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**An Attempt at a Sociology of Hope:
The Case of Economic Development in 18th Century Sweden**

by

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Abstract

This paper represents an attempt to introduce the experience of hope into the sociological analysis of economic life, using the case of 18th century Sweden as an example. Hope is roughly defined as entertaining expectations about something desired, which has a cognitive as well as an emotional dimension. Three examples are presented: the role of hope in the inventory of the Swedish household with the help of political arithmetic, the role of hope in the inventory of Carl von Linné with the help of botany and other means, and the attempt by the Swedish estates to establish a flourishing set of manufactories and in this way replace imports. The main force behind these initiatives, it is argued, was the civil servants; and in their form of hope the cognitive dimension of hope was predominant.

While the traditional way of analyzing economic phenomena is to assume that the actor is rational, attempts have recently been made – in economics as well as in sociology – to introduce various non-rational factors, including emotions into the analysis (e.g. Elster 1998, Pixley 2004). In this paper I will continue along this route by suggesting that *hope* under certain conditions may play a role in economic life. The idea that hope may influence economic action is not new, as can be exemplified by Adam Smith, who argues that hopeful people tend to overrate their chance to succeed (“the presumptuous hope of success” – e.g. Smith [1776] 1976:126, 128). Contemporary economists, in contrast, do not include “hope” in their vocabulary, even though they speak of expectations, risk-taking and in other ways touch on phenomena that are close to hope.

What then exactly is hope? This is a crucial question if hope is to become an object of study in sociology. According to *The Oxford English Dictionary*, hope means “to entertain expectations of something desired, to look (mentally) with expectations” (OED 1989:377). While this definition points us in a general direction, more precision is needed. It would also seem, for example, that hope is close to such phenomena as optimism, trust and expectations, and that something needs to be said about possible overlaps between these concepts and hope.

I shall return to the question of what we mean by hope in the concluding remarks. In the meantime, and while noting that the issue of definition is always difficult in the social sciences, a few points may be added to help to reign in the concept of hope. With optimism one often means a doctrine, that is, optimism has a strongly developed cognitive dimension that tends to override its emotional dimension. If people often hope in silence, they are more verbal about their optimism. In trust, there is a strong sense that something will happen; while when it comes to hope, this sense is much weaker. In expectations, the goal can be positive or negative from the view of the actor, as opposed to in hope, where it can only be positive. Finally, expectations, as used in modern economics, fall in the category of what Frank Knight calls “risk”, while hope is closer to “uncertainty” in the sense that it is often impossible to know what will happen in the individual case (Knight [1921] 1985).

In this paper I will continue Adam Smith’s exploration of the role that hope may play in the economy. My example is from 18th century Sweden, a period during which a

local version of mercantilism dominated the official way of looking at the economy in this country. For reasons soon to be presented in more detail, hope was rampant in Sweden during this century. Many Swedes hoped for better times, while others hoped to turn their country, which at this point in history was poor and underdeveloped, into a kind of earthly paradise. Attempts were made by the latter to cultivate pearls, silk, coffee and tea, and to tame elks and use them as oxen or horses. Sweden, they felt, had the potential to become the Caribbean of the North.

The general mode of thought within which these grandiose plans were conceived has often been labeled “mercantilism” by posterity and has been much discussed by historians, without any consensus emerging as to its precise meaning. Mercantilism has alternatively been characterized as a means to power (Heckscher), to “power and plenty” (Viner) - but also as a means to nation-building (Schmoller) or simply a state of mind (Bloch; see e.g. Schmoller 1914, Bloch 1934, Heckscher 1935, Viner 1948).

Another way of approaching its meaning in the Swedish context, and which better fits the purposes of this paper, is to start from the well-known distinction in Aristotle and others between the management of a household (*oikos*) and money-making (e.g. Weber 1978:86-94). In a household the main task is to wisely manage the resources and thereby increase its wealth or surplus. Money-making, in contrast, does not aim at needs so much as ever-growing profit. Mercantilism, whose dates are usually set to 1600-1750, had elements of both household and money-making, but the former was stronger and dominated the world-view of the economy.¹ Money-making and trade were there for the needs of the household rather than for profit-making, as in the modern capitalist economy.

The household that mercantilism focused on was primarily that of the state but also society. Trade was seen as something of a zero-sum game, which meant that imports were to be discouraged and exports encouraged. The balance of trade must be positive if the country was not to bleed to death, which meant that protectionist measures were encouraged as well as local industry. Since a small population tended to be poor, a powerful country needed a large population. The state, as Foucault among others has noted,

¹ While there are different opinions among Swedish economic historians if the old type of household ideology was stronger in 18th century economic thought in their country than new and more modern economic ideas, their co-existence is agreed upon (e.g. Magnusson 1991, Karlsson 1992).

was for this reason very interested in understanding the laws of population, what could be made to increase nativity, and the like (e.g Foucault 1994a, b). More generally, the state saw itself as a major economic actor and as responsible for the material wealth of the country.

The latter half of mercantilism coincided with the growth of the natural sciences and the age of the enlightenment more generally. The emphasis on reason and utility that was characteristic for these developments mixed with the ideas that made up mercantilism and added to its complexity. There was also a very strong element of optimism in the 18th century, as exemplified by the philosophies of Leibniz and Wolff. The world in which we live, it was often thought, is the best of all possible worlds. In “Essay on Man”, Alexander Pope famously rhymed: “Hope springs eternal in the human breast: / Man never is, but always to be, blest” (Pope [1733] 1963:508). Some of this optimism infused 18th century mercantilism as well, especially in Sweden. Voltaire cast Dr. Pangloss as German, but he could equally well have been Swedish.

In the rest of this paper I will first say something about the general situation in Sweden in the 18th century, the socio-economic structure of the country as well as its politics and culture. One important reason for proceeding in this way is that this type of basic information is needed to set the stage for the three case studies I will present in order to show how hope influenced economic activities in Sweden during the 1700s.

Another important reason is that I want to draw attention to the fact that the impact of hope on economic activities is typically dependent on the configuration of the socio-economic structure. In a profit-making economy, such as today’s capitalism, hope is to be found in the desire to make a profit, developing new markets and being entrepreneurial in general. In a household economy, such as that of 18th century Sweden, in contrast, hope was concentrated to the attempt to increase the wealth of the country, to make full use of its resources and to increase the population. In brief, hope will travel differently, so to speak, depending on the structure of the economy: if it is profit-oriented or based on the idea of household.

Sweden in the 1700s: The General Context

From a geographical perspective Sweden looked more or less the same in the 18th century as it does today, except that it also included Finland (and Swedish Pomerania). While this would make Sweden large in the eyes of contemporaries, it was perceived in exactly the opposite way at the time. The reason for this is that by the early 1700s Sweden's role as a great military power had come to an end, and as a result of this, the size of the country had shrunk considerably. For about a century Sweden had had a military presence on the European mainland and been one of the key contenders. In their attempt to turn a local kingdom into a Lutheran super-state, the Swedish kings from Gustavus Adolphus to Charles XII seized most of the coastal areas around the Baltic, including parts of Northern Germany; and their army was one of the most powerful in Europe.

While the death of King Charles XII in 1718 and related events in the Great Northern Wars spelled an end to the Age of Empire (*Stormaktstiden*), as this period is known in Swedish history, they had a positive and invigorating effect on the country itself. There had been wars during seventy-five of the one hundred and twenty years that the Age of Empire had lasted (1600-1720), and their cost had been enormous in terms of human suffering, lost population and economic hardship. All types of social, political and economic progress had been blocked by the wars, and Sweden had had little chance to develop in other ways than as a military power.

But with the ambition to be a great power gone, the country was in a position to enter a new period in its history. The energy that had been turned outwards to war and conquest, as has often been noted, was now turned inwards and devoted to the development of the country. What could not be conquered abroad, should be conquered at home; and the new Age of Empire was going to be characterized by peace and prosperity, as opposed to war and bad finances (e.g. Heckscher 1942b:6). The years 1720-1772 were in many respects full of hope and are known in Swedish history as the Age of Freedom (*Frihetstiden*).

In the main part of this paper I will present and analyze three cases that involve the economy during the Age of Freedom, in which hope played a role. In order to give the reader a better chance to place these cases in their general context, however, I will first provide some background. I will start out by saying something about the political situation in Sweden during the 18th century, which is called the Age of Freedom precisely because of

the positive changes that were introduced into the political structure of the country. I will also present the socio-economic structure of Sweden, meaning by this the structure of the population as well as who produced what and in what way, especially if the market or the household was involved. I will conclude by a brief description of some aspects of the culture of the Age of Freedom, especially the role that the natural sciences and economics (in the sense of management of a household) played in the thinking of the time.

During the Age of Empire and especially during its last period, Sweden had been run as an autocracy by the King. At the beginning of the Age of Freedom a new constitution was introduced that severely limited the power of the king. Formally the right to govern was now transferred to the Council of the State (*Riksrådet*), but in reality it was in the hands of the four *stånd* or estates (aristocrats, peasants, priests and burghers). Each of these estates had one vote but most of the power resided with the aristocrats and the burghers. The peasants were, for example, excluded from the most important committee in the Congress (*Riksdag*), where the key questions of finance and foreign policy were decided.

