnically homogenous. Much of this 'German' population was Jewish. After the Napoleonic wars, however, many of Europe's Jews saw their interests best served by making common cause with the German Liberal Party, a party that internalized many of the progressive tendencies of the French Revolution and wanted the social and legal restrictions on Jews lifted. The Liberal Party, thus,

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[93] Rudolph, Banking and Industrialization, 58-64.

offered Jews the opportunity to participate fully in German political life, and many Jews came also to internalize the political objective of the Liberal Party to incorporate Bohemia into some sort of German nation-state.

The only problem, however, was that in Prague most "Germans" had another identity, they were Jews. They were a German-speaking linguistic island in a booming Slavic countryside. As the entire region continued to expand economically, German Jews became increasingly aware of their double minority status. In 1848 most German Jews thought that survival depended on identifying with the greater German "nation". By the end of the nineteenth century, however, the German "nation" was answering their pleas with scorn. Anti-semitism was rotting the very soul of German nationalism in Prague.[94] While Prague Jews continued to speak German, this did not necessarily mean that they still considered themselves Germans.

Much of the opposition to the German Liberal Party came from the nobility, which was itself German speaking. Sharing a common language, however, did not stop the nobility from patronizing the budding Czech-speaking intelligentsia. Most of the Bohemian nobility moved freely among Czech political leaders. Among the intelligentsia and

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[94] Gary B. Cohen, The Politics of Ethnic Survival: Germans in Prague, 1861-1914 (Princeton, N.J.: Princeton University Press, 1981).

the nobility there was an important meeting of minds. By the 1850s, both nobles and non-nobles, even peasants, were active participants of the Patriotic Economic Society. This organization was able to channel important scientific information into agriculture. As the population of Prague began to swell as a result of the rural exodus from south Bohemia, Czech-speaking political leaders were able to keep the lines of communication open.[95] The German-speaking bourgeoisie had more reason to fear the riotous proletariat than did the nobility.

As Czech-speaking society became increasingly industrialized, however, the power of the nobility over the Czech nationalist movement began to diminish. For thirty years, from 1848 to 1878, Czech politics had remained in the iron grasp of Palacký, who in the eyes of many seemed to speak for the nation. But one of the results of the boom of the 1860s was that it reshaped economic and political

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[95] In 1844 Prague cotton printers and railroad workers went on strike and rioted. In the course of the riots they broke machines which were the symbols of their deteriorating economic plight and they attacked Jews. The reason for singling out Jews was that most of the factory owners were German-speaking Jews. Pech, 19. This reaction should, however, be contrasted to 1848, when working class protest was being firmly directed by the Czech political leadership. They succeeded in controlling the anti-semitism of the working class, directing their anger instead toward German speakers who invariably supporters of the Frankfurt pre-parliament. In Prague German speakers and Jews were one and the same thing. Pech, 79-99.

thinking among Czechs more along the ideas of Adam Smith. Already, before Palacký's death, there were rumblings of discontent. The political alliances that were necessary in the context of the sugar industry were not necessarily those that tied the aristocracy to the rustical peasants. But it was vital to unite financiers with sugar manufacturers, with beet growers and ultimately with beet and sugar workers. The common bond between all of these groups was one of economic interest and the Czech language. This resulted in the formation of a rival nationalist party, in the late 1870s. A group calling themselves the *Young Czech Party* began to advocate a much more militant and anti-aristocratic form of nationalism.

As the Czech nationalist movement split into two rival camps, a number of issues came to the fore. Young Czechs tended to be militantly anti-clerical, apparently in reaction to the encyclicals of Pope Pius IX. Their social outlook tended to be anti-aristocratic. Their economic ideology was based on free market capitalism. Most significant, however, was that the overwhelming majority of the leaders of the Young Czech movement were either sugar producers or beet growers. The Young Czech Party's political base was thoroughly grounded in the sugar producing provinces of the Elbe plain.[96]

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[96] Garner, The Young Czech Party... and Tomáš Vojtěch,

The origins of the *Young Czech Party* lay in the sugar industry and how it survived the crash of 1873. The disaster had been general. None of the undercapitalized sugar factories survived the depression. The crisis marked the end of the sugar press. The crash thus marks the final adoption of both the diffusion and the saturation processes by the entire sugar industry.

