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978-0-521-08960-9 - The Italian Cotton Industry in the Later Middle Ages 1100-1600

Maureen Fennell Mazzaoui

Excerpt

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Introduction

In contrast to the large body of literature on other branches of the textile industry, the history of cotton manufacture in medieval Europe has been largely neglected. Apart from scattered references in general works, to date there have been few attempts to assess its over-all dimensions or significance within the urban economy of the later Middle Ages.¹ The present study seeks to partially fill this gap through a detailed examination of north-Italian production between 1100 and 1600. In size of the labor force, extent of capital investment and its broad commercial ramifications, cotton ranked with wool and silk as one of the 'great industries' of this region. As the first large-scale industry on European soil, the Italian manufacture marked the initial stage in the spread of cotton goods and the techniques of processing from the Mediterranean to northern Europe, a trend that ultimately culminated in the Industrial Revolution.

The implications of the Italian achievement for later European industrial growth obviously merit a close investigation. But the origins of the industry must be seen in a wider context. The Italian enterprise was the end phase in a centuries-long development within the advanced economies bordering the Mediterranean basin. In the Middle Ages cotton manufacturing experienced its maximum historical growth across a large geographical expanse which encompassed the most powerful empires of the known world. From a costly luxury commodity limited to the privileged classes of ancient society, it became the clothing material *par excellence* of the common man. Mixtures of cotton with wool, linen and silk fibers enlarged the range of textile products and effected radical changes in medieval costume. This remarkable advance was made possible by an unprecedented expansion of cotton cultivation in Asia and the Mediterranean regions to which the Islamic states were key contributors. The successful implantation of the industry in the cities of the Po Valley in the early twelfth century was a direct outgrowth of new commercial contacts

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in the Mediterranean through which Italian entrepreneurs gained access to both the raw materials and the sophisticated technology of the Muslim countries.

While the Italian industry was based initially on borrowed techniques and imitations of foreign cloth, it also represented a creative and innovative phase in the history of cotton trade and manufacturing. The distance of Italy from the main sources of raw materials required imaginative solutions to problems of supply and transport. In contrast to the state-dominated economies of the Islamic societies, the emergence of large textile complexes in the north-Italian towns coincided with the growth of capitalism. As a mass-production industry geared to the output of low-priced goods for popular consumption, cotton manufacturing gave rise to unique features of entrepreneurial organization which were markedly different from the luxury-oriented industries of silk and fine wool. A careful study of the system of production yields new insights which greatly extend our knowledge of early capitalistic structures.

The pivotal role played by Italy as a bridge between Islamic and Western modes of production is explored in the following pages. The first section examines the expansion of cotton cultivation, the proliferation of manufacturing centers and the Italian cotton trade in the Mediterranean. Part Two analyzes the organization of the north-Italian industry at the height of its prosperity in the twelfth and thirteenth centuries. The third and final section treats the decline of Italian output in the face of south-German competition. A brief survey of later developments in northern Europe down to 1700 is contained in chapter 8. The approach is topical rather than chronological. Analysis is directed toward the formulation of a basic periodization and a broad interpretive model of industrial change.

Any study of such a large and complex subject must of necessity fall short of its goal. Given the chronological and geographical scope of the topic and the unevenness of the documentation, no claims are made to a definitive or exhaustive treatment. The comparative format of the work is intended to provide a frame of reference and a focus for future research. Further investigation of the rich archival resources of Italy will undoubtedly yield new data which may expand or modify some of the hypotheses and conclusions put forth in the following pages. In particular, a careful examination of the large collections of unpublished private documents may help to illuminate

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many aspects of industrial organization on the level of the individual firm. In another area, the results of current research on German cotton manufacture add a new dimension to the interpretation of the critical period between 1300 and 1600 when the Italian monopoly was challenged by new textile centers north of the Alps.² From the perspective of Mediterranean history, the recent interest shown by specialists of Middle Eastern history in cotton cultivation, trade and manufacture promises a fuller understanding of the dynamic interconnections between the Italian and the Islamic economies in the central and late Middle Ages.³ The present monograph, based on original Italian sources, is a modest contribution to the study of this important sector of medieval industrialization.

