
UNIT 27 CRAFT PRODUCTION

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27.1 INTRODUCTION

In the earlier Units of this Block we discussed various commercial and trading activities. In this last Unit of the Block (Unit 27) we will examine the craft manufacture during the medieval period. Here we will focus on the range of products, the organisation of production and working conditions of the craftsmen and artisans associated with production activities.

Various crafts as they developed in different parts of the world in the pre industrial period depended on the availability of raw material, mineral resources, skills of craftsmen and the technological development.

It would not be possible for us to go into the details of individual crafts in every region. We will confine our discussion to mainly such crafts which were spread in large regions. Textiles, pottery, metallurgy and glassworks are some of the crafts which we propose to discuss in this Unit. The expansion of international commercial activities discussed in earlier Units of this Block had its impact on the craft production.

Textiles were the main item of export in Asia and Europe. The availability of raw material, dyeing and skill to manufacture bright coloured clothes created huge demand for Indian cotton fabric. The Europe dominated in the area of woollen textiles. The textile industry brought various parts of Europe together. Exchange of raw material and finished products was major linkage between different parts. Gradually it became a source of income for merchants in England and Italy. The ruling classes also benefited from this industry. They could collect more taxes from the trade based on this industry. As a result several privileges were extended to the textile industry. The Silk manufacture in China reached its zenith with large demand in Europe and other parts of world.

The woollen textile manufacture in England and a few other regions of Europe were of high quality as sheep were reared in many parts of Europe. Various dye stuffs were imported for dying purposes. (Indigo from India and Kermes or a red dye from Mediterranean region) China led in the area of Porcelain and pottery making while glassware and metal crafts were preserves of Europe.

The growth in population created more demand for various commodities. It also provided labour, which could be used in various industries. In England, woollen industry was set up in rural areas. The feudal crisis of mid fourteenth century in Europe led to more unemployment. Large scale migration of population from rural areas to urban centres where manufacturing units were located is noticeable. Over the period of time, in Asia, political stability and economic growth induced the growth of various industries. An increase in the use of metal like iron for manufacturing weapons led to expansion of mining. The use of currency and commercial transactions created demand for precious metals.

With the increase in production, organisation of production also underwent changes resulting in the change of conditions of those who were associated with the production process.

27.2 TEXTILE PRODUCTION

The textile manufacture is probably one of the oldest craft in almost all societies. Clothing of different types were produced in almost all regions of the world at least for the local consumption. In the medieval period India was one of the largest producers of cotton textiles. More than hundred varieties of different types were produced here. Large quantities were exported to various parts of Asia and Europe. It was known for the variety and durable bright colours. Two methods were used for decorating fabrics. The batik known by Indonesian name was a skill used for protecting the design by wax before dipping the fabric into the dye bath. The second method was known as patola. Under it, yarn was dyed before weaving. Afterwards fabrics were weaved as per the calculations of design. It ensured the emergence of pattern on both sides of the fabric. (See MHI-05 Block 04, Unit 18 for textile manufacture in India)

In Arab world combing was used for weaving wool. Cotton was carded by means of a sort of bow and weaving was done on a loom. Carpet making was one of the major craft in the Central Asia and Islamic World. For this, loom was always placed vertically. The warp was of undyed wool. The children employed in the making of carpet generally crouched on a plank. It rested on the rungs of two vertical ladders. The plank was raised, as the work progressed. Between each line of wool stitches, wool left thread was passed. The stitch was made on the right side. The wool was passed with the right hand twice round a warp thread tied in a running knot on the warp thread alongside. It was then cut with a small knife, which was held in the palm of same hand. While children worked at great speed, a worker continuously guided them about the design.

The weaving industry also existed in Egypt and Nubia for a long time. The available archaeological evidences show the use of cotton in Senegal flood plain during the tenth century. The narrow woven stripes were used for manufacturing cotton. The cotton weaving was widespread in Ethiopia also. There was use of narrow loom and spindle whorls in the thirteenth century.

In China, spinning and weaving were in the hands of housewives. In the production of silk labour of craftsmen was used. The contact with Iran brought many changes in woven motifs. The Tang patterns woven on the weft produced Sassanid motifs like pearl entrusting medallions. Under the Sung dynasty

brocaded silk woven with gold thread was produced. The Chinese also used the ancient techniques of dry lacquers. A clay model was coated with three to fifteen layers of lacquer. On this crust, designs were made by using paste having lacquer base. Once the lacquer was dried, the clay model was withdrawn. Finally the shell of hemp and lacquer was left. This skill was used in Japan also.