The price of sugar beets was also deflated by the crash, but not as much as grain prices. While the falling prices of commodities was general, grain prices fell the furthest, which is the reason why there was not a large scale return to grain production. Most of the beet growers had, furthermore, managed to accumulate financial obligations during the boom period. The depression had actually increased the reliance of beet growers on the money economy. Only by continuing to grow sugar beets could they continue to make payments on their expanded land holdings. This is not to say that the *Živnobanka* did not experience severe losses as a result of the crisis, but it did survive, and would continue to expand during future boom periods.

It was after the crash of 1873 that Czech society was to take the shape that it would maintain until Czechoslovakia emerged as an independent republic in 1918. During this

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Mladočeši a Boj o politickou moc v Čechách [The Young Czechs and the struggle for political power in Bohemia] (Prague: Academia, 1980).

period of about 40 years, sugar growers would emerge as political leaders in the Czech nationalist movement, and they would lay the groundwork for the creation of a modern Czech state. The *Živnobanka* had come to function as a central bank for the Czech lands, similar to the way national banks or federal reserve banks function in independent nation states. Not only did the *Živnobanka* facilitate the flow of capital, but because it was the primary clearing-house for most debts and financial papers in the Czech lands, it was in a good position to print money should the need arise. Czech bankers were, furthermore, quite aware of the role they were playing and they actively supported Czech nationalist political parties. Long before the Czech lands had achieved political independence in 1918, Czech bankers, businessmen and politicians were building the framework of a future state.[97] The bank also maintained extensive ties on the grass roots level with the Czech peasantry which still formed the overwhelming majority of the population.

After 1873, the sugar manufacturers formed a system of regional cartels to protect their sources of supply from excessive competition. Beet growers were no longer free to deliver their product anywhere, because the sugar producers had agreed to accept only those beets that had been

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[97] Rudolph, Banking and Industrialization..., 122-155.

previously assigned to them by the cartel. Sugar manufacturers were also concerned about getting the highest quality beet possible. The manufacturers had to provide, therefore, incentives to beet growers to guarantee the quality of the raw material. They regularly provided the growers with information and credit that would help them to grow beets. They paid beet growers well when they brought good beets to the factory. They also penalized growers who delivered substandard beets. It was these sugar manufacturers, furthermore, who replaced the nobility as the primary promoters of schools and of education in the Czech language. They became the founders of a new type of Czech nationalism represented by the *Young Czech Party*.

The sugar industry, furthermore, had an impact that far exceeded its actual contribution to national wealth. As we have seen, the textile industry was very dependent on foreign exchange earned by sugar. The sugar industry also tended to strengthen the machine building industry.[98] Bohemian agriculture had become highly mechanized since the 1850s. Steam engines had spread through all sectors of the

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98 At the same time beer production was being modernized and mechanized. See Zdeněk Kuttelvašer, "Poznámky k vývoji pivovarské technologie do konce 19. století," ["Notes on the evolution of beer-making technology up until the end of the 19th century"] Vědecké Práce 13(1973), 163-193. Like sugar, beer making was dominated by Czechs. This was not as big an industry as sugar and its importance to the overall economy was, therefore, less.

economy. Except for textile machinery, most machines were built in Bohemia. Eventually, these machine building plants would diversify and begin manufacturing bicycles, tractors, automobiles, and machine guns. Most famous of these machine building firms were the Škoda works of Plzeň.

The sugar industry, however, also exacerbated the differences between the great fertile plain of Bohemia, and the hill country of south Bohemia and the borderlands with Moravia. In the north, peasants had the opportunity to buy more land, and gradually to nibble away at the great estates. The south was still a land of dwarf holding peasants, whose subsistence plots were growing ever smaller. Most of the great estates owned by nobles had been planted with forest, which brought them a higher return as a result of the sale of lumber.[99] Feudalism was still a fact of life in the south. The industry that existed there was mostly on a small scale and was dominated by the nobility. Nowhere is this clearer than in Bohemia's two distilling industries. Molasses, a by-product of the sugar industry, was used in making rum.[100] In the Elbe region the sugar industry had created an enormous raw material base in the form of the

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[99] Rudolph, Banking and Industrialization, 114-115.

[100] Molasses formed 3/8 of Austria-Hungary's alcohol base. Bohumil Černý, "Vývoj lihovarství v českých zemích," Československý Časopis historický ["The development of distilling technology in the Czech Lands"] 5(1957), 290.

molasses by product. By the 1870s enormous distilleries, using the factory mode of production and the latest technology, were processing molasses into rum. In the south, the distilleries were small, 'low tech' operations, that were usually run by the manor. South Bohemian distilleries, furthermore, did not process a by-product like molasses. They processed potatoes, a factor that helped keep this staple food scarce.