The political system during the Age of Freedom can be characterized as a primitive and poorly functioning version of parliamentarism. The Council of the State, for example, followed the directions of the estates but could not be removed in its entirety. Two political parties soon emerged and were to dominate Congress, the so-called Hats and Caps. Both of these can be described as early and largely dysfunctional versions of modern parties. The level of corruption was high, partly due to the fact that each member of Congress had to pay for his own stay in the capital. The Hats were identified with a strong mercantilist ideology and its members included rich merchants as well as individuals from the high aristocracy and the military. The Caps shared the ideology of mercantilism but were more liberal in their ideas; its members typically came from lower strata than the Hats. While the members of the Hats tended to be pro-French (and to take bribes from France), the Caps tended to be pro-Russian (and take bribes from Russia).

Even if this period has become known as the Age of Freedom in Swedish history, it was not until 1766 that freedom of the press was introduced. The new situation, however, did not mean that religious censorship was abolished; and the clergy kept its power in this respect throughout the century. The whole period, finally, came to an abrupt end in 1772,

when the new king, Gustaf III, carried out a coup d'état. One reason that this event met with so little resistance was the high level of corruption that had come to characterize political life during the Age of Freedom.

While the Age of Freedom and its political structure may seem modern in some respects, this impression changes quite a bit when we turn to the way that the political actors viewed themselves and what politics was about. The political elite essentially saw as its task to rule Sweden according to tradition, the laws that had been laid down in the Bible (Lutheranism) and the ideology of mercantilism (e.g. Runefelt 2001). Its main responsibility, it felt, was to develop the state and the public household so that Sweden once more could become a strong and powerful nation. This meant that the resources of the kingdom had to be managed wisely, including the population. The people were not so much seen as citizens with distinct rights, as subjects in need of a firm hand and a wise ruler.

The Swedish state initiated a mercantilist policy already in the 1600s, which was continued in the 1700s. There was especially a deep concern with developing a favorable balance of trade, which led to repeated attempts to reduce imports and encourage exports. According to legislation from the 1720s, for example, foreign ships that sailed on Sweden were not allowed to carry merchandise from other countries than their own. Members of the nobility were forbidden to wear non-Swedish clothes at special occasions. A number of laws and regulations were also passed that had as their main goal to encourage the production in Sweden of goods that were typically imported from other countries, such as textiles, porcelain, tobacco and so on. These items were referred to as manufactories (*manufaktur*); and a special state agency was created in 1739 to encourage this type of activity.²

The population of Sweden was predominantly agrarian and traditionalistic in spirit. Peasants made up the overwhelming amount of the population, while the aristocracy and the gentry only amounted to a few percentages. But there were already signs that the movement away from a social system based on estates towards one based on social class had begun; and the line between the various estates was becoming blurred. The ruling elite, for example, not only included the nobility but also a number of wealthy merchants, primarily living in Stockholm (*skeppsbroadeln*). Besides traditional artisans, there were a

² Throughout the paper I will translate the Swedish term "*manufaktur*" as "manufactories". An alternative would be "manufacturing industry".

growing number of workers, including the ones at the manufactories. There was also a fairly large category of people working for the state (“lower state employees, etc.”), who will play a key role in this paper (see Table 1).

/Table 1 about here³

The population of Sweden grew rapidly during the 18th century, something which was noted with satisfaction in mercantilist circles where a huge population was equated with wealth and prosperity. The population of Sweden (minus Finland) was 1.44 million in 1720, 1.78 million in 1750, and 2.35 million in 1800. This was faster growth than Sweden had ever experienced before and in sharp contrast to the 1600s, when the population had dramatically declined, due to the hardships that came with the constant wars.

According to Eli Heckscher, Sweden’s foremost economic historian, “a new spirit descended on the country [in the 1700s]...all minds were concerned with material improvement” (Heckscher 1954:131). This included the peasants, whose economic situation improved steadily during this period. Their caloric intake increased and so did the number of independent peasants. The reasons for this positive development included a concern with the population from the side of the state as well as the opening up of new land to be farmed (cf. in this context also Sandberg and Steckel 1987).

But even if ways to improve agriculture fascinated the ruling circles of Sweden during this period and took the expression of a general “agricultural optimism”, as one economic historian has put it, this paled in comparison to their positive attitude to manufactories (Magnusson 1996:209). Here, according to Heckscher, we may truly speak of “enthusiasm” (Heckscher 1954:162). It was felt that it was imperative for Sweden to replace the goods that were imported with domestically produced items; and much energy as well as huge sums of money were devoted to this task. Traditional forms of handicraft, in contrast, were neglected; and the state authorities were hostile to their expansion in the countryside. The main reason for this was that handicrafts (smiths, carpenters, tailors and so on) were primarily viewed as city activities, as they had been done in the Middle Ages. Sweden’s foremost sources of export income – iron, copper and tar – were carefully monitored, but not regarded with anything close to the enthusiasm and hope that the manufactories evoked.

³ For Table 1, see the end of the paper.

The arts and sciences also went through enthusiastic growth during the Age of Freedom. Even if much of this development was a result of the improved and peaceful conditions that came with the Age of Freedom, some of it also had its roots in the flamboyant patriotism of the Age of Empire. This was especially the case with the ideas of Olof Rudbeck (1630-1702), which hold a special place in Swedish history. Rudbeck was a man of many talents: he was a pioneering professor of anatomy, the head of Uppsala University and a talented inventor. What especially lived on in the 18th century of his ideas, however, were not so much his scientific accomplishments (which included the discovery of the lymphatic glands), but his grandiose and ideological picture of Sweden and what he saw as its unique and world-historical role.

These ideas were presented in an enormous work entitled *Atlantica* (1679-1698). According to Rudbeck, Sweden had been uncommonly graced by the Creator, and this was also the reason why one of Noah's sons had chosen to settle there. The country had an unbelievable wealth of animals, fishes, flowers and forests. During the winter the snow kept the country warm, and the summer was stunningly beautiful. Sweden, in short, was close to paradise.

Rudbeck also argued that many of the world's great peoples had their origin in Sweden, which was truly a "*vagina gentium*" (Rudbeck 1937-50:2,1:59). One could also read in *Atlantica* that modern culture does not have its origin in Greece and Rome, as was commonly thought at the time, but that Sweden was its true source. The Greek and Roman gods were simply Nordic gods with foreign names. The name of Venus, for example, was derived from the Swedish word "vån" or beautiful. And Hercules was just a foreign version of "Här-Kulle" or the leader of an army. Indeed, the legendary island of Atlantis that Plato speaks of in some of his dialogs was in reality *Sweden*. The famous temple of Atlantis that Plato mentions was that of Old Uppsala; its wine was the beer of the Vikings; and its elephants, Swedish wolves.

While practically everything in *Atlantica* was an invention of Rudbeck's imagination and had no ground in reality, his work nonetheless served as an important inspiration for the scientific community in 18th century Sweden. Neither before nor after has Sweden experienced such brilliant scientists and academics as during this period. Several of these individuals are still household names, such as Carl von Linné and his

classification of flowers, Anders Celsius and his thermometer, and Emanuel Swedenborg and his ideas on heaven and hell. Historians of science will be familiar with the names of Christopher Polhem (mechanics), Nils Rosén von Rosenstein (pediatrics), Torbern Bergman (chemistry) and Carl Wilhelm Scheele (chemistry). Thanks to the efforts of Pehr Wilhelm Wargentin Sweden also became the first country to produce reliable population statistics (starting in 1749). And there were other splendid accomplishments as well - in astronomy, mathematics and so on (e.g. Lindroth 1975).

The main institutional vehicle for many of these accomplishments was the Royal Swedish Academy of Sciences, which was created in 1739 and which today is mainly known for its administration of the Nobel Prize. While it had been modeled after Royal Society in London (1660) and Académie Royale des Sciences in Paris (1666), it differed from these and similar institutions elsewhere in Europe in that it primarily saw its task as *economic*, and economic in the sense of the household and not the market.

According to the original plan for the Academy, the name of the new organization was to have been “The Economic Academy of Science” (“*ekonomisk vetenskapssocietet*”). While it was eventually given a different name, the main purpose of the Academy remained the same, namely to increase the wealth of the Swedish household by means of science. “No science in the world is more important than that of economics”, as one of its prominent members put it (Linné). Another argued that “the economy is the goal [of society]” (Polhem), and a third that “the art of the household” is “the most important and inclusive of all the sciences; it is the sea into which all the rivers flow” (Wargentin; cf. Heckscher 1942:43).

Since its goal was the improvement of the economy, the many publications of the Royal Swedish Academy of Sciences were in Swedish and not in Latin, which was the language in learned circles and at the universities. The topics of these publications were often practical, such as ways in which to improve agriculture and increase the population. The Academy was for a while engaged in the attempt to tame elks and in this way replace horses and oxen. It also made efforts to spread its findings directly to the people, using the clergy as intermediaries.