The production of textiles from wool, flax, hemp, silk and cotton was an integral part of European manufactures during the middle Ages. The woollen textiles were manufactured in all parts of the continent and all sections of population used them. The large scale manufacturing of woollens was evident in Italy, England and Belgica, the land between the Somme and the Moselle.

The manufacturing of cloth passed through different stages in Europe with the changing technology. Both skilled and unskilled workers were employed in the flourishing woollen industry of Southern Italy. In this region, sheep were reared on a big scale. Most of the raw wool in the coastal areas was filled, dyed and finished. It produced high priced cloth. At Pompeii the work of fullers is vividly described in the frescoes of the House of the Vettii. The production process described on the walls of a fullonica depicted various stages. Firstly the raw webs were pounded under foot in a *tronch*. For it, water, soap and fuller's earth was used. This cleansing process produced compact unshrinkable cloth. It was around two third of the length of the original web. The cloth was washed and then dried on the frame, producing the exact length of the original web.

In the Northern Italy, woollen industry grew in the Po basin. Several items were produced, Patavium produced stout frieze called *gansape*. Verona was known for its blankets.

At the end of the eighth century woollen industry developed in the English Kingdoms and the Northeast part of the Carolingian Empire. The fine quality cloaks were highly valued for their wool and colour. In the household industries, primitive warp weighted looms were used by the peasants to produce wool. This industry was given impetus by the Viking people in the North Sea region. They generated more demand for woollen cloth through expanding trade. By the beginning of the twelfth century, small crafts men were organised around monasteries, cathedrals and castles.

In the Southern France, St Omer in Artois, Douai Lillie and Tournai were main clothing towns. The production of fine broad cloth in these towns involved many stages of operations. It engaged several craftsmen, each with his own specialised skill. Dyeing was done at any stage of manufacture of cloth. The dyers had knowledge of properties of various materials-wool, dyes and cleansing agents. The dyeing was separated into two distinct crafts – that of the dyeing on wool and the dyeing in red and other colours. It was carried out in large circular vats. The wool or cloth was turned over with long poles by the dyers or his assistants.

The weaving of woollens involved a number of operations starting from extracting wool to finished product. After shearing the sheep the preliminary operations of sorting involved beating and washing of the wool which did not require much skill. After sorting, wool was readied for spinning. Both carding and combing was used for short and long staple wool respectively. For small

staple, wooden instruments, set with small metal hooks were used. For combing of long staple the wooden instruments with long metal teeth were used.

The wool, duly oiled, was spun into yarn. This work was mostly in the hands of women using spindle. The introduction of the spinning wheel during the thirteenth century greatly improved the process of spinning.

The next stage of manufacture was in the hands of weavers. The wrappers arranged the warp thread in the requisite number of thread of the requisite length. The spoolers wound the wool thread on to the bobbin (cylinder from which thread or yarn is unwound) for insertion in the shuttle. Two weavers, mostly men did the weaving of the broad cloths. They sat side by side at a broad double loom. For the weaving of narrow cloths, single loom was in use.

Fulling was an arduous operation. The old method of trampling in a trough was in usage in most of the towns. For fulling the cloth was placed in shallow troughs filled with water. The cloth was covered with fuller's earth. It was traded by men with feet. Later on the mechanical process was introduced for the purpose. Fulling was done to shrink the cloth so that lines of warp and weft were removed. The washed cloth was hung out to dry on a tenter. It was an upright wooden frame. According to the width of the cloth, it was fastened on this frame with the help of tenterhooks. The finishing and processing involving raising and shearing followed the tentering. The nap was the operation through which surface was given to the cloth by raising and then cutting and smoothing the short fibres. Once the cloth was dry, spear-grinder gave it a cutting edge of some eighteen inches. It resulted in the emergence of smooth surface of a fine cloth. At last, the cloth was brushed, processed and folded. During the above-mentioned stages of manufacturing, defects were also removed.

