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978-0-521-44267-1 - The Danish Revolution, 1500-1800: An Ecohistorical Interpretation  
Thorkild Kjaergaard

Excerpt

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## INTRODUCTION

When the Danish poet Poul Martin Møller was sailing across the South China Sea on his way to China in 1820, he let his thoughts wander back to his homeland in a poem that he called “The Joys of Denmark”; in his mind’s eye he saw cattle standing “in grass up to their knees,” and dreamed of “a clover-field for noontday peace.”<sup>1</sup>

At about the same time, in the vicarage at Købelev on the island of Lolland, Møller’s stepbrother, Christian Winther, wrote a poem about the blossoming, sweet-smelling hedges in the Danish countryside.<sup>2</sup> And in the capital, Copenhagen, the grand old poet of the period, Adam Oehlenschläger, praised Denmark as the land of the beech tree:

There is a lovely land  
With spreading, shady beeches  
Beside the Baltic strand.

Old Denmark will prevail  
As long as leafy beech trees  
Are mirrored in the waves.<sup>3</sup>

Luminous green beechwoods, sweet-smelling hedges, and fertile fields of clover were felt to sum up the character of the Danish landscape during the nineteenth century, not only for these poets and countless others but also for the Danish people as a whole.<sup>4</sup> In 1936, when Denmark was invited to let herself be represented by her national plants in an international ‘garden of peace’ in La Plata, Argentina, the choice fell on red clover and the beech tree. In the Nature Conservation Act passed the following year, stone fences and hedgerows were mentioned in §1 as being particularly worth preserving.<sup>5</sup>

<sup>1</sup> Quoted by F. J. Billeskov-Jansen 1985–7, II, p. 219.    <sup>2</sup> Christian Winther 1828, p. 126.

<sup>3</sup> Quoted by F. J. Billeskov-Jansen 1985–7, II, pp. 75–6.    <sup>4</sup> Christian Elling 1961, p. 11.

<sup>5</sup> Axel Lange 1937, p. 183; Act no. 140, 7 May 1937.

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This landscape, whose beauties were so highly praised by the poets and painters of Denmark's "Golden Age" (1810–48) and which all Danes have learned to love and regard as the very essence of everything Danish, was not an ancient landscape, but came into being around 1800. Oehlenschläger's description of cows walking in clover in the ancient Danish landscape (in his cycle of mythological poems of 1819 entitled *Nordens Guder* [The gods of the North])<sup>6</sup> is an anachronism. Clover came to Denmark as a pioneer plant immediately after the last Ice Age, some 10,000 years ago<sup>7</sup> and was undoubtedly to be found here and there in the fields of ancient Denmark. But at that time it was a wild species, completely different from the dense, luscious, cultivated red and white clover that sprouted up from the newly drained fields of Denmark in the early years of the Golden Age, when cattle waded "in grass up to their knees." The first documented reports of domesticated clover in Denmark date from the 1740s.

Like clover, the beech tree and the hedgerows were new features in the landscape at the beginning of the nineteenth century. It was not until after 1750 that hedges began to make a crisscross pattern all over the landscape, nor was it until this time that the beech tree began to dominate the forests. Until then, insofar as any forests had been left to grow at all, the oak had been the predominant species. It was regarded as a national tree, and people liked to think that its hard, durable timber and mighty trunk symbolized Denmark's strength and age.<sup>8</sup>

Major changes in building methods also took place towards the end of the eighteenth century. Whereas wood formerly had been not only the most important material for building houses but also by far the largest source of energy and raw materials, it was now gradually superseded by clay, iron, and charcoal. Around 1500, most houses were made of wood, but by the end of the eighteenth century they were nearly all being built of mud-and-wattle and half-timbering, or of bricks. The open fires at which people were still warming themselves throughout the seventeenth century had gone: Iron stoves had replaced them, and coal began to be used for heating. In agriculture, wooden ploughs were discarded; iron fittings and reinforcements became common on carts and other implements. The first steam engines, made of iron and steel and fired with coal, made their appearance at the end of the eigh-

<sup>6</sup> Adam Oehlenschläger 1896–9, XII, p. 102.

<sup>7</sup> N. L. Taylor 1985, p. 2.

<sup>8</sup> V. J. Brøndegaard 1978–80, I, p. 324.

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teenth century. Ships were soon given iron hulls, and railways were built. The age of wood gradually came to an end and gave way to the age of iron and coal.

It was not only the immediately visible world of the countryside, of houses, of farm implements, and of machines that was transformed. The invisible world was also changing. In 1800 the infinite microworld of bacteria and tiny parasites was different from what it had been. The significance of this development extended into human society, where it affected the pattern of disease. Old diseases such as plague and malaria, from which the population had suffered for centuries, had disappeared, or were on the point of disappearing, only to be replaced by tuberculosis, which became the dominating disease of the new period.

