

SUMMARIES OF LECTURES in ECO 303Y1:
the Economic History of Modern Europe, to 1914
for the Academic Year: 2012 - 2013

V. Week no. 5: Lecture no. 6a: on 10 October 2012

The Agrarian Sector of England and Wales: the origins and consequences of the Agricultural Revolution, part 1 (part 2 will be presented on 17 October 2012)

A. Introduction

(1) Précis: We now turn to the second, and largest sector of the pre-modern economy: agriculture, in order to examine the origins and consequences of the Agricultural Revolution. In my view, no major country has succeeded in achieving modern urban industrialization and sustained economic growth, without a radical transformation of its agrarian sector: in order to release land, capital, and especially labour to be employed more productively in other sectors of the economy. Most important was supplying labour, but also foodstuffs and raw materials, for urban industrialization.

(2) Note that in both England and France, at the dawn of the modern era, about 75% of their populations were engaged in agriculture and related agrarian activities; and as much as 85% of the population in eastern Europe, until the 19th century. In the early 20th century, only 7% of England's population remained in agriculture, compared to 43% of France's population, despite the progress in industrial development achieved there since the 1820s. Clearly the final goal and chief role of agrarian change in modern economic development is the shrinkage of the agricultural sector: i.e., in releasing resources to other sectors.

(3) The fundamental issue for agrarian change is that of property rights: the replacement of a centuries old system of communal farming (a product of medieval feudal manorialism) in many and chiefly the most populous regions of England with private-property systems, chiefly under what is known as Enclosures. The basic question: Were enclosures necessary both to permit the application of new agricultural techniques and to promote more profit oriented and efficient farms of commercial agriculture, which in turn promoted industrialization?

(4) In the second term, we find these very same questions highly relevant to understanding continental industrialization, from the French Revolution (1789), and to understanding the marked differences in French, German, and Russian industrialization -- based on what happened to their agrarian sectors, particularly in replacing communal (and servile) forms of agriculture with market-oriented, profit-seeking private property agrarian structures.

B. Summary of the Lecture:

(1) The Barriers to Agrarian Change and Growth: the Open or Common Field Systems

a) **The medieval & early modern agrarian system of Open Fields:** (without internal divisions and fences) or Common Fields (largely worked communally by dependent manorial peasant tenants): was the product of medieval feudal manorialism.

b) **In England, such an agrarian regime was found principally in the Midlands zone:** the area of the best agricultural lands, and the one most thoroughly subjected to medieval feudalism

c) **Medieval lordships:** combination of Feudalism = militaristic system of local government based on service: Manorialism = the landed estate given to a feudal vassal (knight) as a reward and means of support for that service; Serfdom = dependent peasant tenants who work the lords' lands for his benefits.

d) **The arable or crop-producing lands of a medieval peasant village:** were usually cast in the form of three great open fields (or some combination divisible by three):

- for Winter crops (Fall sown) – wheat & rye;
- for Summer Crops (Spring sown): barley, oats, legumes: the legumes were nitrogen fixing crops (peas and beans) that helped to fertilize the soil;
- the Fallow: lying at rest, uncultivated, to allow the natural restoration of fertility

e) **the importance of livestock:** cattle (cows, bulls, and oxen: castrated bulls), sheep, horses, donkeys, goats, pigs.

i) **chief contributions that Mixed Husbandry (with livestock) made to the northern agrarian economy: of Mixed Husbandry:** with a symbiotic relationship between arable and pasture lands:

- provided power, especially to pull the heavy wheeled northern ploughs: with either eight oxen or two horses (more capital costly and more costly to feed)
- provided fertilizer: especially 'folding' on post harvest arable and the fallow lands at night, while feeding on pastures during the day
- provided food: meat and dairy products (milk, cheese, butter)
- provided industrial raw materials: especially wool (textiles) and hides (leather); but also bone

ii) **Jared Diamond: *Guns, Germs, and Steel*:** a non-biological explanation of Europe's ultimate supremacy

- that Europe's chief advantage over the rest of the world came to be in having a large and varied supply of such useful livestock. compared to the rest of the world
- but similarly northern Europe had a decisive advantage over most of southern Europe in having so much more capital invested in livestock, and in a symbiotic agrarian relationship, whereas Mediterranean Europe kept the arable and livestock sectors largely separate.
- Note that southern Europe (and much of the rest of the world) did not use heavy wheeled ploughs that required such a large livestock complement (i.e., 8 oxen or 2 horses).

f) **The Components of Communal Open Field Farming (with this symbiotic relationship):**

i) **communal grazing of the village livestock (cattle and sheep) on both pasture and arable lands**