Given the great interest that existed for the economy-household in 18th century Sweden, it was natural that a huge number of pamphlets and books on this topic should be

produced. According to a statistical study, the outpouring of works on the economy goes well beyond anything that can be found in Swedish history, either before or after the 18th century (Heckscher 1942a:37). While the peak was reached during the mid-18th century, before 1730 the two main authors of economic writings were Emanuel Swedenborg and Christopher Polhem – a reminder that the lines between economics and the other sciences were very different in the 1700s from what they are today.

Sweden was also the second country in the world to institute professorships in economics, following Germany where three chairs in cameralism had been created in 1727-1730.⁴ In 1741 a chair in economics was instituted in Uppsala University, followed by one in Åbo in 1747, in Lund in 1750, and a second in Uppsala in 1759. The last chair was to be devoted to “practical economy” (*praktisk oeconomie*), a name that gives an indication of how the subject of economics was seen at the time in Sweden, namely as a way to practically further the wealth of a country, by encouraging growth in agriculture, manufactories and householding more generally. Linné was the main force behind the creation of the three last chairs, and he also saw to it that these were filled by his own students – who had been trained primarily in botany and natural history.

That economics was a very different science in 18th century Sweden from what it is today can also be illustrated by the case of Anders Berch, the holder of the first chair in economics in Sweden. Berch started out by publishing a work in political arithmetic, which was very much in the tradition of William Petty and which contained a number of optimistic calculations, including that Sweden could easily support a much larger population than the current one. This was followed by a work in mercantilist theory that was to become the main textbook in economics for the next eighty years in Sweden,

⁴ Cameralism is generally considered to be the first form of economics as a science taught at the universities. The word cameralism comes from the Greek and Latin “*camera*” or chamber, and originally meant the palace or apartment of the prince, and more generally his resources. Cameralism has been defined as “a set of discourses related to the maintenance of land and people [of the prince]” or, more briefly, “cameralism is primarily concerned with the administration of a state” (Tribe 1993:19, 1984:266; cf. Tribe 1988). The three first chairs in cameralism were in Halle (1727), Frankfurt-am-Oder (1729) and Rinteln in Hessen (1730). It may be argued that cameralism differs from mercantilism in that it advocates direct ownership of various resources by the state. From this perspective, Sweden primarily had a form of mercantilism, not cameralism.

Introduction to General Householding (Inledning til Allmänna Hushållningen, 1747; see Fig. 1).

/Fig. 1 about here⁵

Berch's activities were closely monitored by the Congress in Stockholm, and he primarily felt responsible to the Swedish state, not to the university. Economics, as he saw it, was about increasing the physical wealth of the country and had nothing to do with Latin and metaphysics of the type that were popular at the universities. An important pedagogic tool that Berch used in his teachings was his so-called *theatrum oeconomico-mechanicum*. This term referred to a kind of economic museum that Berch had created in Uppsala and which consisted of his collection of models of agricultural tools, samples of commodities and other things that a student of economics should be familiar with, according to Berch

Example # 1: The Hopeful Inventory of the Swedish Economy with the Help of Political Arithmetic

The first example I have chosen to illustrate the role that hope played in the Swedish economy during the 18th century has to do with the inventory of the country's resources that was undertaken with the help of political arithmetic and other quantitative measures. This type of inventory played a very important role in Sweden during the 1700s and resulted in innumerable reports and discussions in Congress as well as in learned circles. The general sentiment that accompanied, and partly inspired these, was to a large extent *hope* – hope that Sweden was a rich and wealthy country, and that you only had to properly locate its riches for these to begin to materialize. According to the standard work on this part of Swedish history, the atmosphere in which this inventory was carried out can be described as “a wild and somewhat crazy optimism, perhaps unique in Swedish social history” (Johannisson 1988:111).

The reason for making this inventory in the first place has much to do with the view of the economy as a household: to manage a household well, you need to know its resources (see Table 2). What drove this type of enterprise was consequently not the idea of profit-making by way of business enterprises, but the idea of creating wealth through the skilled management of one's resources. The quantitative measures come into the picture

⁵ For Fig. 1, see the end of this chapter.

because they allowed for a precise and scientific estimate of the resources. “All depends on economic description”, to cite the country’s first professor of economics, Anders Berch (Heckscher 1942a:54). The idea of measuring the country’s resources in an exact manner also appealed to the scientific temper of the time, and as we soon shall see the Royal Swedish Academy of Sciences played a key role in these efforts.

/Table 2 about here⁶

The main quantitative tool that was available at the time for undertaking the inventory of Sweden was not statistics, but a predecessor to statistics known as political arithmetic. This way of proceeding had been pioneered by John Graunt and William Petty in the late 1600s in England, and it differed from modern statistics on several accounts. For one thing, the primary goal of political arithmetic was to assist the King to better know the riches and resources of his kingdom. In this sense, political arithmetic grew organically out of mercantilism, to which it is also historically linked. Political arithmetic had furthermore a strongly normative bent, in that it was not only interested in what the wealth of a country amounted to, but also to establish how much it *could* amount to. And finally, while political arithmetic typically started out with some precise and quantitative observation of reality, it often proceeded to bold and strange generalizations on the basis of the original observation.

That there was a scientifically sound side to political arithmetic is clear from Graunt’s work, which is viewed as a pioneering work in statistics. Using reports about deaths and their causes in London as his primary material, Graunt made the important discovery that if one follows some social phenomenon over time, distinct patterns will appear: so and so many people die every year, and so and so many of these deaths are due to the following illnesses. But there was also a compulsive element to Graunt’s use of quantitative measures; everything could and should be quantified. Graunt presented his findings in 1662 in *National and Political Observations Made upon the Bills of Mortality* and they quickly earned him a membership in the Royal Society

Graunt’s careful analysis stands in sharp contrast to the work of his friend and successor, William Petty (1623-1687). The latter renamed the analysis “political arithmetic” and turned the enterprise of quantifying social reality into a new and fantastic genre by being much more radical than Graunt. Petty typically made some initial

⁶ For Table 2, see the end of this paper.

observations and then constructed, on the basis of these, grandiose figures for the whole kingdom. He, for example, calculated the population of England in the following way. He started out from the observation that 13,200 houses in London had been destroyed in the Great Fire of 1666. By comparing the rate of deaths in the areas that had burned down to the normal death rate in the rest of London, Petty concluded that the city had 105,315 houses. Following the advice of “several Friends” Petty assumed that one out of ten houses had two families and the others one. Drawing on the observations of Graunt and others, Petty assumed that each family had $6\frac{1}{3}$ people, which he rounded off to 6. This meant that the population of London amounted to 695,000. Since $\frac{1}{11}$ of all tax income came from London, the population of England was consequently 6,000,000 (Petty 1899:533-35; cf. Johannisson 1990:33-4).

This type of reasoning, at the same time precise, speculative and irrational, is characteristic of much of Petty’s work and political arithmetic more generally. The same can be said for Petty’s compulsion to turn every fact into figures. In *Political Arithmetick* (1690), for example, Petty set his task to make an inventory of England: “the extent and value of [its] lands, people, buildings; husbandry, manufacture, commerce, fishery, artisans, seamen, soldiers; publick revenues, interest, taxes, superlucration, registries, banks, valuation of men, increasing of seamen, of militia’s, harbours, situation, shipping, power at sea &c” (Petty [1676] 1899:233). He also states that he wanted to avoid using words as much as possible and replace these with numbers: “the Method I take to do this, is not yet very usual; for instead of using only comparative and superlative Words, and intellectual Arguments, I have taken the course (as a Specimen of the Political Arithmetick I have long aimed at) to express myself in Terms of *Number, Weight, or Measure*” (*ibid.*, p. 244).

Political arithmetic reached Sweden in the 1700s, partly due to the efforts of the Royal Swedish Academy of Sciences. Anders Berch also published a book on this topic a few years after being appointed to the chair in economics in Uppsala, entitled *Ways in Which to Investigate the Household Management of Countries and States through Political Arithmetic* (1746; *Sätt, at igenom Politisk Arithmetica utröna länders och rikens Hushåldning*). Berch defined political arithmetic as “the art of drawing conclusions about the conditions of states and countries, based on certain truths” (Petander 1912:66). Most of this work is generally considered as lacking in independence, but on at least one point

Berch added something of his own. This was his estimate of the population of Sweden, its current number as well as its potential number. What was new about this part of Berch's work was not only the choice of Sweden as his example, but also the optimism that he added to the calculation.

In the spirit of Petty, Berch began his calculation of Sweden's population from the fact that it has 100,000 *hemman* (a geographic unit used for taxation in the countryside). He then assumed that each of these *hemman* holds between 1 and 16 families; and that each family (depending on the size of its land) has either 8 members (2 parents, 4 children and 2 helping hands) or 7 members (2 parents, 4 children and 1 helping hand). This gave 2,708,000 people, to which Berch added 342,000 people who lived in the cities and deducted 60,000 for widows, and this ended up with a final number for the population of Sweden of 2,990,000. This was roughly 1/3 more than the actual figure (which was around 2,200,000), but was well received by the authorities who liked optimistic estimates of the size of the population. They were also pleasantly surprised by Berch's prognosis that if Sweden used its resources well, it could house *eight times* this number or 24,000,000 people.