New social patterns and norms of behaviour and work appeared in the life of the community. New social groups arose, and other groups, previously dominant, found themselves on the defensive. At the bottom of the social ladder, a new lower class began to emerge. These changes had repercussions all the way through society and influenced the political power structure. As the oak began to disappear from Danish forests, the old decentralized power of the aristocratic landowners was gradually undermined. In the same way that the beech tree was ready to take over from the oak, a new class of bureaucrats was ready to assume control of Denmark.

There can hardly have been any contemporary – or, for that matter, any later – observer who did not feel that the world at the beginning of the nineteenth century had changed. But the changes involved have been regarded too narrowly, consideration being given as a rule only to the more striking changes in the life of the community. Furthermore, these changes have been seen as being bound up almost exclusively with political events: on the domestic front, most notably with agrarian reforms, and internationally, with America's independence, the French Revolution, and the Napoleonic Wars. The deeper structural causes bound up with the ecological, economic, sociological, psychological, and political long-term developments of the period have not been given the attention they deserve.<sup>9</sup> The purpose of this book is to rectify this state of affairs by describing the changes that took place between 1500 and 1800 in their full complexity and by giving a more satisfactory analysis of their causes. Unexpected correlations will appear. For example, connections will emerge between coal, iron,

<sup>9</sup> For recent discussions of Danish historiography, see in particular H. Arnold Barton 1988, and Claus Bjørn 1988a.

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domesticated clover, and beech forests; between the number of cattle and the disappearance of malaria; between earth-fast fences and the undermining of the power held by the old aristocratic elite; and between the development of communication systems and agrarian reforms. The agricultural, or 'green,' revolution that resulted in increased production of foodstuffs, and the industrial, or 'energy and raw materials,' revolution during which wood was replaced by coal and iron, will be shown to have been mutually supportive and interdependent.

Conversely, other correlations that hitherto have been regarded as being of major importance either dissolve or fade into the background. Among these is the commonly accepted relationship between agrarian reform legislation – the abolition of adscription, enclosure, freehold, and so forth – and the dynamic development of agriculture and industry during the nineteenth century. Whereas the agrarian reforms are normally credited with having been of decisive importance to the emergence of modern Denmark, in the present examination they are seen as having played a more limited role. They should be understood only as the conclusion of a long struggle for political and social power among competing factions of the Danish elite.

The development that took place in Denmark during these centuries was part of an overall pattern that occurred in most European countries. It was a process that resulted in Europe's rebirth and that gave Western civilization the upper hand both economically and politically throughout the world. The history of Denmark between 1500 and 1800 is a typical and clear example of this European development.

Unless otherwise specified, 'Denmark' is used in this book to cover the kingdom as it was until 1920, when the northern part of Schleswig, following a plebiscite held in accordance with the Treaty of Versailles, was united with Denmark. During the period from 1500 to 1800, Denmark formed part of a larger, multinational and multilingual united monarchy whose capital was Copenhagen. In addition to Denmark, it included the richly forested kingdom of Norway and the two predominantly German-speaking duchies of Schleswig and Holstein. Finally, there were the North Atlantic territories – Iceland, the Faeroe Islands, and Greenland – and a few overseas possessions, including the three West Indian islands of St. Croix, St. Thomas, and St. John (the Virgin Islands), which were sold to the United States in 1917. The provinces of Skåne, Halland,

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and Blekinge – which make up the whole of the southern part of present-day Sweden – were separated from Denmark in 1658. Nevertheless, because of Denmark's considerable extent and strategic position at the entrance to the Baltic, the Danish monarchy represented, throughout the period dealt with in this book, a not inconsiderable factor in European politics. It was not until the loss of Norway in 1814 and of Schleswig and Holstein in 1864 that Denmark was reduced to a minor state.

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***Part I***

**DENMARK, 1500–1750**

*A Country in an Ecological Crisis*

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## 1

## THE ROAD TO THE CRISIS

The kingdom that Christian IV took over in 1588 was in excellent condition. Almost a quarter of the country was covered in forest and there was an abundance of big game – wolves, wild boars, and red deer.<sup>1</sup> Agriculture was flourishing. In 1539 Frederik I's chancellor, Wolfgang von Utenhof, described Denmark as

a very fertile, useful, splendid and merry kingdom that has fertile fields, lovely forests and groves and endowed moreover with excellent cattle-breeding, a wealth of fish, all manner of game in the forests, and poultry and fowl aplenty.<sup>2</sup>

In 1622 the Danish scholar Ole Worm gave his country a testimonial that was in no way inferior:

Had Aristotle known the fertile and splendid islands in the Danish sea he would have been highly justified in calling this kingdom the larder and inexhaustible barn of all Europe and the wet-nurse of all peoples; for, had not foreigners fetched from it, as from the richest of warehouses, all the necessities of life, so many thousand oxen, such myriads of fish of all kinds and such an abundance of crops, many must needs have died of hunger. Then there are the vast numbers of the most noble horses – so much in demand for purposes of war by Germans, Frenchmen, Spaniards and Italians – that are annually despatched hence. No kingdom, no empire, hath supplied a greater quantity of gold and silver pieces than this kingdom's customs office at Kronborg Castle alone. Were I to weigh all things justly, then the Danes have no need of others, but all have need of them.<sup>3</sup>

Although Worm may have been biased, this can hardly be said of the Italian Torquato Recchia, who came to Denmark at the end

<sup>1</sup> Troels-Lund 1879–1901, I, pp. 68–71; C. Weismann 1931, pp. 76–9, 90–8; V. J. Brøndegaard 1985–6, III, pp. 134, 211–12, 226; C. F. Bricka 1870–2.

<sup>2</sup> Wolfgang von Utenhof 1539, p. 12 (“... ein sehr fruchtbar, Nutzlich, herlich und lustigk reich, welches Iar ein fruchtbaren acker, schone welde, und holtzer, darzu ein treffliche fihe zucht, darzu sehr fysch reich, mit allerley geschlechte des wilprechts, in welder, und sehr vil geflochelten tiren und fogeln, begabet”).

<sup>3</sup> Ole Worm 1965–8, I, p. 62.

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of the 1620s as majordomo to a general in the army of the Austrian warlord Wallenstein. Recchia described Denmark as being

very rich in forests, replete with all manner of game in such large quantities that on occasion one sees them in the open fields, excepting wolves, and accordingly there is excellent hunting. . . . The country is very fertile and well suited to trade, both on account of her shipping, being protected by the ocean as well as by the Baltic Sea, and on account of her rich soil, which is cultivated in peacetime. Here, large quantities of grain are produced for human and animal consumption, cows, lambs, pigs and butter, in such wise that in addition to supplying her domestic needs the country can also export to Holland and other countries; 100,000 oxen are exported annually.<sup>4</sup>

Although the young Christian IV's Denmark was in many respects in good shape and sound condition, there were still some vulnerable points. Thanks to a much-needed pause enjoyed by the ecological system after the decline in population during the Black Death in the fourteenth century, the forests were larger and better than they had been for centuries. Large areas that had been open countryside during the Middle Ages were once more overgrown: In Zealand, for example, the stretch between Kalundborg and Ringsted, an area once characterized by the medieval chronicler Saxo Grammaticus as thinly forested, was described by the topographical writer Arent Berntsen four hundred years later as one of the most important forest districts in Zealand.<sup>5</sup> However, the forests were still not fully developed after their decline in the Middle Ages. For example, in Zealand it was not possible to find timber of sufficiently large dimensions for repairs to Antvorskov Palace near Slagelse (the wood had to be brought from Norway);<sup>6</sup> and although the moors had been decreasing since the fifteenth century, they were still far from having been reduced to their very modest extent during the period before agriculture began to take its toll on the ecosystem.<sup>7</sup>

Finally, there was the weakest link in the ecological chain, the sand dunes, which had never completely settled after the Middle Ages and might start drifting at the slightest pressure on the ecosys-

<sup>4</sup> Johannes Lindbæk 1909–13, pp. 358–9.     <sup>5</sup> Svend Gissel 1968, p. 236.

<sup>6</sup> A. Opperman 1923–31, p. 14.

<sup>7</sup> Pollen analyses reveal a decline for xerophytes (i.e., plants that grow on open land) and heather during the period 1400–1600, whereas the beech curve rises. Bent Aaby and Bent Odgaard 1988, p. 10. The original extent of the moor: Johannes Iversen 1979–82, p. 444; Bent Aaby and Bent Odgaard 1988, p. 19, cf. Kim Aaris-Sørensen 1988, p. 188.



tem. It was precisely here that problems had arisen in the decades prior to Christian IV's accession to the throne. In 1539, Christian III, with the aim of preventing sand drift, had prohibited the pulling up of dune plants, which were used as winter fodder and thatching material by the inhabitants along the North Sea coast.<sup>8</sup>

The Danish coastal dunes are not, as might be supposed, a spontaneous product of nature. Originally the forests extended right out to the water's edge all over Denmark, especially alongside the North Sea, where they protected the coastline and its hinterland from erosion by wind and waves.<sup>9</sup> With the advent of agriculture these coastal forests were felled, whereupon the wind and the waves were able to commence the long-drawn transformation of the coastline and its hinterland in the manner that continues to this day.