The only industry that exceeded sugar in sheer magnitude was textiles. The textile industry was much older in the mountainous areas of north Bohemia. Clothmaking had begun in the seventeenth century as a kind of *Gutsherrschaft*. Here the land was too poor to produce any grain crop. Peasants were required instead to produce yarn and cloth from wool and flax. The profits of the sugar industry helped finance the Bohemian cotton textile industry, which was concentrated around the German-speaking north Bohemian town of Liberec. Cotton was the only material that was completely mechanized from the beginning. Liberec was advantageously placed because it was close to the Elbe port of Děčín, where American cotton was unloaded. It was also well placed in terms of water power and natural wood power. Close by, furthermore, were the rich brown coal deposits of the ore mountains.

In Bohemia, textiles were an industry that sought out poverty. Handweaving in particular tended to occur in mountainous areas where the harsh climatic conditions and the lack of alternative employment prospects made cloth making economically feasible. The mountainous fringe of northern Bohemia was so poor that the hand weaving of linen, and to a lesser extent of wool, continued to compete successfully with machine weaving into the twentieth century.[101] When weavers were paid so little, there was little incentive to make heavy investments in machinery. For the inhabitants of these mountains, there was little hope of migrating to Prague. Unlike the inhabitants of south Bohemia, these mountain people did not speak Czech. They were trapped by their native German language in the inhospitable highlands. Czech nationalism not only served to channel class antagonism toward the aristocracy, but it served to exclude this poorest strata from the highly desirable industrial jobs. The most a German speaker could hope for in advancement was a job in the army and the police. It was, thus, that Cisleithania used this class of

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[101] On the life of the weavers see Jarmila Št'astná, Změny ve způsobu životu tkalců na náchodsku v procesu industrializace (se zretelem k rodinnému životu) [Changes in the way of life of the weavers in the Náchod region in the industrialization process (with an insight into the family life] (Prague: ČSAV, Ústav pro etnografii a folkloristiku, 1970).

outcasts to maintain its system of state repression.[102]

The linguistic frontier in Bohemia followed an ecological boundary. When travelling north from Prague one crosses the width of the Elbe basin, a broad plain of intensive agricultural production. The villages here follow the pattern of the *statek*, they are nucleated and they are enclosed by a square compound built in seventeenth or eighteenth century style. This reflects the dramatic reorganization of the population following the battle of White Mountain. When one passes Turnov, however, one crosses a boundary so sharp that it could be drawn with a piece of chalk. After this point the road begins to wind into the mountains. The towns in this region are tightly clustered around a single glass or textile factory. The village houses, by contrast, are scattered as is typical in alpine regions of Europe practicing some form of transhumant pasturalism. Most of the older houses are large and are built to house animals on the first floor and people on the second floor. Evidence of the transhumant nature of these houses can be seen by the remnants of hay lofts. It was the alpine life style of the inhabitants of this region that distinguished them from their lowland neighbours as much as did the German language.

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102 "For at the time [1880] German young men preferred to go in the army, ..." Wiskemann, 38-39.

The Bohemian sugar industry recovered from the depression of 1873 and it continued to expand throughout the nineteenth century, despite sometimes stiff competition from West Indian cane sugar, where, as the century progressed American financial interests came to play a growing role. 'Yankee know-how' and American coal was bringing about the same technical revolution in Cuba as had occurred in Bohemia.[103] The world's supply of sugar was rising, and the prices on the London exchange were continuously falling. The only solution for Czech sugar producers was to continue to expand the area of sugar beet cultivation. By 1900, the Czech lands were growing about as many sugar beets as they possibly could. Any future expansion of the sugar beet industry would involve expanding beet production beyond the borders of Bohemia and Moravia. In this matter, the *Živnobanka*, as usual, took the lead and began financing raw sugar factories in Galicia, Croatia, and Banat,[104] thereby setting the groundwork for the same kind of expansion as the Americans had carried out in Cuba. Czechs were justly proud of the achievements of their society, and they understood the role that sugar had played in it. They undertook this capital expansion, therefore, with missionary zeal. They did not view their actions as economic imperialism, but as

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[103] Dudek, Monopolizace, 44.