The optimism about the potential wealth of the Swedish household that shines through in the figures of Berch was by no means unique, but rather part of a general attitude among Swedish scientists, civil servants and the educated elite. This can be illustrated by the answers that the Royal Swedish Academy of Sciences received to its announcement in the early 1760s of a prize for the best answer to the following question, "What are the advantages and disadvantages of Sweden's climate, compared to other countries, with reference to its public household as well as its individual households?" All of the participants were convinced that Sweden had been blessed by the Lord and that its lucky inhabitants lived in the best of all possible worlds.

Several of the contestants agreed, for example, that the strong sun in Southern countries was a nuisance, while the snow of Sweden was a blessing since it made the nights light and protected the earth from the cold. Sweden was enormously rich and it could very well manage without the kind of resources that other countries had. As an example of this latter argument, one may cite the following statement:

I find even less ground for our complaint [in Sweden] about the lack of elephants, camels and other animals and birds. We have a surplus of all the animals we need, both tame and wild, both forest- and seabirds. If someone seriously tried to make our elks tame, they would become our camels, and we would not need to feed them. (Högström 1766:31)

Another writer noted that in Sweden “we do not need to fear tigers, lions, leopards and elephants or warrior monkeys”; there is the occasional “bear or wolf” - but that’s all (Gadd 1764:44). Similarly Swedes “do not need to fear sharks; we only have peaceful fishes” (*ibid.*). And “while no-one in Egypt dares to go out between 12 o’clock and 4 in the afternoon, for fear of getting their feet burned; and while the natives of the island of Ormus [Hormuz] have to lie half the day in waterholes, to avoid being devoured by the burning heat of the sun, we can always travel in comfort and go about other tasks in good spirits and with healthy bodies” (*ibid.*, p. 47).

The discussion of Sweden’s population during the 18th century was similarly characterized by a wild element of optimism and hope. I have already mentioned Berch’s estimate that Sweden could hold a population of 24 million, and he was not alone in suggestion such a high number. Other estimates were 9, 26, 29 and 30 millions (Johannison 1990:112; in 2005, by way of comparison, the Swedish population was 9 million people and that of Finland, 5 million). The very idea that the country could lose population through emigration was seen as a severe threat to its well-being. Even such a sober-minded person as Wargentin suggested that emigration should be criminalized and emigrants lose their right of inheritance.

As already has been mentioned, a large population was seen as positive in mercantilism, and a small population as negative. But there was also another difference between the mercantilist view of the population and the one that is common today, and it has to do with the low value that it attached to the individual. In the mercantilist view of the world, the individual was seen as having a limited number of needs, and it would also be wasteful and dangerous for a country to pay their workers a high salary. The individual represented a source of value to the country, and the state had an interest in having information about the individual. But the individual did not have a value of her own and definitely no right to “the pursuit of happiness” along the lines of the Americans at this

time. The 18th century, as Michel Foucault has put it, signaled “the emergence of ‘population’ as an economic and political problem: population as wealth, population as manpower or labor capacity, population balanced between its own growth and the resources it commanded” (Foucault 1978:19).

What is significant about Foucault’s remark within the context of this paper, is not so much his well-known argument that the mercantilist state signaled the beginning of a new type of state power through its knowledge about the population, but rather that mercantilism encouraged and needed a quantitative analysis of the type that political arithmetic represented. In mercantilism, the individual essentially lacked individuality, and this meant that they easily lent themselves to the kind of calculation that Graunt and Petty had pioneered. What is interchangeable can be counted, and when something can be counted, you can use scientific methods.

In Sweden the desire for this type of quantitative analysis was infused with the local optimism that abounded, and the result was the production of a huge number of detailed but also strangely utopian analyses of the country. Jacob Faggot, who was head of the Land Survey Board, led the way through a work that was published in 1741 by the Royal Swedish Academy of Sciences, *Thoughts on the Knowledge and Description of One’s Country* (*Tankar om fäderneslandets kännning och beskriving*; [1741] 1743). Faggot encouraged his countrymen to explore every nook and cranny of the kingdom and send their reports to the Royal Swedish Academy of Sciences. Maps and engravings were helpful in this enterprise and needed to be produced. Faggot also carefully enumerated each type of resource that should be investigated and counted: rivers, brooks, lakes, mills, types of animals, types of handicraft, types of buildings, and much more.

Faggot’s appeal for a general geographic and economic inventory of the country was tremendously successful, and reports soon poured in to the Academy. Many of these drew on political arithmetic along the lines of Petty, including the famous description of Lajhala parish by E.O. Runeberg which became a model that many followed (Runeberg 1758, 1759). Every inhabitant, every piece of land and every object in this parish were carefully investigated, described and counted by Runeberg, who also calculated their value down to the last penny. He emphasized that while 1,800 people lived in Lajhala in 1750, there was room for 28,000 people or fifteen times more. Runeberg finally made an attempt

to calculate which of the members of the populations (“humans”) had an economic value to the country (“workers”). A woman, for example, counted as $\frac{3}{4}$ of a man in this respect. According to Runeberg’s calculations, 40% of the population could be classified as “workers”.

Most authors who have commented on the attempt in Sweden to make an inventory of the country’s resources with the help of political arithmetic, have noted the hope and enthusiasm that often characterized this enterprise. Karin Johannisson, who referred to it as a form of “wild optimism”, has also made the interesting observation that Sweden’s famous population statistics were not so much a result of the attempt to develop a scientific type of statistics, as the unintended consequence of a very different type of project. The Swedish state, she notes, was originally very interested in the inventory of the country with the help of political arithmetic; and the main reason for this was that it wanted to command more resources in order to reassume its place as a great European power. As part of this effort, it strongly encouraged the Royal Swedish Academy of Sciences to pursue this task. In 1748 it also created a special office which had as its primary task to put together information about the resources of the country, the Office of Tables (*Tabellverket*). When this Office started to produce reports, these were read with great interest by the political elite. All material of this type was also secret since it was important that the enemies of Sweden did not find out how strong the country was.

Under the skillful leadership of Pehr Elvius and later Pehr Wargentin, the Office of Tables eventually began to produce amazingly correct figures on the population of Sweden. What made it possible for the Office of Tables to produce its famous population statistics was the fact that the clergy had a legal obligation (since 1686) to document every single birth, death, baptism and marriage in the country. Since each person who was born in Sweden was automatically also a member of the Lutheran church, this meant that the church had information on practically every person in the country. The figures were then sent on to Stockholm, via the local authorities, where they were assembled in big tables and rushed to the powerful Secret Committee of Congress (*sekreta utskottet*).

When Congress after a few years realized that Sweden in reality had a rather small population (2,2 million), and that the life expectancy for men was 33 years and for women 36, it also understood that Sweden was not a country of utopian riches. Other information

punctured other aspects of the Swedish dream of being a wealthy country, and after a while the Congress lost interest in the Office of Tables and its calculations. The upshot of the whole thing was that the Office of Tables under the leadership of Wargentin was now in a position to set political arithmetic to the side and introduce a new and more reliable type of statistics. Instead of making an inventory of Sweden, the Office of Tables increasingly began to view its task as simply gathering statistics on the population. As Karin Johannisson has emphasized in *The Measurable Society: Statistics and the Dreams of Society in 18th Century Europe*, the famous Swedish population statistics had originally been put together as part of the grandiose project of exploring Swedish wealth with the help of political arithmetic - but then the project shrunk to the much more modest task of simply gathering data on when people were born and when they died (Johannisson 1988:174-79). In 1858 the Office of Tables changed its name to Statistics Sweden (*Statistiska Centralbyrån*), which is also its current name.

Example # 2: The Hopeful Inventory of the Swedish Economy by Carl von Linné through Botany and Natural History

The second example I will use to illustrate the role of hope in the Swedish economy during the 18th century involves Carl von Linné (1707-1778) and his work. While Linné is best known as a botanist and for his classification of flowers, he also considered himself an economist, and it is mainly in this latter capacity that he is of interest in this paper. It should also be emphasized that Linné saw his own scientific work as part of a divinely inspired economy in a way that was very popular at the time. It is also at precisely this point that hope enters into the picture and according to the foremost authority on Linnean economics, Linné's ideas on economics were heavily infused by a kind of "Candidean" optimism (Koerner 1999:102, 152). As soon will be shown, this optimism also came to take a number of institutional expressions since Linné was one of the country's most celebrated scientists and had plenty of resources at his disposal.

The fact that Linné was deeply influenced by religion in his economic ideas, makes it necessary to say something about the role of religion in 18th century Swedish society and especially among its scientists. At this point in time Sweden was still a deeply religious country, and the Swedish church was vigilant in its role as the guardian of general morality

as well as Lutheran orthodoxy. It nonetheless approved of the Christian doctrine known as physico-theology which had emerged in the late 17th century in England and soon spread to Sweden. The basic theme of this doctrine was that science and Christianity are closely connected: to study nature was a way to honor God by exposing the glory of his creation. Or in Jan Swammerdam's famous formulation: "I bring you the proof of God's providence in the anatomy of a louse" (Weber 2004:16).

