1 Introduction

Esther N. Goody

THE DIVISION OF LABOUR AND INVESTMENT IN PRODUCTION

Both Adam Smith and Karl Marx were fascinated by the way in which the process of production had been subdivided and specialized in eighteenth- and nineteenth-century industry. Smith describes the way in which the making of pins was broken down into 18 separate operations, which could be carried out by as many workers with an astonishing 240-fold increase in productivity, using the same technique and tools (Adam Smith 1776: vol. I, 6-7). Marx was intrigued by the different forms of cooperation which could occur in articulating the tasks separated by the division of labour. He saw this in a highly formal way, distinguishing between organic manufacture, in which the basic raw material passes through a sequence of stages in which it is converted into the finished product (pin-making would be one example), and heterogeneous manufacture. The making of a watch is used as an example here. It used to be the individual product of one craftsman. Then (in the nineteenth century) it became the social product of a large number of detail workers; there were mainspring makers, dial makers, hair-spring makers, jewelled-hold makers, ruby-lever makers, case makers, screw makers and gilders. And these had numerous subdivisions: among wheel makers the makers of brass wheels and the makers of steel wheels were distinct (Marx 1954:360). No advantage was seen in bringing these processes together under one roof: there were fewer overheads with outworkers, and more competition amongst them. The parts were collected for the final assembly by a worker whom Marx did not consider to be a craftsman, despite his skill, since he did not work directly for the customer but for the capitalist who organized the coordination of the various component parts.

We are used to a model of a factory assembly line where each worker carries out a single operation as the product passes from one to the next. So we tend to see the division of labour into detail tasks as linked to factory production and machine-powered tools. Yet the division of labour

Cambridge University Press
978-0-521-10498-2 - From Craft to Industry: The Ethnography of Proto-Industrial Cloth Production
Edited by Esther N. Goody
Excerpt
More information

was already highly complex before these culminating achievements of the industrial revolution. The making of Swiss watches which Marx describes was based on cottage outwork, not done in a factory. And the 240-fold increase in production Smith remarked on did not depend on machinery, but on each worker becoming highly skilled in a separate stage of the production sequence. Indeed, these very elaborate subdivisions of the process of production which preceded the late-eighteenth-century and nineteenth-century explosion of the industrial revolution seem in some manner to have helped to bring it about. Clearly it is easier to design machines to do one step of a production process than to invent a Heath-Robinson super-machine to do them all at once. In this sense a detailed division of labour may well have been a necessary prerequisite to factory-based machine industry. But what was the force or process fuelling this progressively more detailed division of labour before the introduction of machines?

For Marx and Adam Smith the answer lay in the greater efficiency of production performed by detail workers. Greater efficiency meant greater profit for the manufacturer. While this is logically incontestable, the potential for such increased efficiency is inherent in any production process. But division of labour into detail tasks carried out by specialist workers is, in terms of economic history, very recent. Why? And how did it come about?

Like the chimera of the 'origin' of the industrial revolution, such a question has not a single answer but many facets. Three quite different forms of the division of labour in commodity production can be distinguished, though they are often superimposed: horizontal, vertical and functional. I want first to look at these three forms in some detail. Next, it is useful to consider schematically the history of the development of the textile industry in northwestern Europe in terms of the dynamics of these forms. What are their implications for the shift from craft to industry? The analysis suggests that a critical factor in the form of the division of labour is the nature of the integration between tasks. Integration in turn is closely linked with whether, in Hart's terms, capital is used to make a profit, or deployed as industrial capital, 'to purchase means of production – both produced (machines, raw materials) and non-produced (labour, land)' (this volume, p. 41). And, I would add, to whether capital is used to intervene in the *organization* of production. In terms of the organization of the textile industry in the period between the twelfth and the eighteenth centuries in northwestern Europe, this involves a distinction between mercantile capital and industrial capital, with a critical period during which they sometimes merge. It seems that substantial direct investment in the production process is associated with a division of labour into detail tasks designed to

Cambridge University Press
978-0-521-10498-2 - From Craft to Industry: The Ethnography of Proto-Industrial Cloth Production
Edited by Esther N. Goody
Excerpt
More information

maximize efficiency. Finally, the four case studies in this volume are considered in relation to the form of division of labour they express, and to whether and in what way profits are converted to merchant capital or invested in production.