During thirteenth century many small units in local areas manufactured cloths. The Italian merchants were also importing wool and finished cloths from other regions. These were locally dyed and then were re-exported. It led to the development of cloth – finishing industry. In Genoa, for instance spearmen worked on the northern cloths. Lucca, famous for its vermilion dyes was engaged in finishing cloths of Pyres.

In England, woollen industry was set up in numerous towns and villages. Many innovations were also used in this industry. The fulling mill was used during the twelfth century. In this mill the fulling of cloths was no longer done by men with their feet. For this purpose, tilt hammer system consisting of two wooden hammers was used. These were raised and dropped upon the cloth by means of a revolving drum attached to the spindle of a waterwheel. In this process, waterpower replaced human energy. It involved the use of less human labour as one person could supervise the entire operation. The bishop of Winchester set up such fulling mills in 1209. He leased these mills to earn profits. It was observed that the wide spread use of fulling mills during the fourteenth century determined its locale. It required watercourses and the existence of such watercourses in rural England facilitated the setting up of that several fulling mills in villages. There is evidence to suggest that almost all the villages on both the Essex and Suffolk banks of the Stour built fulling mills.

During thirteenth century Norfolk was known for producing light cloth of high quality. For it, long wool was used. The wool was only combed and required

little milling. This sort of production of cloth was used for the furnishings of houses. It was initially known as serge but gradually was given the name of worsted. Such identification was probably due to the fact that production was chiefly located at Worsted.

For the dyeing Kermes (mineral which gave red dye) was brought from Asia Minor, Spain and Portugal. Indigo, which gave a blue dye, was imported to Europe from India.

27.3 POTTERY, PROCELAIN AND CERAMICS

Pottery making was an integral part of all societies in the world. It was mainly a household activity and fulfilled local needs. However it was in China that manufacturing of Porcelain and Ceramics was developed and it became an important commodity of foreign trade. Under the T'ang dynasty, white porcelain with a special coating was discovered. Porcelain is a type of earthenware, vitrified to the point of becoming translucent. It is produced from clay which when heated at the temperature of about 1350° turns white. The clay is mixed with the powder of white stone obtained from a felspar base known as petuntse. The blending of both results in emergence of hard and brilliant material.

There was greater use of pottery in Asia. The firing workshops producing finer quality of ceramics were active in the entire Moslem world. There was use of potters' wheel consisting of a slopping tray. Over it, wooden axis supported a piece of wood in the shape of a disc. The whole rested on a crossbar. The craftsman with his foot, an action requiring no great consumption of energy, turned the Lower wheel. In consequence of its inclination, the tray was carried round and over by its own weight.

After the shaping of pots the baking process was undertaken. Different ways of baking were prevalent for clay and porcelain.

27.4 GLASS MAKING

In Europe, The growth of glass industry was linked with the church. With the construction of church buildings, demand for stained glass window also rose. The stained glass window is a glass mosaic having multiple colours. A fragment of coloured glass represents each colour. These were prepared from ferruginous sand containing alumina. The use of metallic oxides was used for giving them colour. The process of blowing resulted in the production of plates of uneven thickness. These were cut with red-hot iron and pincers. The use of produced glasses depended on a given model. These pieces of glass were assembled accordingly and were painted with a grey paste known as grisaille. The insertion of these glasses in a lead frame added to the artistic effect.

In the thirteenth century, there was a greater demand for bigger stained glass windows. The workshops like those of charters and Paris produced them in bulk. The basic models and stabilisation of the painting in stained glass windows was simplified. For the everyday use, glass vessels were produced throughout Europe. Venice was the centre of such production. Glass made in Belgium and Bohemia (in East Europe) was also in great demand.

27.5 METALLURGY AND MINING

The use of various metals and minerals was dependent upon their availability. The improvement in techniques deployed in mining and extracting metal led to increase in the production of various metals. The demand for iron was linked with demand for armaments and instruments. While copper and its various alloys were used in utensils. The precious metals like silver and gold were used for making ornaments, luxury items and coinage.

During the middle Ages, present-day Zimbabwe, after Nubra and West Africa was the main source of gold. The mines were dug up in the area since tenth century. Metal smelting was locally known. Filigree work, which was widespread in North Africa and Andalusia, reached Zimbabwe. Copper was also mined. The extraction techniques were limited to the digging of pits and horizontal galleries. There was use of Hammering and casting. The mining of iron ore and extraction of metal was common in all parts of the medieval World.