- i.e., livestock, fed on pastures during the day, were brought into the open fallow lands, and also the arable lands after harvest-times to feed on the stubble and grasses
- thereby depositing manure, the chief fertilizer (nitrogen)

ii) **unfenced open fields:** with fences only at the external frontiers of the fields, for this reason

iii) **peasant tenancy holdings in the form of plough strips,** interspersed between and among their

neighbour's strips in each of the three fields

- McCloskey thesis: interspersed scattered holding as risk aversion: to provide as much diversification of land types, reducing risks of damages from snow, hail, floods, insects, animal vermin, etc.. Note that many peasant villages were engaged in subsistence farming, at the thin edge of survival (constant threats of famine)
- Dahlman thesis: interspersed strips to protect communal grazing; i.e., to prevent richer peasants from accumulating and consolidating ('engrossing') lands and to prevent those so successful in doing so from withdrawing engrossed lands from the Common Fields

iv) **communal ploughing:** because the northern wheeled plough (with coulter & moldboard) was such an expensive piece of capital equipment that it required communal ownership and communal provision of the oxen or horses to pull it

v) **communally determined crop rotations:** to ensure that each field grew only the same seasonal crops and thus was harvested at the same time, thus to permit the entry of livestock to feed on the post-harvest stubble and on the fallow lands.

vi) **but private elements still remained:**

(1) each peasant family maintained its own holdings and retained the residue of crops from its own strips, after church tithes (10%), rents, and taxes were paid, along with the right to market their own share of the crops.

(2) That provided some of the seeds of the ultimate destruction of communal farming.

- See the Dahlman thesis above,
- and the subsequent section on enclosures

f) **Inefficiencies of Open Field peasant farming:** why it was a barrier to growth

i) **communal resistance to change:** any changes in crops, rotations, techniques, land-layouts, etc. required consensus of at least the leading village families, who were all conditioned to risk aversion.

ii) **Neighbourhood effect:** that careless and lazy farmers, in not controlling their strips for weeds, vermin and pests, and not providing proper drainage, threatened the welfare of their neighbours

iii) **wastage of land and labour:** in marking off scattered holdings; and attending and working far scattered strips, over vast fields. Note: a plough strip was the length ploughed in one full day

iv) **labour immobility and disguised unemployment:**

- in part from the servile nature of so much of the peasantry: unfreed, bound to the estates
- communal: that the system was designed to accommodate and support all families, reducing incentive to leave for better opportunities.

(2) **Enclosures: the mechanism for destroying manorial communal agriculture**

a) **in essence: enclosures involved a radical transformation of land-holding:** designed to destroy all aspect of communal village farming and replacing communal farming with private property arrangements:

- by placing the exclusive use of the land in the hand of one person, whether the landlord or the tenant to whom the landlord leased that land (as a consolidated block)
- by allowing the landlord or tenant to make decisions on land use, division between arable and pasture, crop rotations, agricultural techniques, application of capital, etc.
- by allowing the landlord to lease, sell, trade, or bequeath lands with no reference to village rights
- by allowing the landlord or his tenant to mortgage the land: to borrow capital using the land as the collateral for the loan – impossible to do under communal forms of agriculture (all the more so since the manorial lord or his overlord was the technical owner of the lands)

b) **forms of enclosures:** in approximate historical sequence, during the first major phase of Enclosures: in the Tudor and early Stuart era (1485-1620):

i) **enclosing the village commons:** the outlying pasture and forest lands and meadows (hay), reserving their exclusive use to one person (landlord or tenant)

ii) **engrossing the scattered tenancy strips of the Open Fields:** i.e., consolidating holdings into separate blocks on land, which were usually then fenced off and withdrawn from communal rotations

iii) **land reclamations:** clearing and developing waste lands, or forest lands; draining swamps.

c) **Chief factors explaining the Tudor-Stuart Enclosures:** (more for my ECO 301Y course)

i) **the English cloth-export boom:** from the 1460s to the 1540s: more tripling cloth exports

ii) **Henry VIII's Reformation and the confiscation of monastic & church lands:** about one-third of the total arable area of England: in 1536-40

iii) **the 'Rise of the Gentry' (Tawney's term), from 1540 to 1640 (eve of the Civil War):** wealthy but non-noble landowners (knights: sat in House of Commons):

- acquired 90% of monastic lands, and much other land from the crown & aristocrats
- share of landed wealth rose from 25% in 1436 to 45% in 1690
- chief beneficiaries of the inflationary Price Revolution (1520-1650), which injured aristocracy and crown who had to finance rising expenditures by land sales (to the gentry)

iv) **landlord reaction to rising agricultural prices (Price Revolution era):** to resume or increase commercialized agriculture on the demesne:

- by taking back or confiscating peasant lands
- when remaining demesne holdings had been intermixed with tenancy strips in Open Fields, only solution was to engross and enclose those fields (evicting tenants):
- note: from the 1540s, rising population (demographic pressures) led to an increase in the relative prices of agricultural products, but especially grains (rose more than did the CPI).