Forms of the division of labour

Obviously, there is no meaningful way in which we can recover the 'true' origin of the division of labour in commodity production, if only because this must have occurred repeatedly in different societies, under different conditions. There are, however, several forms that we can examine in accounts of commodity production in pre-industrial societies. The first is based on the increasing degree of skill of the individual worker as he becomes more experienced, and on the management of the production process in conjunction with training new workers. This is often seen as the division of labour by age, and from the individual worker's point of view is linked both to the learning of a skill and to maturation. In terms of articulation of the division of labour, the crucial roles are those of parent and teacher. In developed apprenticeship systems these roles are institutionalized on a non-kinship basis in the role of 'master'.[1] The division of labour by age can be seen as a *horizontal* division of labour, in that an individual worker proceeds through successive levels of age/skill specific tasks, and eventually reaches the position of master and teacher himself.

Recognition of the second form requires the distinction between the division of labour within the production process and the specialized production of different commodities. For specialized production of commodities can occur where there is no division of labour within the production process other than that based on developing skills. This second mechanism, which is evident in pre-industrial commodity production, is based on selective specialization in particular commodities. That this is a gradual process can be seen on two levels. In the early stages of commodity specialization, a worker continues to participate in subsistence activities in addition to specialist endeavour. Blacksmiths, the only specialist producers in much of pre-colonial West Africa, were also farmers. In Hart's terms the economy is very partially commoditized, and indeed hoes and knives often exchanged for livestock or grain rather than money.

The second level on which gradual specialization can be discerned is the degree of specialization within the economy as a whole. In the simplest societies there are no specialist producers of commodities. In simple agricultural systems one finds a few – potters, blacksmiths, weavers, carvers.

But in the complex bazaar economies of the Middle East and south and southeast Asia the proliferation of more and more narrowly defined specialist producers is striking. In, for instance, tenth-century Russia, seventeenth-century Egypt and eighteenth-century Kashmir, there were many specialist occupations within which each craftsman made the whole product.[2] Contemporary bazaar economies like that studied by Geertz in Morocco still show this proliferation of occupational specialization (Geertz 1979).[3]

In contrast to horizontal division of labour based on age and developing skills, specialist commodity production can be thought of as *vertical* division of labour. Each specialist occupation encompasses the training process and progressive acquisition of skill, i.e. has its own horizontal division of labour. But there is no movement between specialist occupations. Skilled makers of hoes and axes do not 'evolve' into makers of brass swords, still less into glass-bead blowers (Nadel 1942: 257ff). Thus the economy comes to incorporate a number of specialist occupations, the products of which are exchanged through the market. Where specialist commodities have proliferated as in the examples from bazaar economies, producers tend also to be specialists only, and no longer to participate in subsistence activities. The producers become correspondingly dependent on the market for the satisfaction of their subsistence needs as well as for those specialist commodities which they themselves do not produce.

Under some conditions these specializations become the basis of regional differences in commodity production. In the medieval northern-European textile industry there was a highly elaborated specialization of different areas in different sorts of cloth, many of which came to be known by the part of the country, or even one town, in which they were first made: Kerseys were first made in the Suffolk town of that name; Dutch beys came originally from Holland but were made extensively in Essex during the sixteenth century; and Handshoote says were taken up in many weaving centres (Coleman 1969). Regional specialization may originate in a drawing into the market of locally idiomatic peasant production; in the history of the European textile industry this appears repeatedly as a response to competition on the wider market (Miller 1965; Coleman 1969). As such, this form of specialization represents a shift from production for local consumption to local specialization for an external market, i.e. to interdependence based on wider market forces.

Production of specialized commodities can lead to the separation and organization of those workers making a particular product or service, but this by no means always occurs. Where it does, organization has taken various forms: most distinctive are 'guilds' as in northwestern Europe, Turkey and Egypt (Thrupp 1963; Baer 1964), and the occupational sub-castes of India. In the latter, endogamy and ritual prohibitions have further reinforced the separation of occupationally defined groups.