Physico-theology has its name from the title of a book by William Derham that appeared in 1713 and became immensely popular. *Physico-Theology* was translated into Swedish in 1736, and one of its readers was Linné who eventually also became the foremost representative for this type of ideas in Sweden. According to Derham, God had created the world according to a master plan and everything in it – every plant, every bird, every human being and so on – had its predetermined place. The exact place that something occupied in this divine and static order was not immediately clear to humans, but if they worked diligently they might find it. In this way, they would also get to know the purpose of everything since nothing existed without a purpose. The air, for example, was necessary for respiration, Derham explained, just as the wind was necessary for navigation. Without soil, plants could not grow, and without trees, people could not make tools or buildings. The earth, in brief, was a magnificent mirror of the glory of God; and it was man's task to explore the earth and use it for the purposes that God had invested it with.

Linné, who had originally intended to be a clergyman like his father, was a deeply religious man (e.g. Malmeström 1926, 1942).⁷ He saw his own work in natural history, including botany, as a response to a task created by God. It was his true vocation to explore nature, and in this way make it possible for other Swedes to make use of its many fruits.

As a scientist, Linné is best known for having introduced a new system of classification, the so-called sexual system, based on the structure and number of stamens and pistils. It is often noted that in creating this system, Linné brought much needed order into botany, since his system of classification was very simple and effective. Every plant

⁷ Carl von Linné was born Carl Linnæus, and his name was changed to von Linné when he was ennobled in 1762. Towards the end of his life Linné famously wrote a work called *Nemesis Divina* in which it is argued that any wrongdoing on earth will be avenged by God. This is generally seen as a dark and misanthropic work – but Wolf Lepenies has suggested to me that it is also "hopeful" in its belief that no wrongdoing will go unpunished.

was essentially given a name according to a binominal nomenclature. By looking at a few parts of the flower the observer could easily identify it, a bit like a modern person can be identified through her family name and first name.

It is also often argued that Linné was satisfied with just naming plants, and that he paid little attention to plant anatomy, plant physiognomy and experiments. It is sometimes even pointed out that properly speaking, Linné did not make one truly scientific discovery (e.g. Lindroth 1983:34). While this type of criticism is essentially correct, there is more to Linné's classifications than simply a desire to supply labels and a superficial approach to science. Linné's attraction to the exercise of naming plants was closely related to his religious world-view; and to name something, from this perspective, first of all meant to establish its correct place in the order of God. It essentially meant an attempt to bring order into what might at first seem chaos, but which in reality constituted an order that man had been set to explore. As Linné once put it,

I saw the never-ending, all-knowing, and all-powerful God's back where he walked, and I was astounded! I traced his footstep over the fields of nature and saw in each one, even in those I could barely see, an unending wisdom and power. (Rausing 2003:189).

Linné did not think that his classification directly traced the divine order of nature, but he never stopped hoping that he one day would find the key to the order of God's creation. He was also convinced that till this was done, his classification represented the best alternative.

While posterity only remembers Linné's work in botany, it is important to note that he himself was interested in all of nature - in each of its three kingdoms: plants, animals and stones. Linné was sure that all of nature had been created in God's mirror and that everything had an exact place that he had been set to discover. "Oeconomia Naturae", as he wrote in a book with this very title, "is nothing but the great Creator's wise arrangement of Natural objects on our earth, thanks to which they are capable of having the purpose for which they were created" (Linné [1749] 1908:5).

Linné also believed in the idea of the great chain of being, which was popular at the time, and that just as man was above the animals, these were in their turn above the plants. Nature, however, was also essentially static – God had created it in a certain way, once and for all - and could in some respects be better described as a circle of being than as a chain

of being. While it is true that people live off animals and plants, it is also true that once people are dead, animals and plants will live off their corpses. “Thus everything goes round”, according to Linné (Lindroth 1983:17). In this as in other situations in nature, all had been arranged in the wisest of ways. How this worked out in reality can be illustrated with the following example, which comes from a sermon that Linné wrote in 1763:

If dead animals were to lie around everywhere, stinking, the earth would look dreadful and the air would be fouled by deadly plagues. But, as it is, wild animals, eagles, owls, ravens, and meat-eating flies hurry there and in a couple of days finish the lot. (Koerner 1999: 82)

Linné’s ideas on economics were closely interwoven with his ideas on religion and nature (e.g. Frängsmyr 1971-1972). God had created nature, and the first and foremost task of economics was to make an inventory of nature so that man could use plants, animals and so on in the way that God had intended. In a pamphlet entitled *The Foundation of the Economy, through Knowledge of Nature and Physics* (1743) Linné wrote that “there is no science in the world that is higher, more important than Oeconomy, since all of man’s welfare rests on it; hence his science needs to be improved and studied carefully” (Linné 1743:406). Linné said that he realized that there was a science known as cameralism that mainly dealt with the economy and the state, but he still insisted that economics could be defined as “the science that teaches us how to survive by using the different forms of nature, as based on the elements” (*ibid.*). As a science, economics rests on “two pillars”, and these are “physics and knowledge of nature”. “Since the object of economics is knowledge of nature”, this meant that one also has to have some knowledge of the three kingdoms of nature. *Oeconomia Mineralium*, Linné says, supplies us with knowledge about stones, to be used e.g. in metallurgy. The knowledge of *Oeconomia Animalium* is useful for such activities as fishing, hunting, and the raising of cattle. And *Oeconomia Vegetabilium* provides man with useful knowledge of plants.

While the foundation of Linné’s view of economics was religious along the lines of physico-theology, he also shared many of the views of the mercantilists. While Linné never became a member of the political party called the Hats, he moved in their circles and shared their ideas. He wanted Sweden to have a positive balance of trade, and he agreed that the most important way to go about this was to encourage the creation of

manufactories, and in this way put an end to the import of luxuries and other items that equally well could be produced in the country.

In reality Linné went even further than this and developed his own primitive version of cameralism (Koerner 1999). He was, for example, against all foreign trade and wanted Sweden to be totally self-supporting. He was deeply suspicious of paper money and preferred precious metals, especially gold. His economic ideal was static in nature, and he had no concept whatsoever of economic growth. This can be illustrated by the following eloquent quote that comes from Lisbet Koerner's study *Linnaeus: Nature and Nation*:

His understanding of economic 'improvement' was confined to a qualitative elaboration of this living world which he inhabited. He wanted to perfect, not to break, what he saw as a God-ordained link between nature and man. In his projected future, shoes would be stuffed with cotton grass, pillows filled with eiderdown, and cloth woven from buffalo wool and dyed with tropical insects. He hoped to ride elks, write with swan feathers, and read by the light of seal-fat lamp. (Koerner 1999:111)

According to Heckscher Linné had no sense whatsoever of economic realities (Heckscher 1942b:5). What mattered to Linné was first of all to find out what purposes God had invested nature with and then, by using nature in the right way, produce well-being in the population. People often starved in Sweden, Linné noted, but once they understood that they could eat many of the plants that existed all around them in nature but which they currently ignored, this would end.

While Linné's ideas on economics may seem somewhat artificial and abstract, when they are presented in a summary way as I have done here, this was not the case in reality. On the contrary, Linné tried to translate his ideas into concrete practice in a number of ways, and it is to this topic – how Linné set about to realize his hope for a wealthy and self-supporting Sweden - that I now shall turn. He primarily did this in three ways. He tried to spread his ideas on the proper management of the Swedish household by initiating professorships in economics. By travelling around in Sweden he also attempted to make an inventory of the country's economic resources so that Swedes could live better. And he finally sent some of his students abroad, with the task of bringing back plants to Sweden

that were useful but currently had to be imported or in some other way would add welfare to the country.

While the decision to institute the first professorship in economics in Sweden was taken by the estates, it was Linné who was the driving force behind the next three professorships and he also succeeded in having his own students appointed to all of them (e.g. Heckscher 1942a). What distinguished Linné's ideas of what a professorship in economics should be about from cameralism as well as mercantilism, was first and foremost the heavy emphasis that he placed on knowledge about nature, including botany. The professor of the chair in economics that was instituted in 1759 in Uppsala, for example, should according to the instructions live on an experimental farm that was also to be used in the education of the students. The lectures were to consist of a mixture of natural history, manufacturing and agriculture. In Lund, the chair in linnaean economics from 1750 was abolished in 1786, with the motivation that the topic was better covered by the chair in "historia naturalis".

Linné also undertook a series of "scientific trips" through Sweden with the purpose of making an inventory of the country's resources (e.g. Linné [1741] 1908, Heckscher 1942b). Most of these trips had been decided on by the estates, which not only financed them but also provided Linné with detailed instructions on what to look for during his travels. First and foremost, he should be on the outlook for what could ensure the success of the manufactories, and in this way help to reduce the imports that were draining the country of precious metals. Linné was told, for example, to look for clay that could be used for porcelain, for plants that could be used for medicinal purposes, and for plants that could be used to dye textiles. It was also important to carefully catalogue all plants, animals and stones.