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PART ONE

The role of cotton in the Mediterranean economy

I

Cotton cultivation in the ancient and
medieval world

One striking aspect of the rise of the north-Italian cotton industry in the twelfth century was its total dependence for raw materials on areas of supply where cotton cultivation had been either recently introduced or had undergone a dramatic expansion in the previous three hundred years. Changes in patterns of cultivation in the zones of European commercial and political penetration along the shores of the Mediterranean and the Black Sea were part of a broader agricultural boom in both foodstuffs and industrial crops in Asia and the Islamic world between 800 and 1100 A.D. The geographical spread of the cotton plant was linked in a cause and effect relationship to the intensification of textile production in Eastern manufacturing centers. Through increased output and lower costs, cotton was transformed from a luxury commodity for an elite into an article of popular consumption. It continued to play the same role in the developing economy of western Europe where the success of the medieval Italian industry was based on production for mass markets.

The importance of this agricultural and industrial transformation has often been overlooked owing in part to the subsequent disappearance of the crop from many of the original zones of production. The present chapter attempts to reconstruct the geographical radius of the cotton plant and the distribution of textile manufacturing centers in the ancient and medieval world, with particular attention to those areas which constituted the main sources of supply for the early European industry.

Cotton is a vegetable fiber consisting of the seed hair or lint formed on the ripe bolls of herbs or shrubs belonging to the genus *Gossypium* of the *Malvaceae* family. In its cultivated form, the plant comprises many known species and varieties whose classification has been extremely complicated by hybridization and cross-breeding. The characteristics of cotton as a textile material – its versatility, natural twist and tactile qualities – are determined by the diameter, length

and number of twists or elasticity of the single hairs. The most significant factor in the classing of cotton is the fiber length or staple which can range from slightly over half an inch to a maximum of two inches. The uniformity, fineness, color and strength of the fiber also enter into the final grading. These qualities are affected not only by the plant species and the numerous strains derived from it, but also by varying conditions of soil, climate and methods of cultivation.

Ideally the cotton plant thrives in light, loose soils permitting deep penetration of the roots and in climates with high temperatures and sufficient levels of moisture – normally twenty to forty inches of rainfall – evenly distributed throughout the growing period of six to eight months. These conditions are found mainly in tropical regions. However, over the centuries the cotton plant has been successfully introduced into many areas which only partially fulfill these requirements. The use of irrigation and the development through natural selection and breeding of new strains with shorter growing periods have been significant factors in its diffusion over a wide sector of the temperate climate zone, including such latitudinal ranges as southern Russia and Argentina.

The date of cotton planting is variable according to climate and location. The main limits on cultivation are imposed by frost, or, in the tropics, by the advent of the dry season. The crop can be sown during a period ranging from March to early June with the bolls ripening in the course of the summer. The picking season which is normally in the fall lasts about one hundred days and requires extensive labor. The plant is highly susceptible to inadequate or excessive moisture and, in some areas, to fungoid diseases and insect pests all of which drastically reduce yields and damage the quality of the fiber. Cotton is less exhaustive of the soil than other textile plants. Thus continuous cultivation with a simple rotation of crops has been possible in the same areas for centuries. For this reason, basic long-term shifts in the traditional patterns of cultivation have been caused not by variations in soil conditions but rather by changing market requirements. European Atlantic expansion and the development of various New World varieties including many hybrid forms brought about a complete restructuring of commercial grades in which many regions of former importance lost their competitive position in the market. It was these older zones of cotton cultivation, some now

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displaced, in Asia, North Africa and southern Europe that were the main sources of the raw material in the Middle Ages.