[104] Rudolph, Banking and Industrialization, 148-149.

extending brotherly help to fellow Slavs. In so doing, they were making a renewed bid to bring down the structures of Dualism and replace it with a federalized Austria. By this time, however, the German-Magyar elites had too much of a stake in the survival of Dualism. They saw Czech economic expansion and Czech pan-Slavism as a conspiracy originating in Moscow.[105]

Austro-Federalism had once been a fairly conservative ideology designed to create some order out of the chaos that confronted the Hapsburg Empire during the mid nineteenth century. Since 1867 stability was achieved by a different route. While the *Ausgleich* was far from satisfactory where most Czechs were concerned, it did suit the purposes of many powerful groups. At the same time as Czechs were losing political power in the Empire they were gaining economic

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[105] To the German and Magyar elites the most sinister of the activities of the *Young Czech Party* was their attempt to redirect the Dual Monarchy's foreign policy toward an alliance with Russia and France. In a time of growing hostility between Austria-Hungary and Russia, one faction of the *Young Czech Party*, led by Karel Kramář, began working toward political cooperation with the czarist state. This cooperation was not limited to political matters. At the Neo-Slav Congress at Prague in 1908, J. Preiss, the director of the *Živnostenská banka* proposed forming a Pan Slavic bank with its headquarters in Moscow. Several alternative plans were also established, and it was not until the Russians objected that the whole idea was finally shelved. The Russians also had their own reasons to fear Czech capitalists. Paul Vyšný, Neo Slavism and the Czechs 1898-1914 (Cambridge: University Press, 1977), 102-104.

power as a result of their role in the sugar industry. This did not, however, result in their regaining political power. As the Austro-Hungarian Empire entered the twentieth century, political positions were becoming entrenched, any renewed attempt to change the *status quo* was pushing the Empire into a civil war. In order to prevent this, Austria-Hungary was becoming increasingly dependent on its alliance with Imperial Germany, who would jump to the defense of the most extreme German nationalists. Given the circumstances it is questionable how long the Dual Monarchy could have continued its existence before being partitioned between Germany and Hungary. Such Czech nationalists as Kramář were not, in fact, committing treason when they sought to redirect the Dual Monarchy's foreign policy toward Russia and France. They were simply trying to save what they could of Palacký's dream.

Chapter 6

THE STRUCTURE OF BOHEMIAN TRADE: CONCLUSION

If one were to look at a map of Bohemia at the end of the nineteenth century one would see many of the same basic structures that had existed at the end of the Middle ages. Essentially, the country could be divided into three distinct regions: 1) the mountainous region of north Bohemia, an area that was largely non-agricultural, and was dominated by the need to go to market to buy basic foodstuffs; 2) the Elbian region, an area that produced an agricultural surplus; 3) and south Bohemia, an area that was agriculturally self-sufficient, but produced little surplus.[106]

The key to understanding Bohemian history is to understand how the market economy functioned. As we see from the above description, two of Bohemia's three regions participated in the market economy in an important way:

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106 Vlastimil Vondruška, "Vliv přírodních podmínek na základní orientaci rustikálního zemědělství v Čechách v 1 polovině 19 století," [The influence of natural conditions on the basic orientation of the rustical agriculture in Bohemia in the first half of the 19th century] Časopis historický 1 (1984), 78-103.

north Bohemia and Elbian Bohemia. North Bohemia, however, was not self-sufficient in agricultural foodstuffs. Elbian Bohemia, by contrast, produced a considerable surplus. The basic structure of trade had been, therefore, an exchange of Elbian foodstuffs for north Bohemian manufactured goods.

In the fifteenth and sixteenth centuries the chief agricultural commodities of the Elbian region had been carp, grain and beer, which were traded for the gold that was being mined from the mountains. In the seventeenth and eighteenth centuries the exchange had become much more centred on grain, which was now being traded for hand-woven cloth. By the nineteenth century the exchange had become one of sugar for machine woven cloth.

In south Bohemia, by contrast, a "natural economy" prevailed, one that neither imported nor exported much. This explains the survival in this region of such fifteenth century phenomena as the fish ponds. South Bohemia may not have produced much of an exportable agricultural surplus, but it was self sufficient in terms of foodstuffs. Yet the appeal of the market was strong, especially for the ruling classes. To the extent that they were able, they engaged in trade of some sort. Until the nineteenth century, however, most of south Bohemia's exports were based on the extensive forest resources of the region, which were manorial

monopolies, and did not interfere with the "natural economy" of the peasants.