In India metallurgists worked with copper bronze, Iron, Lead, Tin, Silver and Gold. The ironsmiths were renowned for their work. For example, in the temple of Konark, iron girders more than ten metres long and nearly nineteen centimetres square in section were used.

The use of charcoal as fuel in China since thirteenth century helped in the refining of iron. It produced continuous fire, essential in metallurgy for the refining of iron. J.Needham has pointed out that the practice of 'co-lavation' dated back to sixth century in China. Under it, two sorts of iron were mixed and were heated continuously for days. As a result of continuous heating, metal underwent a change with the transfer of carbon. The repeated forging produced steel. This method was extensively used under the Sung dynasty. Japanese excelled Chinese in using steel to make sabre blades of high quality.

Gold was also mined in southern Egypt and Arabia. Gold prospectors made a search by keeping a watch on the soil. Once favourable signs were detected, search party started the work. Each member worked on the patch of land in which luminosity had been detected. The earth was carried to a nearby well for washing. It was then mixed with mercury and smelted. Egypt and Sudan had alum. Natron was found in the famous desert of Nitro. It was used for whitening copper, thread and linen.

Iron produced in China and India was of superior quality. Spain and Maghreb also produced iron. The production of steel entailed lengthy production process. Soft iron was placed in a vat. It was cleansed with salt and water. Myrobalan (astringent plum like fruit) was mixed with cleansed iron. It was subsequently placed in a melting pot and sprinkled with powdered magnesium. The entire process lasted many days. The use of hammering and filing produced iron pieces. Fine tempering involved severe processing based on the use of chemicals. It was heated, until red hot and was treated. Subsequently it was cooled and was ready to be used for manufacturing different articles.

In Europe, the available ores, woodlands and swift moving streams shaped growth of metallurgical works. The first stage in procuring metal was connected with the ownership of the land producing ore. In this regard, the very organisation of mining and metallurgy was distinct from other crafts. The ruling

families claimed shares in ore found in their areas. In Germany, France and England permission of mining was granted by the rulers. During twelfth century, special codes were formulated to organise this sector. For instance, in 1185, the bishop of Trent wrote such codes for Southern Tyrol. The king of Bohemia formed several laws for the miners of Iglan during the thirteenth century.

In obtaining coal and metal, traditional methods of quarrying and digging were used. During thirteenth century, shaft mining was used extensively in central Europe for the digging of silver. The silver bearing ores were punctured with pits. For water drainage two methods were used. The leather buckets filled with water were bound up from a pit by a hand-turned windlass. Men, standing in row in an inclined shaft, could carry these buckets. In Bohemia, by the end of thirteenth century; horse-driven machines were used for drawing water from the pits.

In the preparation and smelting of ores and the refining of metals, several techniques were used. The hand-labour was used for washing, breaking and crushing. It was smelters who devised a variety of hearths, trenches, pots, ovens and furnaces to treat different metals. For example sometimes, smelting was done in open-air hearths on the side of hills. Here the fires were fanned by the wind. In the treatment of iron-ore, the metal was produced at tiny forges equipped with bellows. In the silver mining ore was raised from the shafts. It was washed, broken, crushed and then smelted. The process produced argentiferous lead, which was subjected to oxidation in a cupelling hearth. It caused the removal of lead. The residual silver was refined in separately with bellows.

During the twelfth century hammers and stamps were used for breaking and crushing the ore. For heating, bellows were used. These were driven by hand or foot labour. By the beginning of the thirteenth century, water-driven wheels were set up at the silver mines of Trent. It was also put in use in the central Tyrol. During the fourteenth century, old bloomery forgers were replaced by Furnace.

27.6 ORGANISATION OF PRODUCTION AND GUILDS

The organisational basis of varied crafts were not identical everywhere. In Arab world, village craftsmen were householders. The Umayyad caliphs monitored and controlled all craftsmen. Their lists were compiled and in accordance with the emergent demand, craftsmen were sent to required places. In this way carpenters, embroiderers and masons moved from one place to another.

In China, craftsmen were employed in the arsenals, imperial workshops, iron and salt mines. Under the T'ang dynasty, corporation (hang) subject to strict supervision emerged in China. These were in towns and enjoyed autonomy.

