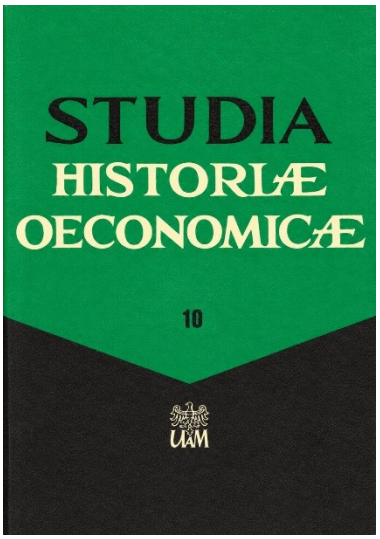


Pedersen, E.H. (1975) 'Modernization of the Danish Peasant and Cottager Agriculture during the First Part of the Danish Agricultural Revolution, 1860-1880', *Studia Historiae Oeconomicae*, 10, pp. 109-114.

https://doi.org/10.14746/sho.1975.10.1.008

Text of article:
https://pressto.amu.edu.pl/index.php/sho/article/view/58043

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The task was carried out within the framework of the competition "Social Responsibility of Science II – Support for Scientific Libraries". The project entitled "Digitization of archival editions of scientific journals collected by the Library of the Coll. Historicum of Adam Mickiewicz University". The project was co-financed from state budget funds granted by the Minister of Science within the framework of the Programme Social Responsibility of Science II. Support for Scientific Libraries (agreement no. BIBL/SP/0092/2024/02 of 05.12.2024).

Total value of the project: PLN 247,236.00. Amount of co-financing: PLN 220,836.00.









STUDIA HISTORIAE OECONOMICAE
UAM Vol. 10 — 1975 Poznań 1975

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MODERNIZATION OF THE DANISH PEASANT AND COTTAGER AGRICULTURE DURING THE FIRST PART OF THE DANISH AGRICULTURAL REVOLUTION

1860 - 1880

In this short article I first want to give some supplementary details concerning my paper to the International Colloquium on Peasant Economy before and during the Early Period of the Industrial Revolutions and thereafter I shall try to place my subject in a wider framework and from here conclude with a preliminary discussion of a "model" or general theory about the development of Danish agriculture in the period from 1750 to 1973.

The population of Denmark amounted to about 929,000 persons at the 3-rd general census in 1801. About 628,000 or 60% of this population was occupied in agriculture, but one hundred years later the corresponding figures were 2,580,000 and 1,001,000 or 39%. Half a million Danes moved out of agriculture in the 19th century, 308, 000 in the period 1870 - 1901. Of the 156,000 Danes who emigrated in the years from 1868 to 1900 about 80,000 came from rural areas. Most of the population growth therefore took place in the cities, but on the other hand we cannot speak of an industrial revolution in Denmark before 1870 as only 20,000 workers were employed in the industries in the 1860's.

The first stages of the Danish Industrial Revolution actually occurred in the period 1870 - 1890 in connection with the German banking and industrial boom of the early seventies, very clearly stimulated by the growing demand for industrial goods from the agricultural sector, which had a surplus of capital originating from the increasing exports of grain, butter, and living cattle to industrial England and Germany. The industries in turn delivered big quantities of implements and machinery which was very much needed to bring about that much debated and eagerly awaited modernization of Danish agriculture. Of course the Danish peasant farming had passed through a stage of pre-modernization after the emancipation of the peasants in the last years of the 18th century. In this process the open field system was converted into more advantageous forms of crop rotations with more concern for fodder crops, which in turn opened up possibilities for more cattle, especially cows, and pigs. By this scheme the farmers were able to make use of heavier manuring, thus setting up a self-accelerating spiral, which logically pulled into the direction of dairy farming. But this spiral had in its original form only a few wind-

ings, so to speak, as the farmer still missed that magical tool of artificial fertilizers to bring up the yield ratio from 7 or 8 to at least 12 or 15 fold. And when the fertilizers actually were at hand and the fields could be drained off by use of drain-pipes, the ordinary farmers did not have the needed money to buy the new tools and to obtain better cows from improved strains and elite herds. The dairy products of the ordinary farm were generally of rather a low quality so you can imagine that the future of Danish peasant farming did not look very prosperous about 1860.

But the new generation of farmers had better possibilities. Thanks to the new established credit associations which started their operations after 1851, the generation shift was made more easy and the payment of interest on the mortgage debt did not present the farmers with so many problems when the prices were increasing, especially the prices of animal products. The principles of better or improved dairy work on Danish estates became more known to the majority of farmers and private dairies sprang up at several places. The well-known invention of the cream separator about 1880 opened up possibilities of a big-scaled industry, applying the principles of agricultural co-operation. The English and German markets absorbed bigger quantities of pigs and pork and the skim milk from the dairies made it possible to feed bigger pig herds. The rotation scheme was enlarged to include swedes and mangolds and if the corn production of the farm in question was not big enough to sustain the live-stock, you could easily buy fodder corn and foddstuffs imported from the United States, Russia or other foreign areas. The farmer got the needed money from the sales of his animal products or by loans from the many banks and savings-banks. In certain cases the necessary credit was granted by the merchant or the cooperative society, which delivered the goods in question.