Although the original Old World species have largely disappeared through natural evolution and cross-breeding, both the distribution and the approximate characteristics of the various grades of cotton grown in ancient and medieval times can be partially reconstructed from literary and archeological evidence. All the commercially important Old World varieties are derivations of the species *Gossypium herbaceum*, a small shrub-like plant which is thought to have originated in India and was gradually diffused to the rest of Asia, Africa and Europe. This species yields a fine, short to medium-length fiber, depending on location and conditions of cultivation. A second species of cotton, *Gossypium arboreum*, is indigenous to India and Africa where it still grows wild today. A perennial with a life span of ten to twenty years, it resembles a very large shrub or small tree and can reach six feet in height. While relatively insignificant in current world production, the tree variety played an important role in the early expansion of cotton cultivation, particularly in east Asia. From a very early date the fiber yielded by this species was used for clothing. The tree cotton of India, Asia, south Arabia and Africa is described by Chinese, Greek, Roman and Arab authors who note its utilization for the weaving of coarse cloth. However, goods produced from the down of the tree were never competitive with the finer cotton fabrics derived from the plant species, nor was tree cotton ever an important article of international trade as were the numerous varieties of *Gossypium herbaceum*.¹

The Indians utilized cotton for tunics, loincloths, shawls, turbans and long wrappers tucked at the waist. Local weavers produced fine muslins and buckrams as well as dyed and printed fabrics or chintzes.² Indian cottons along with spices, precious stones and other selected wares were prime articles of exchange in the luxury trade of the ancient world. The extent of their circulation is indicated by the wide currency of the Indian term for cotton goods, *karpasi* (from the Sanskrit root *karpasa* = cotton), which traveled the length of the civilized world. It was borrowed in the Hebrew *karpas*, the Greek *karpasōs* and the Latin *carbasus*. The Latin term was extended to include fine linens as well as cotton. It occurred in Persian (*kirpās*), Arabic (*kirbās*) and Armenian (*kerpas*) as well as the Malay *kapas*. The word passed into central Asia where it appeared in Uigur and

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Mongolian as *kabaz* or *kabiz*. It reached China in a corrupted form as a transcription of Indochinese and Indonesian names.³

Knowledge of the plant and the techniques of its cultivation and processing followed in the wake of the traffic in cotton goods along the major commercial routes which traversed the Asian continent.⁴ The early history of its extension into southeast Asia is almost totally obscure before the second and third centuries A.D. when India and China were linked by a direct sea passage across the Indian ocean via the straits of Malacca. Merchandise carried by Arab and Persian traders included cotton cloth manufactured in India, Ceylon, Java and Sumatra. Trade notices and the accounts of Chinese travelers in the south confirm the extensive cultivation of what was probably a variety of tree cotton throughout Indonesia and Indochina including northern Annam and Tongking. From Indochina cotton cultivation gradually spread eastward to Borneo, the Philippines and Korea. In the late third century the fiber of the cotton tree was utilized for weaving in the border province of Yunnan which straddled the overland route between Burma and southwest China. By the fifteenth century the cotton crop was widespread in this province and it is still grown in parts of the region today although on a greatly reduced scale.⁵

From an early date, cotton cultivation also spread into the regions bordering northern China. The earliest documentation of the dispersion of the cotton plant in central Asia comes from archeological finds of cotton seeds and cloth dating from the fourth to the third centuries B.C. in the river valleys of western Turkestan.⁶ Most likely the seeds reached this region via the ancient land and river routes which led from India across the Hindu Kush to Bactra. Western Turkestan with its hot but relatively short summers marked, as it does today, the northernmost limit of cotton cultivation in Asia where the shorter growing season necessitated the development of a new strain of the plant, probably an annual variety of *Gossypium herbaceum*. Renowned for its quality in the Middle Ages when it was the basis of a flourishing textile industry under Sogdian and subsequently Muslim control,⁷ cotton is still a major crop in the agricultural economy of the Turkmen and Uzbek republics of the Soviet Union.