In Japan, craftsmen were organised in clans. The authorities employed them. They also worked in the Temples. In such situating, these craftsmen occupied a position known as the Za. At the end of the twelfth century the Za demanded monopolistic rights.

In India, royal *karkhanas* were under the state jurisdiction of rulers and nobles. These *karkhanas* employed large number of artisans and craftsmen. The articles produced in these *karkhanas* were not for market but for the consumption of royal household or personal use of nobles. (For details of organisation of production in India see MHI-05 Block 4, Unit 18). Everywhere minting was controlled by the state. In France and England, minting represented structure of medieval factory workers were concentrated in a single workshop headed by a licensed moneyer. Initially regional princes or local communities controlled such operations but by the late thirteen century, government came to exercise authority over minting. In India mints were controlled by State but it was open to everybody. One could take the silver to a mint. Coins were minted and handed over. The metal content and quality was ensured by the officials of the mint. Separate charges for minting were taken by the mints.

It was the Guilds, which provided organisational basis to various industries in Europe. It has been pointed out that the origins of the Medieval European guilds could be traced to the religious associations of German antiquity. Even during the ninth century, guilds existed in the Carolingian empire. By the beginning of the eleventh century guilds were formed in cities. These could be broadly divided into organisations having merchants as their members and those formed by artisans. The objectives of both were different.

The aim of merchant guilds was to increase their profits. For this purpose, these guilds imposed strict working regulations on workers and paid them low salaries. These guilds enjoyed political power and used laws to defend their interests. These guilds also regularised activities among the merchants. They were known as either guild or Hanes in the Germanic countries and caritas in the Roman countries.

During the twelfth century several organisations regulating industrial activity were called guilds. These were set up in England, Normandy, Holland and part of Northern Germany. Each guild comprised craftsmen belonging to particular profession. It also had its patron saint and in the process generated strong sense of identity among members. In most European cities, these were designated by the Latin name officium. These guilds regulated production processes. They enjoyed monopolies and devised methods to eliminate competition.

In each guild a hierarchical group of workers could be identified. There were masters, apprentices and journeymen. The workers owned raw materials and tools and could be defined as small entrepreneurs. Many journeymen who had completed their apprenticeship could acquire status of master but many could not obtain the rank of master. During this period it was noted that the number of masters was small. To become a master, one was required to possess capital and higher social status.

The working conditions of artisans were dependent on several factors. The very nature of production played a crucial role. In Europe, production was mainly organised on household level. Small artisans possessed raw material and tools to produce for local needs. Rodney Hilton has pointed out that there were specialist artisans within the households and the demesne of lay and ecclesiastical magnates. There also existed village craftsmen. It was smiths who also possessed landed holdings. Their surplus labour was used as a rent in

horseshoes, and for repairing the growing demand of interregional ploughshares. It meant that there was simple commodity production.

The available evidences indicate that industrial craftsmen existed in urban communities even before the thirteenth century. They were manufacturing commodities for sale. There also emerged monopolistic guilds. The relationship between artisans and merchants was complicated. Not all artisans had resources to produce independently. Big merchants met the growing demand of interregional trade. To increase production 'putting out system' came into existence. In the putting out system the intermediaries made their way into the production process. The merchants provided raw material to artisans and artisans handed over the produced goods. Now the artisan, who were always short of money to procure raw material were getting regular supply and were paid the piece rate. The artisan though was not reduced to the level of wage earner lost control over the marketing of produce. The merchants in turn were assured of a regular supply and had some control over quality also. The middleman controlling putting out system were either merchants or master craftsmen and cornered substantial profits. The system helped in increasing the production. Many a times artisans, in putting out system, worked at their own places with their own tools. In certain cases where raw material involved was expensive or valuable artisans could be asked to work at a designated place by the provider.

The overall artisanal production in medieval period had a range of organisations of production. Most simple type of production was carried through by individual artisans either at their homes or shops. Many a time they moved from village to village to make the articles of daily use and marketed them. In some areas of production peasants were also involved in their spare time. This was more common in spinning yarn (where women also worked) or working in mineral (as in saltpetre fields in India). At another level craftsmen employed hired labour or engaged apprentices and journeymen in their small workplaces (the number of such persons engaged was very small). In certain areas of production larger groups of persons were engaged and included both skilled and unskilled. Such a situation was prevalent in larger ventures like mining minerals and metals (and extracting metals from ore), shipbuilding and construction activities. Many instances of large scale engagement of artisans are also found in the process of production of arms or luxury items for state and royalty. But such production was not for market but personal use of royalty or ventures of state.