If I am asked to single out the decisive factor in this development I should most certainly call attention to the capital accumulation whether it took place individually at the farmer or jointly at some sort of cooperative society. Without the money needed to buy new implements and machines, fertilizers, better seed and better animals and to bring about the ameliorations in the fields such as draining and marling you do not have any chance to put more windings to the spiral. It goes without saying that the farmers also needed a thorough knowledge of the new farming methods and their inborne possibilities, but the process of innovation took forward strides after 1850 owing to the vigorous campaign for better animal husbandry and dairying which the Royal Danish Agricultural Society and the local agricultural societies conducted from the 1850's. You also have to consider the role of the national press in this campaign, especially the daily papers which sprang up everywhere during the 19th century. Not only did they bring articles and notices on the state of agriculture but also informed their readers about prices, the market situation and other bits of information, which all together gave the enterprising farmer

a first hand knowledge of the mercantile climate of the period. The patriotic and nationalistic enthusiasm which waved through all parts of Denmark after the war with Russia and Austria in 1864, where Denmark lost the duchies of Holstein and Schleswig may also have contributed to the daring and enterprising trend which we undeniably find in the Danish society in this period.

If you from this ultra-short summing up of the general framework turn the attention to my paper for the above-mentioned colloquium "Danish Agriculture in the Early Stages of Modernization and Reorganization, circa 1860 - 1880" I will make a few comments on the facts and figures in Mr. Peter Thonning Olesen's research into the source material which he has utilized in the study*. We in fact possess all the original census lists of the agricultural countings from 1861, 1866, 1871 and 1876 together with the documents of the animal census of 1881 and of course we have all the population census lists from the century as a whole. My central point when I first began considering an electronic data processing investigation of this first-rate source material was the need for a thorough "reconstruction" of the individual farm in the village under research. Therefore we have to unearth all the possible data concerning this single unit in order to answer the following questions,

1. The actual acreage, the tax value assessment in the land registers and the possible out-parcellings of the fields for small-holders.
2. The names of the owners (occupiers) of the farm including the length of every single owner period.
3. The persons occupied in agriculture on the farm in question.
4. The actual use of the fields according to the crop rotation scheme.
5. The live-stock figures for the whole period, divided up into the different categories: cows, young cattle, calves, pigs, horses etc.
6. The mortage debt: bonds, private loans and other forms of loans.
7. The owner's private debt to dealers, cooperative societies, crafts-men and other forms of private debts.
8. The value of the farm as registered in the books of credit associations and fire insurance companies.

When you have pulled together all this information and grouped it into the above-mentioned categories you will have a fair chance of evaluating the different factors which together formed the process of modernization. And if you have placed the data in an electronic data processing scheme it will be much easier to cross-analyse and classify the factors and to formulate a theory about the Danish agricultural development in those decisive years from 1850/1860 to 1880.

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* Peter Thonning Olsen has written an hitherto unpublished dissertation to the University of Copenhagen, Institute of Economic History, on the theme of agricultural development in a single Danish parish 1860 - 80.

But even if one has made an analysis of the economic development I think we still need to put forward some additional basic question. To my mind it is quite impossible to imagine a process of agricultural development without considering the fundamental structure of the society in question as it functions as a more or less solid framework around the economic and social development inside the agrarian structure. It goes without saying that agricultural activities at the individual farm is the very base of this agrarian structure, and if we distinguish between subsistence-farming and cash-crop farming (or farming for the market) you will realize that the general state of development and the total structure of the society together will have a determining influence on the breaking point, where we pass from one form of farming to another. We therefore have to consider the surrounding society as a solid frame work upon which the agricultural industry reacts and tries to accomodate itself and at the same time the farmers strive to change the scope and limits of the framework to their own purpose. If you have placed the agrarian structure in this give--and-take position you might be able to arrange the internal factors of the structure in a working scheme, placed after order of signification.

In a very preliminary form I have attempted to constitute a scheme for the factors in question, arranged and placed in a sequence which on one hand illustrates the hierarchic order of the factor sand on the other hand constitutes the chronology of the development during the period 1750 - 1973. The factors in question are as follows,

1. *The cultural pattern* regarded as all those activities which do not belong to the farmer's function, or to put it in another way, that sum of energy, thoughts and feelings which the farmer invests into human activities without a direct look upon the economic possibilities.

2. *Education and social training*, both the fundamental school training and the education for grown-up persons such as the famous Danish Folk High Schools. It is not only the subject-matter of the education in a narrow sense which ought to interest us, it is also the social pressure which is imbued in the teaching and learning process.

3. *The village cooperation* in matters of local government.

4. *The various forms of associations* ranging from agricultural societies to religious organizations.

5. *The social stratification* in the local community.

6. *The public opinion* and the process by which it is formulated and articulated.

7. *The political factor*, that is the point of intersection where all the above--mentioned factors join together and manifest themselves vis-à-vis the society or the framework as it was called earlier in this very short presentation of the model or general theory of the development of Danish agriculture in the period from 1750 to 1970.

Besides this group of primary factors I have placed a corresponding system of secondary factors which all deal with the local cooperation between the agricultural industry and the non-agricultural activities.

The fundamental line of thought in this outlining of a "model" for historical research on the modernization of Danish agriculture is the firm belief that you cannot study economic and technical development from a purely quantitative point of view. It goes without saying that the fundamental motivation of the farmer concerning the actual method of management is guided by economic considerations and it is to be hoped that the research into the primary source material, which Mr. Olesen utilizes in the above-mentioned study, definitely will explain the connection between the economic factors. In the same way you can analyse the productive results of the modernization if the source material allows you to work at the micro-plane so you can compare the peculiars of the farming system with the figures for corn and milk yields etc. But if you really want to propose an explanation of that peculiar state of consciousness and that background which guided the farmer when he decided to revise his fundamental way of working you have to resort to other ways of presenting the problem. Did he take his decision as an individual and independent farmer as the doctrines of the economic liberalism have told us or did he actually react as a member of a structural unity, the society in its various forms, which in turn influenced him quite decisively? There may be no conclusive answer to such questions but if the historian wants to give an explanation and not only an account in square figures he certainly is forced to analyse not only the material outcome of the farmer's efforts, but also the intellectual process of thought and the unconscious scheme of reactions which guided him in his life and work.