With the development of direct trade between China and the West in Roman times, western Turkestan became the natural terminus of

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the central-Asian silk roads which connected with the older routes from India to Bactra, Samarkand and Tashkent. This region thus served as a focal point for the dissemination of the cotton plant westward to northern Iran, Mesopotamia and the Mediterranean basin. The crop also spread along the caravan routes to the East. Cotton textile fragments dating from the second and third centuries A.D. have been discovered in archeological sites at Lou-lan in eastern Turkestan (present day Sinkiang) which lay along the eastern section of the ancient silk road. At that date cotton cloth was already an item of trade with China.⁸ A sixth-century source notes the presence of cotton crops in the Turfan area of Sinkiang where cloth was produced for export to Chinese markets.⁹ Under the Uigur rulers of the Turfan and Tarim basins (c. 850-1250), cotton cultivated under a system of intense irrigation became one of the chief cash crops of the region. From an analysis of extant seeds and cloth fragments, the species has been identified as *Gossypium herbaceum*.¹⁰ In the thirteenth century, Marco Polo described the extensive acreage devoted to cotton in Kashgar, Yarkand, Khotan and Pai in east Turkestan.¹¹

The stimulus of Chinese markets plus heavy local demand created by an increasingly urbanized and sedentary society also help to explain the development of a cotton cloth industry in the Kan-chou Uigur state in the present-day Chinese province of Kansu. In the tribute lists of the Uigur khagans to the emperors of the Five Dynasties (907-60), cotton and cotton cloth appear as local products exported to China.¹²

Beyond the above references to frontier and border regions, there is no indication of the existence of cotton crops in central and northern China in the ancient and early medieval periods. For several centuries cotton was relatively little used by the Chinese. Fabrics imported from Turkestan, India and Indochina found only a limited market among the court and the upper classes for whom silk was still the prime clothing material. Cotton was not introduced into China proper until the late eleventh century. At that time its cultivation, represented by the cotton tree, was extensively practised in the southern coastal provinces of Fukien and Kwangtung (including the island of Hainan). Kwangtung was for several centuries the main station for Chinese overland trade with Indochina. Hainan, famous for its clothing and coverlets and mixed silk/cotton cloths, was also an important supplier of raw cotton to the manufacturing centers of the

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mainland.¹³ In the thirteenth century Marco Polo reported a flourishing industry in cotton cloth made with dyed yarn in the city of Kelinfu in Fukien from whence it was exported to the coastal province of Mangi to the north.¹⁴

For the climatic conditions of northern China, the cotton plant (*Gossypium herbaceum*) proved to be more suitable than the tree variety of southeast Asia. The plant, possibly introduced from Turkestan, was extensively grown in northwestern and central China in the thirteenth century. Its cultivation in this region is noted in Mongol agricultural treatises in terms which imply a recent innovation.

The union of north and south China by the Mongol conquest gave a further impetus to both agriculture and trade in cotton goods. Under the Mongol rulers, the use of cotton was widely adopted throughout China. Its cultivation became a matter of official policy. The planting of a certain acreage in cotton was required in all private fields of a certain size and cotton tributes became an integral part of the tax system. In the last quarter of the thirteenth century, cotton inspectorates were set up in the provinces of Chekiang, Kiangsu, Kiangsi, Hupei, Hunan and Fukien, each of which owed an annual tribute of 100,000 pieces of cloth in fixed lengths and widths.¹⁵ The establishment of a system of cloth tribute, perhaps originally associated with military provisions, indicates the size of the market for cotton goods and the high level of production. Cotton fabrics imported into Mongolia from China, Persia and the Black Sea were an important item of exchange along the central-Asian trade routes.¹⁶

The expanding market for cotton goods was related both to the low price and the versatility of cotton fabrics. In India and southeast Asia cotton and mixed cotton fabrics in light weaves were widely utilized by all classes for apparel, sheets, bedspreads, curtains and rugs. As cultivation spread into the colder regions of central Asia and China, cotton cloth in heavier weaves was adapted to new styles. Chinese authors stressed the advantages of cotton over other textile fibers in terms of ease of cultivation. They also noted its warmth, lightness and density and above all its low cost, which made it an excellent substitute for silk, wool and hemp in winter clothing. From a very early date, wads of kapok, silk cocoons or fine wool had been utilized in China and the steppe region for padding in heavy clothing,