In cases where individual artisan production was the mode specialisations had emerged. For example in textile production different operations and process had specialised workmen to take care of each stage. Carding, spinning, weaving, washing (or fulling in woollens), and dying (in case of cottons even printing) all had skilled craftsmen to take care of each activity separately as a distinct artisan group.

27.7 WORKING CONDITIONS

The position of artisans was determined by possession of skills. The unskilled workers were paid low wages and were not organised.

The role of guilds in providing secure working conditions to workers was

limited. In many instances they lacked resources and political power to increase their profits. For instance, in Florence, when masters were unable to generate resources for procuring raw material, they accepted the domination of capitalist merchants. These merchants provided the workers with cloth and sold the manufactured items. Several workers in Florence were engaged in the processes of washing, combing and carding. However they did not have personal tools. They mostly worked in the entrepreneur's capital shop and were under the supervision of his foremen. In India in the 17th century, the system of advancing money to artisans was prevalent to get required quantities of cotton, silk and saltpetre, Hughes the English factor in 1621, found it very difficult to get the silk at Patna "as requires it from the dealers therein, for that they are soe poore and begerlye that they cant furnish us without trusting them with moneys before hand, which course we dare not attempt, they not beinge able to give securitye for performance" Though Hughes was reluctant but it was the accepted practice to advance money.

The working conditions were hard for workers. In Flanders and England the workers were required to work throughout the day, except for a mid day break of one and a half hours. The working week varied from sixty hours and more in summer to some forty-four hours in winter.

The wages also varied. The master weavers, fullers, dyers and shear men having personal equipments were paid more. The wages given to beaters and washers were very low. In building construction where large number of workers were engaged as masons or stone cutters etc. the conditions were harsh. If such construction was for state, or nobles or church (These were the people who commissioned large scale construction) a certain degree of coercion was also used to make craftsmen work.

During the thirteenth century, it was seen that workers resorted to strikes to demand for more wages. There were series of trade disputes in Flanders. The unrest unleashed by workers in 1280 spread to Bruges, Ypres, Donai and Tournai. There was protest against the power and privileges of the communal oligarchies. There emerged a close nexus between artisans, small merchants and drapers. For the redressal of their grievances, artisans appealed to the courts. Against them, employers sought help from the King of France. Thus local economic issue got mixed with polity. The invasion and annexation of Flanders by the King of France became an occasion for the workers to rise in popular uprising. Pierre de Coninc, a weaver provided leadership to fullers, weavers and shear men at Bruges.

The unrest of craftsmen was a regular feature in other parts of Europe. In 1302 weavers and fullers of Brussels, Louain and Antwerp rose in revolt. They were successful in destroying the power of merchant guilds. They became influential in local polity. However, this success was short lived. The Duke defeated the rebels on the field of Vivorde in 1306.

Several restrictions prevailed in England. At Leicester, in 1275 fullers were accused for holding an illegal meeting. In 1378 Ciompi revolt named after unorganised workers in the woollen industry was an attempt to get political rights in Florence. The attempt was a joint struggle of armourers, grocers, doublet-makers, druggists, blacksmiths, furriers and hosiers. However the member of the established guilds did not help them. The revolt was brutally

suppressed. Thus the power remained in the hands of mercantile and financial oligarchy. Such instance pointed out the differentiated position of workers. The condition of unskilled and unorganised workers was pitiable. The redressal of their grievances was intertwined with prevailing polity. Latter was controlled and shaped by dominant classes.

27.8 SUMMARY

In this Unit on Craft Production we have provided a brief account of the non-agricultural production in the medieval world. As is evident the most extensive craft was textile production, which were manufactured in all parts of the world. During this period different regions emerged as the main centres of various types of textiles production. Europe dominated in the area of woollens, China in Silks, India and some other regions of Asia and Africa in cotton textiles while Central Asia and parts of Arabia in carpet weaving. Large scale trade across regions in textiles contributed in the increase in quantities produced.