d) **Features of the Tudor-Stuart Enclosures:** to the 1640s

i) initial phase: to 1540s: the conversion of arable – often depopulated, vacated arable – into pasture

ii) second phase, from 1540s: more for the production of arable crops, especially grains

iii) chief areas of Tudor-Stuart Enclosures: the Open Field areas of the English Midlands (see above)

iv) **What delayed landlord enclosures: so that 30% remained to be enclosed in 1750?**

- (1) deeply entrenched property rights of numerous freeholders and some customary tenants (copyholders)
- (2) But copyholders for 'lives' could be evicted: three 'lives' came to equal 21 years: or evicted after first 'life' by raising inheritance duties (called 'entry fines')
- (3) copyholders at will and cottars (cottagers): could be easily evicted by landlords
- (4) leasehold tenants: could be removed by not renewing the lease (though many ran for 20, 40, 60 years): but many leasehold tenants became the landlord's agents for enclosure, agreeing to pay higher rents

v) **Tudor-Stuart enclosures offered only the opportunity to landlords or their primary tenants:** to orient agricultural production by more efficient methods towards the market, and did not guarantee success

3) **The Agrarian Recession 1660-1740: the beginnings of the Agricultural Revolution**

a) **basic thesis:** that this recession, with falling prices, rising costs, and thus another price-cost squeeze forced both tenants and landlords, but especially, those who had enclosed their lands, to adopt more advanced, cost-cutting, productivity-enhancing methods to survive and prosper

b) **character of the agrarian recession, in terms of prices:**

i) **monetary deflation:** (as exports of bullion to the East surpassed bullion influxes from the Americas): provided a major cost in terms of factor-price 'stickiness': that wages remained stable, while prices fell, and that real interest rates (on capital) actually rose

ii) **behaviour of relative prices:** that grains prices fell more than livestock prices, thus making livestock production relatively more favourable, forcing a shift from grains into livestock and also industrial crops

- aggregate European supply of grains on the market increased (especially with new English exports – fruits of Tudor-Stuart enclosures) after the market ceased to grow or contract (demographic slumps or stagnation)
- new competing carbohydrate products: potatoes and maize (corn); rice

c) **consequences:**

i) **much greater diffusion of the New Husbandry:** more advanced farming techniques that had been introduced from the Low Countries, from the 1560s, but which had been slow to spread

ii) other new techniques: e.g. 'floating meadows' [next lecture]

iii) land consolidation: in larger more efficient estates, at expense of small farmers [next lecture]

4) **The New Technology of the Agricultural Revolution: Convertible Husbandry and the Norfolk Systems**

a) **Convertible Husbandry or 'Up and Down' Farming:**

i) **a radical change from Open Field Three-Course crop rotations:** involving the *alternation* in the use of land between arable (crops) and pasture (livestock) over a ten-year period

(1) First cycle: all of the arable lands are put down to grass for pasture (livestock), while the former pasture lands are ploughed up to become the new arable fields (to grown crops): for about five years

(2) Second cycle: these converted arable lands are again put down to grass, and the temporary pastures are again plough up to become arable lands

ii) **consequence:** the ploughed up pasture lands release enormous amounts of nitrogen, while conversion of arable to pasture allows these lands to recuperate and build up nitrogen

iii) **new crop rotations to eliminate all of the fallow:** reducing the relative amount of grains sown while increasing the cultivation of industrial crops and legumes

iv) **new legumes:** clover, sainfoin, alfalfa (lucerne grasses), which were up to 8 times more powerful in fixing nitrogen than pulses (peas + beans), while also serving as high-protein fodder crops for livestock

v) **livestock:** far better fed (and managed) on the richer grasslands of the pastures (also supplying manure for 'night folding') on the post-harvest arable

vi) **By far the more efficient and productive form of agriculture:** before the introduction of chemical (synthetic) fertilizers from the 1870s (in Germany – second term)

vii) **Enclosures were absolutely necessary for Convertible Husbandry:**

- because this system totally destroyed the lay-out of peasant tenancies in Open Fields; and they could not possibly have been reconstructed when pastures were converted to arable
- because this new system required vast increases in capital: which could be obtained only by mortgaging enclosed lands (see above) – or from profits of rich farmers

b) **Norfolk Four-Course Rotations:** introduced by Lord Townshend

i) **also a radical or even more radical change:** in its full form, it eliminated not only the fallow lands but also pasture lands:

(1) half of the land (enclosed) devoted to growing grains, and the other half to legumes and turnips

(2) turnips: a major feature of this system: highly effective fodder crop, whose cultivation also improved the soil, but without adding nitrogen (not a legume)

(3) livestock: were now stall-fed from both turnips and legumes, without pasture

ii) **I doubt, however, that this system was ever widespread, or used outside its homeland in East Anglia (Norfolk & Suffolk):** I doubt that many farmers totally dispensed with pastures and meadows.

iii) See the full lecture notes and the tables (when posted online)