The classic definitions of the Hindu caste system stress the interdependence of the various caste and sub-caste groups (e.g. Wiser 1936, Leach 1960). The *jajmani* system is based on permanent relationships of provision of services and commodities by specialist *jati*, usually of low status, in exchange for a set amount of food annually and certain customary protection. However Leach's argument that this allows the members of low-caste *jati* to impose constraints on their high-caste clients through the threat to withdraw services (Leach 1960) applies mainly to certain of the service castes (e.g. barbers and washermen) and the producers of basic commodities, such as potters and carpenters. Landless labourers have no specialist skills and are easily replaced should they become restive. Where the craft sub-castes produce highly specialized goods, it is also hard to see how this mechanism of control through reciprocity would operate; not many people can depend in a very meaningful way on the makers of scissors and nut crackers, wood carvers, scale makers or the makers of lacquered chests (*Census of India* 1961, *Gujarat*, vol. V, part VIIA). It is thus unlikely that they are in a position to threaten to withhold the products of their labour. These esoteric specialist commodities are the consequence of a market for luxury goods and specialist equipment. This is an interdependence of the market, and in the case of equipment is in fact based on a division of labour *within* a particular system of production.

Indeed, the specialized 'domestic industries' reported on in the 1961 Indian Census for Gujarat differ from Geertz's list of trades found in a Moroccan bazaar in one very interesting way. The Indian list contains a number of trades which do not serve the consumer directly, but produce commodities which are required by other trades in the production of their commodities. Thus *jari* makers produce the silver and gold thread used by the makers of certain saris; scale makers produce equipment for merchants of many sorts; wood-block carvers make the blocks used to print designs on cloth; there are also printers of cotton and silk cloth; and those who tie-dye designs in cloth (Gujarati *bandhani*; Hindi *bandhana*). This production of commodities which are themselves components for the production of other commodities constitutes a *functional* division of labour. These specialist sub-caste occupations are not ends in themselves in terms of commodity production, despite the fact that they have an independent system of recruitment and their own horizontal division of labour. Rather their products are essential to the makers of other commodities. Thus sari makers are dependent not only on spinners and weavers, but also on the producers of *jari* thread, the carvers of wood blocks, the printers of designs on cloth, and the *bandhini* tiers. Whereas in a vertical division of labour the craftsman makes the entire commodity, in functional division of labour, different components, or stages of production, are made by different craftsmen. It is this functional division of labour which Marx associates with the cooperation that characterizes manufacture, whether of Swiss watches with their many different components made by outworkers, or of coaches built by specialist upholsterers, painters, wheelwrights, cabinet makers, blacksmiths, carpenters and leather workers.

The various constituent industries which feed into the Indian textile industry are interesting from another point of view. For they are spatially dispersed. The census account of the carvers of wooden blocks for printing cloth, who were studied in three localities in Gujarat, notes that 'The engraved blocks are marketed in all the prominent hand-printing centres of India' (*Census of India* 1961, vol. V, part VIIA, 19:17). The account of the *jari* makers of Surat reports that 'Surat caters for the needs of manufacturers of Benares, Madras, Mysore, and other centres in India and abroad' (*Census of India* 1961, vol. V, part VIIA, 13:31). As the census reports make clear, the commodities of these functionally interdependent industries were articulated through the market rather than being incorporated within a single workshop or factory, or even being linked by a merchant capitalist, except on an occasional basis. It is clear from the material on the Indian textile industries that a functional division of labour developed independently of either centralized factory production or the industrial revolution (see especially Irwin 1966). However this is not unique to India. The organization of the Flemish wool industry in the twelfth to fourteenth centuries provides another very clear example.

One key role of functional specialization for technological innovation lies in its making obvious the bottle-necks in the production process. (See below, p. 23, for detailed examples.) Indeed, functional specialization leads to a new kind of interdependence in the production process; one stage cannot get on faster than the others. At the same time, by defining the substages of the production process in smaller and smaller units, workers become specialists in one aspect of the production process, and able to see how it can be made more efficient.

I have roughed out what seems to me an important set of distinctions between forms of division of labour – horizontal, vertical, and functional – each of which have characteristic forms of interdependence. But what are the implications of these for the shift from craft production to forms which can be seen as leading more or less directly into industrial manufacture?