Pottery making was also prevalent in all parts of the world but the porcelain of China dominated the scene. The glass manufacture, like porcelain was confined to certain regions only. Europe dominated in this sector.

Metallurgy was practiced to some extent in all parts of the world but this was mainly true of iron only other metals were not as widely available. Copper, silver, gold, tin and lead were worked upon in certain regions only. Of these gold and silver were extensively used for minting currency and for ornaments.

Changes in organisation of production are noticeable during the period. The individual artisanal production was dominant in most of the crafts. Through putting out system the quantum of production increased but craftsmen lost control over procurement of raw material and marketing the products. These were taken over by the merchants who controlled the two processes. Specialisation of different stages and operations of production also took place. This was most evident in textile production. In certain sectors large number of craftsmen were engaged for the production activity. Ship building, mining and building construction were the main spheres where such a process dominated. Guilds and other similar organisations were formed to have a better control in various trades. These organisations mainly helped the craftsmen of substance only. Growing commercial activities increased the total quantum of production. The growth of production mainly benefited the state, merchants and bigger craftsmen. Large mass of craftsmen continued to struggle to maintain their hold on the production process and earn their living.

27.9 EXERCISES

- 1) Give a brief account of various operations involved in the production of woollen textiles.
- 2) Discuss in brief the metallurgy in Europe.
- 3) How was the production organised during the medieval period?
- 4) Write short notes on
 - i) putting out system
 - ii) working conditions of craftsmen

GLOSSARY

Arbitrage	: Traffic in bills of exchange or stocks to take advantage of different prices in other markets.
Archipelago	: Many islands in the sea in a specific region or group of islands.
Armada	: Fleet of warship especially that sent by Spain against England in 1588.
Bancherii:	: A term used for money changers in Genoa.
Beachcomber:	: Persons who collected goods thrown over board from ship to lighten it especially such as are washed ashore.
Bullion	: Metal especially gold or silver in terms of value of metal and not the minted coins.
Carolingian	: A Frankish ruling dynasty which rose to power in the 7 th Century. It gradually replaced Merovingian. Under Charlemagne it embraced most of the former territory of Roman Empire in the West. The empire dissolved by the end of 9 th century.
Ciampi	: Uprising of workers of woollen industry in Florence in 1378
Colleganze:	: It was a trading partnership between merchants. Every one provided the capital but it was not necessary for every partner to directly participate in trade.
Commenda	: It was also a trading partnership between two individuals. Under it, one supplied the capital and another used the capital for trading transactions.
Compagnia:	: A partnership of family members for generating capital.
Corpidi Compagnia	: These partnerships were formed by individuals having capital and were not based on family or kinship ties.
Crusade	: Military expeditions by the European Christian countries to recover the Holy land from the Muslims in middle ages.
Crypto Jews	: Those who had secret allegiance to Jews or Judaism
Entrepot	: Commercial centre for import and export and collection and distribution

Fondaco	: Commercial centers which were used by merchants for conducting trading activities and were also used as residence.
Fustians	: Thick strong cotton cloth
Galley	: Low flat single decked vessel (boats and ships) using sails and oars and requires number of persons to row them.
Guilds	: These organisations of craftsmen were set up to regulate production.
Hang	: organisation of craftsmen in China
Household Production	: The sort of production was in the hands of artisans possessing raw material, tools and labour to manufacture goods. Other members of family also contributed in the process.
Littoral Region	: The region lying along the shore
Low countries	: Netherland (Holland), Belgium and Luxembourg
Medicaments	: Substances used for medicinal purposes
Officium	: Latin name for guilds in European cities.
Putting out system	: It marked a distinct stage in the growth of manufacturing set up. The merchants provided the capital or raw material and tools to the artisans. The latter worked at their own place or a fixed place to produce commodities as per the directives of a merchant.
Saracen	: Arab or Muslims during the middle ages
Teutonic	: German (Anglo Saxon, Dutch, German and Scandinavian) people or their languages
The bill of exchange	: These were written deeds signed by moneychangers/moneylenders/merchants and their customer promising the payment of a sum of money to the bearer at a particular place.
Za	: The residential and working places of craftsmen in Japan.

SUGGESTED READINGS FOR THIS BLOCK

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