Linné's reports from these trips have become part of the literary heritage of Sweden and many of them can still be found in a good bookstore. In fresh and unceremonious language Linné describes not only the general features of the geography and botany of the various landscapes of Sweden, but also comments on the habits of their inhabitants and makes many sharp-eyed observations. The trips allowed Linné to make an inventory of nearly all of Sweden, and in 1749 he, for example, published a work on how to use many of the wild plants in the country. In *Flora Oeconomica or the Household Use of Plants in*

Sweden that Grow Wild Linné enumerates the uses of 1,137 wild plants, mentioning their medicinal use, which can be eaten and so on. In the preface he says that “when I realized the great utility that plants can have in general, it saddened me that there was no inventory of them” (Linné 1749:4-5). “I thus realized what utility such an inventory would have for the household, my countrymen and my country”.

In the preface to *Flora Oeconomica* Linné also says that “the all-knowing Creator has not put man’s resources in one place, but instead spread them all over the world, in the air, in the water and in the depth of the earth: thereby making it necessary for her to look for them everywhere they exist” (Linné 1749:3). This is where Linné’s students come into the picture or more precisely his project of sending his students all over the world to bring back plants and animals, that could be used to make Sweden prosperous and also eliminate the need for imports of such items as coffee, tobacco, rice, porcelain, cotton and so on.

All in all, Linné sent nineteen of his favorite students all over the world during these “scientific trips”, as he called them – to Africa, India, China, the United States, South America and so on. One student accompanied Captain Cook on his famous trip around the world in 1768-1771, while others traveled on ships belonging to the Swedish East India Company or on any ship that would take them. The students were typically gone for very long stretches of time and nearly half of them died during the trips. The ones who survived typically got married once they returned to Sweden and retired as parsons in the countryside.

All the students – or “apostles”, as Linné called them – had been trained in natural history and given precise information about what to look for abroad. Linné, for example, was obsessed with cultivating tea in Sweden and made repeated efforts to have tea bushes brought to Sweden, and even to cultivate tea himself in Uppsala. He was also eager to start up silk production in Sweden, and soon, thanks to his students, there were large silk plantations in Stockholm and a few other places as well. The students also brought huge collections of plants and various exotic objects and animals back to Sweden. All of this excited Linné enormously and he wrote about one of his homecoming “apostles” that he awaited his arrival to Uppsala as eagerly as “a bride [longs] for one o’clock at night” (Lindroth 1983:54-5).

How successful was Linné's enterprise of adding to Sweden's wealth through his students in this manner? The general verdict is somewhere between "basically a failure" and "totally a failure" (e.g. Sörlin 1989:106, Koerner 1999:148, 163). Linné's hope that many of the plants in foreign countries could also thrive in Sweden turned out to be illusory. In his attempts to change the laws of botanical acclimatization, so to speak, Linné sometimes succeeded in keeping his imported plants alive for some time in his famous garden in Uppsala. Eventually, however, also they all died, victims of the "cruel cold" of Swedish winters. His project that one could transfer plants from a mountainous region abroad to a mountainous region in Sweden, such as Lapland, also failed – as did his more general project of turning Lapland into a kind of "West Indies" of Scandinavia, with cedar and cinnamon groves and abundant plantations of saffron.

But it is not true that everything that Linné undertook to further the Swedish economy was a failure. It may be correct that he never succeeded in locating all the raw materials that the estates hoped for during his scientific travels in Sweden, so that imports could be eliminated. But Linné did have a positive impact on the Swedish economy, even if it was much smaller than he had hoped. He, for example, helped to introduce rhubarb into the country and Swedes would from now on cultivate a coarse, but still useful type of tobacco. There was also the fact, as Eli Heckscher has stressed, that Linné was an excellent observer of nature and often pointed out what was lacking in various agricultural practices (Heckscher 1942b:9-10). This was unique at the time since agriculture was neglected in Swedish ruling circles as well as in mercantilist doctrine, even though it represented the most important economic sector in the country. The idea that you could communicate with the average person, as Linné tried to do, was also alien to the official practices of the time.

Example # 3: The Hope Associated with the Manufactories in 18th Century Sweden

The most spectacular expression that hope took in the Swedish economy in the 1700s was the attempt by the Congress and the Swedish state to create a powerful manufacturing industry (*manufaktur*). While the projects of political arithmetic and Linné had more to do with the ushering in of a new and hopeful way of looking at economic reality, than with engaging in serious economic activity, it was different with the project of the manufactories. Indeed, Congress spent more money on the manufactories than on either

agriculture (which constituted the main source of livelihood for some 80 % of the population) or on the iron industry (which represented Sweden's most profitable export industry at the time).

There were several motives behind the huge investments into the manufactories that the Congress now undertook, and one of these was clearly related to mercantilist ideology. According to this way of looking at economic reality, the ideal was a state that could do without imports, something which often led to attempts by state elites in Europe to encourage domestic production that could replace what was being imported. But according to Eli Heckscher, whose work on the role of the manufactories in Swedish history still dominates the academic discussion of this issue, there was also one other important motive behind the enthusiasm and hope that characterized Congress on this issue (Heckscher 1937, 1949, 1954; see also e.g. Magnusson 1996:231-37). This was the idea that Sweden, for the first time in its history, would be able to produce a type of goods that had never before been produced in the country, and this was especially true for high quality, finished goods (e.g. Heckscher 1954:184). This primarily meant sugar, porcelain and various types of high quality textiles, such as fine wool, silk and cotton.

While this second motive can easily be interpreted as a desire to modernize and industrialize Sweden from the perspective of today, there exist important differences between the manufactories and the type of establishments that came with industrialism. The manufactories essentially belonged to the type of industry that existed before modern industry. Their activities differed from the ones associated with modern industry at least in two ways: they did not take place in factories, and they were not financed in the same way as a modern enterprise. Furthermore, in Sweden the term *manufaktur* came primarily to be identified with one specific type of goods: finished goods that had been produced with the explicit purpose to replace imported goods.

Some of these finished goods were, of course, also produced by the peasants (*hemslöjd*), but their products were seen by contemporaries as belonging to a different category than manufactured goods, which were only produced in the cities and in accordance with a special legislation. Finally, as opposed to the situation in many other countries in Europe, all Swedish manufactories were privately owned. The Swedish state made no attempts to undertake the production of, say, silk along the lines of the German

states. Even when Linné sold the potentially lucrative invention of how to cultivate pearls in the Swedish rivers to the estates, these quickly sold them on to a businessman.

While a few manufactories had been created already in the 1600s in Sweden, these were insignificant compared to the ones that were created in the 1700s, especially during the period from the 1720s to the 1760s when the Hats were in power. During the Congress of 1726-1727 the Hats decided to create a huge domestic manufacturing industry; money was allotted for this purpose, and an organization was created to administer these resources (*landshjälpsdeputationen*, later *manufakturkontoret*). This policy was intensified at the 1738-1739 Congress, and it was during the next few decades that the manufactories reached their peak in Sweden. The Hats lost the power to the Caps at the 1765-1766 Congress, and these immediately terminated much of the support for the manufactories. It was not till the mid-19th century, however, that the state stopped to support them altogether.

The support for the manufactories came in a wide variety of forms. The imports of certain products were, for example, forbidden; and no-one except for the manufactories were allowed to develop import substitutes. Sometimes competition *between* individual manufactories was forbidden as well, again with the purpose to ensure that no energy was wasted in the battle to replace imports. Permission to import foreign skilled workers was also given, despite angry protests by the Church when these were not Lutheran. First and foremost, however, support was given in the form of money. Liquid means were either handed over directly or in the form of loans and rebates. The manufactories were also allowed to borrow, using finished products or raw material as security. If there was an interest on the loans, it was often minimal; it was also very common that the state relieved the manufactories of their obligation to repay the loans.

One of the manufactories received more money than all of the others together, and this was the Manufacturing Works of Alingsås, which throughout its existence was held up as a model by Congress for the other manufactories to emulate. This corporation had been created by Jonas Alströmer (1685-1761), a Swedish businessman who had made his fortune as a merchant in England and then returned home because of his vision that Sweden must create a textile industry of its own (e.g. Heckscher 1917, 1918). The charismatic Alströmer immediately sparked interest in Congress for his plans and was soon viewed as the very embodiment of the hope in Sweden to create a successful manufacturing industry. In reality

Alströmer had few talents as a leader of manufactories and he was not at all interested in their practical side. He was, however, a very persuasive man and spent much of his time in Stockholm, where he worked behind the scenes to ensure that the subsidies kept flowing to his creation in Alingsås.

The Manufacturing Works of Alingsås kept some fifteen hundred workers occupied in a huge number of tasks, primarily textile production but also tobacco, needles, buttons, pipes, gold objects, and much more. To this should be added that the production was not standardized and that often only a small number of items were produced, typically for friends and personal acquaintances of Alströmer. One of Alströmer's many pet projects was to import a new type of sheep into Sweden which could produce fine-quality wool; he also made an attempt to introduce the potato on a large scale into the country. The Manufacturing Works of Alingsås were considered so important by the authorities in Stockholm that Alströmer was assigned full legal and political power over the city of Alingsås.