During the fifteenth, sixteenth and seventeenth centuries timber was rafted down the Vltava to Prague where it was sawn into lumber at one of the many mills. Later, in the eighteenth century, much of this wood was burned down to charcoal where it served as the primary fuel base for the emerging metallurgy and glass-making industry in south Bohemia. Charcoal burning involved the use of *robota*, but not to the same extent as did grain production. The potato was a godsend to the subsistence farmer, but its use as an industrial crop in the nineteenth century tended to benefit the lords.

The most important regional marketplace in Bohemia was Prague. It was here that most of the north Bohemian cloth was marketed. It was here also that it was dyed, or printed, a process that added value to the product.[107] It was also a market for wood and charcoal, as well as a regional market for food. Prague, however, was also the focus of political power, as well as a cultural and religious centre. The attraction of Prague affected as much the predominantly German-speaking north Bohemians as it did the overwhelmingly Czech-speaking Elbian and south

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[107] F.W. Carter, "The Cotton Printing Industry in Prague 1766-1873" Textile History 6(1975), 132-155.

Bohemians. They all prayed to Saint Wenceslas and Saint John Nepomuk with equal fervor.

Prague was also the locus of power for the great feudal magnates. A large part of the quarters of Small Side and Hradčany were occupied by the sprawling palaces of the great ruling families: the Waldsteins, the Sternbergs, and the Černíns. From these halls they ruled over their extensive holdings scattered all over Bohemia. Not all of the goods brought into Prague were headed straight for the marketplace. Some of it was tribute brought by vassals to their lord.

Prague was, thus, the place where the three regions of Bohemia came together and where they traded, not always on an equal basis. It is obvious that of the three regions, the Elbian basin was most favourably placed; it was the regional core. The soil of the Elbe valley was fertile, and out of the enormous surplus that it produced, there was a little something for everybody. Unlike the mountains of north Bohemia the Elbian basin was not a region of chronic malnutrition and starvation. In times of economic contraction whole families of weavers could starve to death because there was no one who would buy their cloth. Despite the apparent brutality of the grain monoculture, the system survived because the tillers of the soil always got fed.

These three regions entered the nineteenth century differently, and each found different things in the new technology and the new crops. The north Bohemians used their long winters to develop other crafts than clothmaking. They engraved fine crystal or made porcelain. Sometimes they made cuckoo clocks. South Bohemia's exports were still grounded in wood products, in the forests that dominated the landscape. At times this region may have exported lumber, at times it was charcoal. In the nineteenth century it was usually paper pulp. But this forest "monoculture" came at a price. The forests were owned and maintained by the nobility. They were the primary reason why south Bohemian peasants were not able to expand their land holdings. While south Bohemian nobles were enjoying their aristocratic life styles of hunting on their extensive forest domains, large numbers of south Bohemian peasants were emigrating to the industrial suburbs of Prague and America. The Elbian region strengthened its role, by contrast, as the primary motor of the Bohemian economy, because of its high level of agricultural productivity. This culminated in the nineteenth century with the sugar beet revolution. In this region, the peasantry became a powerful political force. By the end of the nineteenth century, the sugar beet had proven to be the basis of an impressive agro-industrial complex.

These structures, therefore, seem to have considerable permanence. In the twentieth century, however, the world has experienced profound transformations. There have been two great wars and one great depression, not to mention the advent of the automobile, radio, television and the computer. In Bohemia, furthermore, most of the original German-speaking population has been removed. For a while, the towns and villages of the north seemed to be inhabited by ghosts, but gradually the population began to grow. Today tourists flock to the mountains in the summer and winter. The textile mills and glass factories are again humming with activity. Most of the same structures that were established at the end of the nineteenth century still exist today.

The factories are still standing, and in most cases they are engaged in the same types of pursuits as at the end of the nineteenth century. I would say that the basic industrial structure of present day Bohemia was put in place during the period I discuss in this work. Sugar beets are still one of the most important agricultural products. Czech factories are still producing machinery, for their own domestic industry, as well as for export. There is no question that the standard of living has improved and that the extremes of privation are a thing of the past.

I have managed to write this work with hardly a mention of the political changes that occurred in Bohemia. Throughout most of history most political rhetoric has been only "hot air" exchanged between individuals fortunate enough to be in a position to exert power. Behind many of these "constitutional" issues lies a myth which may or may not be grounded in truth. Economics, however, are real, and political control over an economy is what determines who gets what and in what amount. The problem of an historian is, therefore, never to lose sight of the material base of political power and never to allow the political rhetoric of the time to blur his focus on material events.

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Author [redacted]

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