Sand drift started about 3000 B.C. which is to say 1,000 to 1,200 years after agriculture had taken hold,<sup>10</sup> and recurred repeatedly throughout antiquity, the Viking period, and the Middle Ages.<sup>11</sup> There are signs that it followed the rhythm of agriculture, increasing in periods when agriculture expanded and decreasing when it declined. There is evidence of heavy drifting during the Iron Age and again, around 1200, during the period of Valdemar the Great and Valdemar the Victorious. In Thy there are migrating dunes whose position around 1880 – assuming that drifting had been continuous – indicates that they must have been formed around the year 1200 ± 50. Correspondingly, Dansted Dune and “The Church Dune,” which covered Skagen Church with sand at the end of the eighteenth century, can be calculated as having started to drift in the years 1230 and 1300 respectively.<sup>12</sup>

<sup>8</sup> Hans Kuhlman 1979–82, p. 185–6.

<sup>9</sup> Johannes Iversen 1979–82, p. 445. Cf. *Trap Danmark* 1953–72, 14, p. 32, and David Liversage and David E. Robinson 1988, p. 264. Unlike the coastal dunes, the inland dunes (inland sands) in Central and West Jutland constitute an original characteristic of the postglacial landscape, cf. *Trap Danmark* 1953–72, 1, pp. 47–8. But as the changing appearance of the inland dunes in historic time was determined in a way similar to that of the coastal dunes they are grouped together.

<sup>10</sup> Agriculture since about 4200 B.C.: Jørgen Jensen 1979, p. 55. Sand drift from about 3000 B.C.: David Liversage and David E. Robinson 1988, pp. 266–87. Sand drift caused by human activity: P. V. Glob 1949, p. 6.

<sup>11</sup> David Liversage and David E. Robinson 1988.

<sup>12</sup> Sand drift during the Iron Age: Palle Friis 1970, p. 37; Gudmund Hatt 1937, p. 93. The migrating dune at Thy: Viggo Hansen 1957, pp. 79–80, 1976, p. 56. Dansted Dune, “The Church Dune,” et al.: Viggo Hansen 1964, pp. 75–6. Among other examples of sand drift in the Middle Ages was Lindholm Høje at Nørre Sundby. Between 1040 and 1076 there was a sandstorm here that suddenly covered the fields with 35 cm of sand. Sand drift was possibly the reason why the settlement was finally abandoned around 1100. Thorkild Ramskou 1960, pp. 31–9.

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There is reason to believe that sand drift decreased during the so-called late Medieval crisis of the fourteenth and fifteenth centuries, and that many dunes were gradually tied down beneath an unbroken cover of stiff lyme grass and other dune plants that were now left in peace because they were no longer needed. However, sand drift did not cease entirely; it is likely, as just mentioned, that some of the largest migrating dunes, displaying formidable dynamism, were in constant movement from the thirteenth century until far into the nineteenth century.

Increasing pressure on the ecosystem – as evidenced by the peasants' interest in the dune lyme grass in the time of Christian III – was a forewarning of the ecological crisis that would cause the young Christian IV's once so prosperous kingdom to totter during the ensuing one hundred fifty years. The two most important factors behind the crisis were population growth and the building up, during the seventeenth and eighteenth centuries, of a modern, fiscal-military state.

## 1.1 POPULATION GROWTH

It is uncertain by how much Denmark's population decreased during the demographic plunge in the fourteenth century. However, it is beyond all doubt that the figure dropped to well below one million, this figure being approached when nature, assisted by the Black Death, finally took pity on the Danes (living, at the time, "in a state of misery without parallel in the country's history"<sup>13</sup>) and delivered them from an impoverished, worn out, and overpopulated world. Deserted farms and a pronounced 'population shortage' in the middle of the fourteenth century point to a considerably smaller population and reduced pressure on resources;<sup>14</sup> the same applies to the ecological recovery that took place during the fifteenth and sixteenth centuries, including reforestation, reduction of the moorlands, and partial stabilization of the dunes.

During the fifteenth and sixteenth centuries, population figures began to increase in Europe again and perhaps also in Denmark.<sup>15</sup> Around 1650 the population of Denmark was about 550,000, still no more than just over half what the population is assumed to have been around the year 1300.<sup>16</sup> But from 1650 on the increase gathered mo-

<sup>13</sup> Helge Paludan 1977, pp. 412, 414–15.      <sup>14</sup> *Ibid.*, p. 176; Svend Gissel 1972.

<sup>15</sup> Colin McEvedy and Richard Jones 1978, p. 18 (fig. 1.2); Helge Gamrath and E. Ladewig Petersen 1980, p. 379.

<sup>16</sup> This and subsequent figures for Denmark's population from Aksel Lassen 1965, pp. 11, 530.