The organization of production in the pre-industrial northern-European textile industry

There are several themes which emerge as central in the pre-industrial period in Europe.[4] Among these are the growing complexity of the division of labour; technological innovation; the relations of production which articulate the division of labour; and the expansion and differentiation of the market for commodities. The beginning of the pre-industrial period is rather like an infinitely receding mirage. I will follow a long tradition in considering the period in terms of the development of the textile industry. This is less arbitrary than it might seem, as the first industrial complex that is clearly described is the Flemish woollen industry of the twelfth to fourteenth centuries, characterized by Eileen Power as 'a pocket of capitalism in a pre-capitalist world' (Power 1941). There is a striking continuity in the central role played by textiles throughout this period. Bautier says that the textile industry of the Flemish towns and northern France during the classical middle ages 'made an important contribution to the economic expansion and prosperity of western Europe' (1971: 209) and that, based on these towns together with many new centres, 'the textile industry had been the main type of business during the whole of the middle ages' (*ibid.*: 210). This industry served as the motive force in the formation of the merchant-adventurers' companies of northwestern Europe which sought new trade routes and new markets in the Baltic and Russia, and in the Mediterranean and the Far East. A rapid consequence of the Far Eastern trade was that cotton textiles from India became vital in the spice trade with Indonesia and the slave trade with West Africa, and gradually transformed the European textile industry itself (Irwin 1966). Ultimately it was the English cotton industry which led the emergence of industrial capitalism in the late eighteenth century.

In the *Cambridge Economic History of Europe* (Postan and Rich 1952), the section on the development of industry in the middle ages discusses only three industries: building, mining, and the Flemish cloth industry which flourished between the twelfth and the fourteenth centuries.[5] Although referred to as 'the' Flemish cloth industry, it was in fact based on a number of towns which were not only independent of one another, but were increasingly politically autonomous, being governed by councils made up of town elders and guild officials. Unfortunately the origin of the cloth

Cambridge University Press
978-0-521-10498-2 - From Craft to Industry: The Ethnography of Proto-Industrial Cloth Production
Edited by Esther N. Goody
Excerpt
More information

industry in these towns is obscure, though it seems to have been linked to the rise of a network of fairs in the late eleventh and early twelfth century. By 1180 cloth was being sold under the name of its town of manufacture in Mediterranean centres and the Levant. Export trade must have been even older, as Italian merchants were already established in the Flemish towns by this time.

Already in this medieval town industry the division of labour was surprisingly advanced. Flemish trade regulations enforced the separation of each of the many processes through which wool had to go. Sorting it into different grades was done at the warehouse by women. Beating the larger pieces of dirt out was the work of men. Then it was put out to women working alone or with children in town rooms or country villages for washing, combing, spinning and finally for oiling the yarn. Then to weavers – it took two men to operate the looms for the heavy luxury cloth in which the Flemish towns specialized. A master was limited to the management of three looms, for which he was allowed only five assistants apart from the services of women who went from workshop to workshop helping to set up warps. From the loom the cloth went to a fulling trough to be scoured and thickened with alkaline earth in hot water and urine, and then washed. The Flemish drapers did not make use of the newly introduced fulling mills, claiming that they damaged their fine-quality cloth. Instead it was trampled by men's feet. A master fuller was restricted to four or five troughs. Dyers were allowed up to eighteen vats, which if in continuous use would keep twenty men busy. The final three finishing processes were stretching the wet cloth on 'tenter hooks'; roughing the surface with teasels; and trimming with huge, broad-bladed shears. These last three processes were usually carried out in a single workshop.

> Industrial growth through the making of better cloth was in Flanders and neighbouring northeastern France . . . due entirely to merchant capital. Merchants took over all supply and marketing functions through the putting-out system, paying for work done, at piece rates. Production was dispersed in hundreds of workshops, the more skilled work being done under qualified masters, the less skilled in the workers' own tenement rooms, or in peasant homes in nearby villages. The skilled masters equipped their shops at their own expense and paid their own staff out of the merchant-employers' payment for the week's output of the shop . . . It has been estimated that in Douai around the middle of the thirteenth century there were 150 merchant drapers each keeping about one hundred people employed. (Thrupp 1972:248–9)