Alströmer was a member of the Swedish Academy of the Sciences and a friend of many of the most important scientists of the time, such as Christopher Polhem and Carl von Linné. During one of his trips through Sweden, Linné visited Alingsås and was delighted by everything he saw. He praised Alströmer and summarized his impressions in one of his traveling accounts, *Västgöta Resa* (1746), as follows:

If you have not been there yourself, you can never imagine what it is like. Here you can see how far a person can go who uses his ideas in a wise manner and who in addition has a burning desire to serve the general public; a person of this type can often accomplish more than a thousand persons without ambition. Before Mr. Alströmer's time, the manufactories were in deep darkness in most of our country, but now they produce cloth and food for many thousands. Most of the workers at Alingsås are Swedes, who have learned from artisans who come from abroad, so that most of the manufactories are run by our own countrymen, who now know how to produce as lovely textiles and clothes, with Swedish hands in Sweden, as any that are produced in other nations. (Linné [1746] 1940:129)

While the Manufacturing Works of Alingsås was the flagship of the Swedish manufactories, there also were others. All of these were situated in cities, following the tradition in the Middle Ages to assign certain activities to the cities and forbid them in the countryside. Most of the manufactories were situated in Stockholm, where one could also find half of all the workers who worked in this type of enterprise. And two thirds of everything that was produced in manufactories was produced in Stockholm. The next largest city with manufactories was Norrköping, followed by Alingsås.

The three main products that were produced in the manufactories were textiles, sugar and tobacco. In textiles, which by far constituted the most important of these, wool predominated. The production of silk was considerable as well; and the main reason for this was that the estates were fascinated by the prospect of producing an exotic material such as silk in Sweden. The estates were also very interested in the dying of textiles, and heavily subsidized attempts to develop this type of capacity in the country. The production of sugar was based on sugar cane (which cannot be grown in Europe) and took place in special refineries. There was also a small production of glass, porcelain, tobacco pipes, mirrors and paper in the manufactories.

The number of workers employed in the manufactories was about 13-14,000 at first and then rose to about 16-17,000 during the peak of the 1700s (Heckscher 1949:610). Altogether this amounted to about 1 % of the Swedish population. Most of the workers were women who worked on a part-time basis, often in the home. Since some types of spinning were also taking place in poor houses, prisons and similar institutions, the line between forced labor and work in the manufactories was blurred. In his report of what he saw in Alingsås, Linné noted for example that “there are no beggars here since they are put into the manufactories when they arrive” (Linné [1746] 1940:117). It was also common that workers ran away from the manufactories. According to mercantilist ideology, everybody in the population should work, and wages must be kept low or the country would not prosper.

While the division of labor in the manufactories was quite advanced, and while this type of establishment often meant that there were many workers under one roof, the organization of the manufactories nonetheless differed on important points from the one that is associated with the factory and industrialization. For one thing, many of the workers

worked in their homes and not in the manufactories. There was also the fact that the individual who initiated the production and advanced the capital, did not direct the production. A merchant would typically advance the sums that were needed to produce something that he wanted, while overall production was overseen by a manufacturer or fabricant (*förlag* or putting-out system). Control over the workers, on the other hand, was in the hands of craftsmen, who in their turn oversaw the workers (journeymen and apprentices). “Each craftsman tended to be fairly independent of the others; hence the manufactory was hardly more than a loose aggregate of ordinary artisans” (Heckscher 1954:188).

Most of what was produced in the manufactories was of low quality and could not be sold at a profit, either domestically or abroad. The little that was sold on export was heavily subsidized. There appears to be many reasons for the poor quality of what was being produced in the Swedish manufactories. One was that the workers lacked the skills that were needed to turn out high-quality goods. The level of skills in France, for example, where an important luxury industry had existed since the 1600s, was much higher. Another reason was the lack of economic sense among the leaders of the manufactories. These seemed to have been inspired by the notion that they were producing something that had never before been produced in Sweden, but they had little practical experience in overseeing production and making a profit. They also soon discovered that on every step of the way they could be subsidized by Congress; and this meant that many enterprises were allowed to stay in business even if the goods they produced were of inferior quality and could not be sold.

When some of the most wasteful forms of support for the manufactories were eliminated in 1765-1766, the Manufacturing Works of Alingsås immediately collapsed and the industry suffered heavily. The difficulties were also accentuated by the general economic crisis that was going on at the time. The silk industry disappeared for good in the 1800s, and in the long run few of the manufactories survived. Exactly how few is a debated question in Swedish historiography, with Eli Heckscher arguing that the manufactories mostly disappeared, while some contemporary economic historians argue that more manufactories survived than what Heckscher thought (e.g. Heckscher 1954:185-86, 207-08 versus Nyström 1955, Krantz 1976). What is true under all circumstances, is that the

manufactories did not live up to the great hopes that the Congress and the Hats had invested in them, namely to make Sweden into a rich and wealthy household.

To the politicians of the 18th century the manufactories represented the brilliant future of the country, and for this very reason they not only invested huge sums of money into them, but also their hopes. They had no interest, in contrast, in improving either agriculture (which fed 80 % of the population, as opposed to the 1 % in manufactories) or the iron industry (which continued to supply the country with much needed income from exports, as opposed to the manufactories which always operated at a deficit). And when industrialization did come to Sweden in the mid- to late 1800s, it was concentrated to three economic sectors that had no links whatsoever to the manufactories (the iron industry, the forest industry and the machine industry).

Concluding Remarks

On his trip through Sweden in 1799, Malthus says in *An Essay on the Principle of Population*, he quickly noted that far too little food was being produced in the country (Malthus [1803] 1989:159). The peasants, he noted, had to mix bark into their bread, a traditional way of staving off starvation. In his description of the country Malthus also used statistics prepared by the Office of Tables and he referred to the work of Wargentin. The Swedish population, he was told by Wargentin's successor at the Office of Tables, was 3,043,731 in 1799, up from 2,229,661 in 1751. To Malthus this was of course a dangerous development.

Whether Malthus was right or wrong in his proposition that a growing population represents a threat to a country, rather than a source of richness as the mercantilists had thought, it is clear that the Sweden that Malthus saw, and the one that had been envisioned by many hopeful Swedes in the 1700s, were two very different countries. By the 1790s, it was also clear that most of the dreams that had fired the imagination of the hopeful Swedes had failed. Malthus does not refer to the wild speculations of the political arithmeticians, but he would no doubt have shuddered if he had heard about their hopes for a population in Sweden of some 20-30 million people.

The dreams of Linné and his disciples to draw on the resources of nature to make Sweden into a kind of earthly paradise had also been abandoned by now. Coffee, tea and

many other plants that were brought back from southern hemispheres could simply not survive in Sweden; and the elks did not want to be tamed. The project of a grandiose manufacturing industry had also crashed, even if some of the manufactories were still in existence at the time of Malthus' trip.

At the outset of this paper I argued that hope will travel differently through a country depending on the way that its socio-economic structure is constructed, and I shall now return to this theme. Did all the social groups in 18th century Sweden, for example, experience hope or only a small elite? Given the fact that the lives of the peasants improved in many ways during this century, it would appear that many, perhaps even a majority of the Swedes, were indeed hopeful. The peasants had suffered enormously during the wars in the 1600s, and when peace finally came in the 1700s, their numbers grew, they got more to eat, and their property rights improved. That the 1700s and the hopeful projects that were dreamed up in Stockholm did not translate into happiness for all groups is, however, also clear. The reader may, for example, recall that some workers ran away from the manufactories where they were treated as criminals; and there exist many other distressing facts as well that poor people had to deal with.

It would appear that much of the hope that has been discussed in this paper was concentrated to a small group of people, mainly in the cities. It consisted primarily of civil servants in the broad sense of the word, meaning by this that it did not only include those who worked directly for the administrative units of the government. There were also, and more importantly, people with less of a close connection to the authorities, even if they were often paid by the state, such as university professors, scientists and the clergy.

And it was perhaps the *less close* connection to the power elite that gave these groups of people some space to dream away, to improvise and to try to realize their ideas on their own. Hope, it would seem, may thrive precisely where social space is not so tight. Being dependent on the state, and having a mercantilist ideology, however, also made it hard for the civil servants to think in terms of profit-making and the market; they felt intuitively closer to the type of economics centered around the household and not around the market. Being paid by the state, as Max Weber has noted, makes civil servants look with suspicion on the market (Weber 1978:1108-09).

More generally, it was people such as the civil servants that the Age of Freedom appealed to as well as benefited. The removal of the King of Sweden from political power opened up the rule and administration of the country to new categories of people. The tasks that peace brought about also fitted commoners much better than the nobility, with its origin in and affinity for warfare. Science and Reason were held up as ideals during the Enlightenment, and they fired the imagination of common people partly because of their democratic component. Finally, there was also the element of hope itself that infused the Enlightenment period – the notion that we after all live in the best of all possible worlds, according to Dr. Pangloss.

A sociology of knowledge-type of analysis of hope allows us to focus in on the civil servants as central to the analysis in this paper, but we also need to draw up a kind of balance sheet for what the result was of the various economic activities that were infused by hope in Sweden. The fact that hope was in all likelihood experienced in a different way by the peasants and the civil servants also allows us to return to the discussion at the outset of this paper about how to define hope. Earlier in this paper I argued that there is a cognitive dimension to the phenomenon of hope as well as an emotional one. This way of looking at hope allows us to suggest that the cognitive dimension of hope was much more strongly developed among the civil servants than among the peasants. While the latter may have responded with an inarticulate kind of hope to the improved social, economic and political conditions of 18th century Sweden, the civil servants used their pens, education and cultural capital more generally to translate hope into elaborate projects that involved science, philosophy and the like.

The result of all the grandiose projects involving hope was however meager. It is clear that the project of political arithmetic failed, and that much of what Linné and his disciples undertook resulted in very little, apart from a better knowledge of Swedish nature. The vast sums of money that were spent on the manufactories were also typically wasted, even if they at least produced employment for something like 1% of the population for a couple of decades. Heckscher, bending backwards to find something positive to say about the manufactories, suggests that they also helped to break with the hold that traditionalism had over the Swedish economy (Heckscher 1954:208).

But these results should not be read as saying that hope is illusory and will always fail. What they do point to instead is a common insight in economics, namely that the type of economic activities that are summarized as householding do not easily lead to economic progress on a macro-level. To get economic growth going, already Adam Smith argued, you basically need a different economic system than mercantilism. Or to put it differently: hope, in the context of a profit-making economy is considerably more likely to lead to economic growth.

What has just been said does not rule out that the hope of the Swedish civil servants in the 18th century did not have any positive impact whatsoever on the Swedish economy. Rhubarb and tobacco were, for example, successfully introduced by Linné into Sweden. There were also some unintended positive results, and I shall end by saying something about the most successful of these, namely the introduction of the potato by Alströmer and others (e.g. Heckscher 1954:150ff.).

During the 1700s the Swedish authorities were worried about the expensive imports of grain and looked around for possible substitutes. One such alternative was the potato, which until then had only been known in the country as a kind of exotic curiosity. Especially the colorful Jonas Alströmer took an interest in this modest plant and tried to launch it on a big scale. The peasants however remained suspicious and refused to try out the new crop, be it because of their traditionalism or their fear of trying something new. In 1748, however, Countess Eva de la Gardie submitted a paper to the Swedish Academy of the Sciences in which she showed that the potato could not only be used as food, but also to produce powder, food for cattle – and *alcohol*. The Board of Commerce (*Kommerskollegium*) spread the good news about using the potato for the production of alcohol, which the authorities at that time did not mind at all and which, much more importantly, would lessen the demand for imported grain. From this time on, many other references were often made to the new and intoxicating use of the potato.

The insight that the potato could be used to make alcohol broke down the resistance to its use among the peasants, who as time went on also began to use it as food. Since this time the potato has been a staple in the diet of the average Swede, something which is still the case. In brief, from the utopian hopes of government officials and scientists in the 18th century, and via the peasants' escapist hope to forget a hard reality through alcohol,

something very useful eventually emerged: a good, solid potato on the plate of every Swede.

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Table 1. Composition of the Population in 1760 in Sweden Proper and in Finland

	Sweden		Finland	
“Gentlefolk” and servants ⁸	90,311	4.9%	17,324	3.5%
Lower state employees, etc. ⁹	180,221	9.8 %	74,432	14.7%
Townsmen and their servants ¹⁰	122,370	6.7%	18,773	3.9%
Rural population (except soldiers, nobility, etc.) ¹¹	1,444,769	78.6%	381,279	77.9%
<u>Total Population</u>	1,837, 671	100.0%	489,808	100.0%

Comment. The figures on the population has been arranged according to profession or estate or a combination of the two. The data comes from the Office of Tables, which had been created in 1748 and which based its figures on information from the Lutheran clergy.

Source: Eli Heckscher, *An Economic History of Sweden*, p. 141.

⁸Contains the following categories: nobility, clergymen and teachers, gentry and servants.

⁹Contains the following categories: soldiers, court and church servants, etc.

¹⁰Contains the following categories: merchants, manufacturers, craftsmen, shippers and sailors, other burghers and servants.

¹¹Contains the following categories: iron and metal makers, miners, rural craftsmen, militia, rural shippers and sailors, peasants, cottagers, paupers and crofters, laps [samis], settlers, etc.

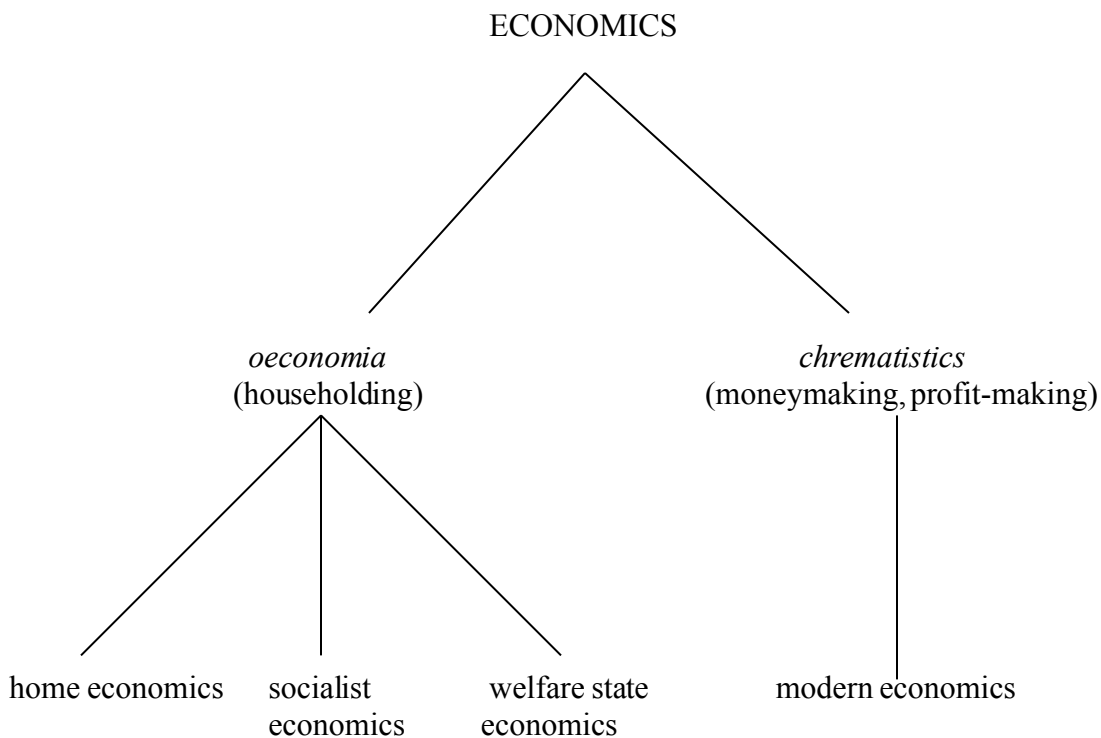
Table 2: The Two Main Categories of Economic Activity: Householding and Profit-Making

	<i>Goals</i>	<i>Means</i>	<i>Key Institutions</i>	<i>Macro effect</i>
<i>Householding</i> economic	surplus and wealth, satisfaction of needs, independence (autarchy)	management of resources (based on use value); inventory; patriarchal order	the estate, the individual household, at times the state	reproduction, slow growth
<i>Profit-making</i>	profit, capital accumulation, dynamic growth	profit-making activities (based on exchange value), expansion	the market, the corporation	economic change, creative destruction

Comment. Economic activities fall, according to a tradition going back to the classics, either into the category of householding or into that of profit-making. Examples of household economies would include the original Greek estate (*oikos*), the manorial estate, the modern household of the nuclear family, and the socialist state. Mercantilism and cameralism can roughly be characterized as an economic doctrine about the household of the state, just as home economics and household economics can be said to constitute an economic doctrine about the modern family/household.

Sources: See Max Weber, *Economy and Society*, pp 86 ff., 90 ff.; see also Otto Brunner, "Das 'ganze Haus' und die alteuropäische 'Ökonomik'" and Leif Runefelt, *Hushållningens Dygder*, pp. 91-118.

Fig. 1: The Two Faces of the Science of Economics



Comment. The ideas about economic life were originally centered around the household, but later shifted to profit-making and related activities when economics became a modern science. Theories that emphasize the household include household economics, socialist economics and the economics of the welfare state. Concerns relating to public health as well as the issues dealt with by economic geography and the science of nutrition are closer to the householding pole than to that of profit-making.

Sources: Aristotle, *The Politics*; Otto Brunner, "Das 'ganze Haus' und die alteuropäische 'Ökonomik'"; M.I. Finley, *The Ancient Economy*, pp. 17 ff.; Joseph Schumpeter, *History of Economic Analysis*, 51 ff.; Sarah Stage and Virginia Vincenti (eds.), *Rethinking Home Economics*.