The distinction between capitalist and producer was maintained by the guild system, for it was the merchants who were guild members. They were manufacturers in the sense that they controlled raw materials and markets, and coordinated various stages of production (all activities requiring capital) but they were not themselves producers. Indeed guild members in the Flemish towns were forbidden to practise the craft they represented. If they were members of the dyers' guild, they could not actually dye cloth; of the silk weavers' guild, they could not weave silk, and so on. The corollary of this, of course, is the exclusion of the producers from the guilds. Thus they were doubly controlled: they depended for their raw materials and for selling the finished product on the guild members, and the guilds controlled the conditions of manufacture and indeed the very laws of the towns in which they lived and worked.

The success of the Flemish woollen trade led to increasing population density, and to a situation in which there was too little land around the cities for people to support themselves by farming. What seems to have happened was that those who had farmed became involved in the manufacture of cloth in one way or another, and combined this with growing what food their small parcels of land allowed. Thus production was not confined to the cities, but spread outside into the densely populated countryside. (The similarity with the 'close-settled zone' around Kano is striking.) It is not clear what relationship there was between the spread of cloth manufacture outside the cities and the tight control exerted within the cities by the guilds. However, this is a pattern which reappeared in England later.

The other response to the semi-urban population structure surrounding the cloth towns was the intensification of agriculture. Town cloth workers, having neither land nor time for agriculture, had to buy food. But little agricultural land was available around the towns. The response was the combination of dairy farming and market gardening, using the manure of the animals to allow permanent cropping of vegetables. Slicher van Bath (1960) has suggested that this was the origin of the Netherlands' concern with agricultural innovation which culminated in the so-called agricultural revolution.

The history of the northern-European cloth trade is entwined with political history. Flemish knights had been active in the Norman conquest and were given land, especially in eastern England. It is possible that this is linked to the close ties in the wool trade between eastern England and the Flemish towns. In any case, the Flemish industry grew more and more dependent on importing English wool. When political relations between England and the Flemish principalities became strained, successive English kings retaliated by placing embargoes on the exporting of wool to the wool towns. From the fourteenth century, the Flemish share of the production of woollen cloth steadily declined, to be replaced by cloth of English manufacture.

As with the Flemish textile industry of the eleventh to fourteenth centuries, the early English industry was concentrated in towns, and closely controlled by merchant guilds, which in some cases virtually governed the towns as well. Yet in England already in the thirteenth century weavers were moving out of the towns and settling in the countryside. There are various views as to the reason for this movement out of the towns, perhaps all of them touching on aspects of the truth. In a fascinating paper entitled 'An Industrial Revolution of the Thirteenth Century', Carus-Wilson suggested that the introduction of fulling mills drew weavers away from the towns. These mills required fast-running streams to operate their water wheels, and were for the most part put up on 'the swift clear streams of the north and west, in remote valleys far beyond the bounds of the ancient chartered cities of the plains' (1941: 183–210). As a result she concluded, 'colonies of weavers began to settle around the fulling mills' and the industry as a whole moved from town to country.

But other factors were also clearly involved in this movement. Miller (1965) shows that the restrictions imposed on workers by the merchant guilds in the towns repeatedly led to the founding of craftsmen's guilds, mainly among weavers and fullers, in an attempt to secure better wages and conditions of work. This confrontation made it difficult for the merchant clothiers to cut production costs when in the thirteenth century increasing competition from Flemish cloth threw the industry into recession. Weaving and spinning accounted for something like 80 per cent of production costs, and lower wages could be paid to rural workers who lacked the guild organization of their town counterparts. Thus the town merchant clothiers themselves subverted the ordinances which restricted the manufacture of cloth to licensed boroughs, and bought from the countryside.

But the weavers appear to have moved into the rural areas as well. In part this was in order to avoid the taxes imposed by town governments, levies which sometimes fell on them but not on the better-off merchants (Miller 1965: 74). The lower wages of rural craftsmen were not only due to their lack of guild organization. They often appear to have had the use of some land, sufficient for a garden, a cow or two and chickens, with which they could augment their craft income. From the merchant clothiers' point of view they could be paid less than a subsistence wage.

The significance of the shift from production controlled by town guilds