

# Japanese Civilization (Part 19)

## The Spread of Cotton Westward

By Kawakatsu Heita

**GREAT** Britain was “the first industrial nation” in the world, while Japan played that role in Asia. It is well-known that the cotton industry played a vital role in the industrialization of both countries. What concerns us most is the challenge that Japan faced by opening its market to British cotton goods in the middle of the 19<sup>th</sup> century and its successful response to the “workshop of the world,” eventually overtaking the British cotton industry in the world market share by the middle of the last century.

It must be noted that, before the late Middle Ages, no cotton industry existed at either extremity of the Eurasian Continent. P. J. Thomas once succinctly noted: “what silk was to China, linen to Egypt, wool to England, that was cotton to India.”<sup>1</sup> I am going to outline briefly when and how cotton which had first been produced in India several thousands of years ago and confined to the country until the Middle Ages,

spread to the West and to the Far East.

What follows is not a complete history of cotton textile production, couched in terms of technological innovation, or industrial and commercial organization, but just a rough sketch of the history in terms of the types of raw material and manufactured goods, in order to shed light on the differences in quality between Western and Far Eastern cotton goods in general, and between British and Japanese cotton in particular, in the later period.

**THE** rapid spread of Islam in the 7<sup>th</sup> to 8<sup>th</sup> centuries was followed by the diffusion of the so-called “Arab Agricultural Revolution 700-1000.”<sup>2</sup> At the heart of the revolution was the introduction of many new crops into the Arabian territory of the Middle East and the Mediterranean.<sup>3</sup> One of these crops was cotton. Cotton production developed

in the 10<sup>th</sup> century in the Levant (Middle East).<sup>4</sup> In the second half of the century it became an important branch of agriculture in Northern Mesopotamia, Northern Syria and Palestine.<sup>5</sup> Cotton spread further across Egypt, North Africa, present Spain, present Southern Italy and Sicily.<sup>6</sup> The expansion of cotton production to the Mediterranean Basin during the Middle Ages followed Arab penetration of the region.<sup>7</sup> The major centers of cotton in the West Asia were Aleppo, Hamath in Syria and Palestine.<sup>8</sup> During the 13<sup>th</sup> to the 16<sup>th</sup> centuries, Syria was the principal supplier of raw cotton to Europe.<sup>9</sup>

The commercial contact between the East and the West brought by the Crusades brought large quantities of Levant cotton into Europe. One of the earliest records of the cotton traffic through European ports comes from a Venetian document mentioning the sale of cotton in 1125, another one on the Genoese toll list of 1140.<sup>10</sup> The upsurge of the cotton trade between the Levant and Southern Europe gave new impetus to cotton production in Syria and Egypt.<sup>11</sup> There were two major entrepôts of cotton trade in Europe,

i.e. Venice and Genoa.<sup>12</sup> Cotton ranked second only to spices in Venetian trade with the Near East.<sup>13</sup>

The trade of Syrian cotton was a Venetian monopoly, while Egyptian and Sicilian cottons were purchased by the Genoese.<sup>14</sup> Venice imported both raw cotton and cotton goods from Syria, but raw cotton predominated.<sup>15</sup> Damascus was an important cotton market, where cotton was imported Acre, Beirut, Tripoli and Latakia, and shipped to Venice. The final destinations for the cotton were Eastern Lombardy, Upper present Germany, Verona, Padua and Ravenna. The Genoese, on the other hand, shipped great quantities of Egyptian cotton to the great centers of the fustian industry; Southern France, Tuscany (Pisa), Cremona, Parma and the Maghreb, which used cotton imported from both Venice and Genoa.<sup>16</sup> In Venice alone the annual turnover of the

Photo: Japan Cotton Promotion Institute



cotton trade in the early 15<sup>th</sup> century amounted to 250,000 ducats.<sup>17</sup>

The cotton used in Europe was of different qualities. Of the many varieties of medieval cotton, the best came from Hamath and Aleppo in Syria;<sup>18</sup> second grade varieties were grown in Lesser America and the Damascus region, and yet lower grades came from the Syrian coast and Cyprus. The better grades of European cotton came from Apulia, the next from Calabria and Malta, and the poorest from Sicily.<sup>19</sup> Sicilian cotton was thus the lowest of all.<sup>20</sup>

It might be useful to mention that all of these cottons belonged to the same genus of *Gossypium*. Though I cannot go into detail, the different cultivated cottons in the Old World (Asia) led to the development of two clearly defined species, *G. herbaceum* and *G. arboreum*. Concerning the origin of both species, one conjecture is that the collapse of the Indus Valley Civilization around the middle of 3,000 BC effectively divided the area where *Gossypium* originated into two, because of the absence of a well-organized community to maintain irrigation facilities. Sind and Rajputana present a particularly complete desert barrier between Persia and Peninsular India. The isolation so established produced the condition to cause genetic divergence and led to the development of *G. herbaceum* and *G. arboreum* (see Fig. 2 and 3).

When cotton spread to the Middle East and the Mediterranean, where the climate was colder and drier and hostile to production this tropical crop had to undergo radical alteration. The cotton which diffused across the region originally belonged to *G. herbaceum*, race *acerifolium*,<sup>21</sup> which was described as “the immediate progenitor of the Western Indian types in Persia (Iran).”<sup>22</sup> The later plant breeding was associated with the westward spread of Moslem power. The adaptation of the plant to the new climate produced a distinctive annual type, the *persicum* variety of *G. herbaceum*, which was later became known as “Levant cotton.”

Figure 1 Major Zones of Cotton Cultivation in the Mediterranean Region in the Later Middle Ages (c.1600)



Source: M. F. Mazzaoui *The Italian Cotton Industry in the Later Middle Ages 1100-1600* (Cambridge, 1981), op. cit., P.15

A dramatic expansion of European cotton imports from the 12<sup>th</sup> to the 16<sup>th</sup> centuries was closely related to the growth of cotton textile production, mostly fustian: the mixed fabric of cotton weft and linen warp, in Europe. The industry was first introduced by the invasion of Moors into Spain, spreading to Italy and France by the 12<sup>th</sup> century, to Flanders by the 13<sup>th</sup> century, to Germany by the 14<sup>th</sup> century,<sup>23</sup> and finally, around the turn of the 15<sup>th</sup> and the 16<sup>th</sup> centuries, to England.<sup>24</sup> The leading role in the initial development was taken in Italy. The Italian cotton industry underwent rapid growth in the 12<sup>th</sup> century, leveled off in the early 14<sup>th</sup> century, followed by a period of uneven development and partial stagnation in the 15<sup>th</sup> century.<sup>25</sup> Between the mid 12<sup>th</sup> and mid 13<sup>th</sup> centuries, new centers of cotton production emerged in various parts of Europe: Champagne, Southern France, Catalonia, central Italy and various cities in Tuscany. Among others, Milan and Cremona dominated the cotton industry south of the Alps.<sup>26</sup>

In the early 14<sup>th</sup> century, southern German cities emerged as new centers of cotton manufacture. The first appear-

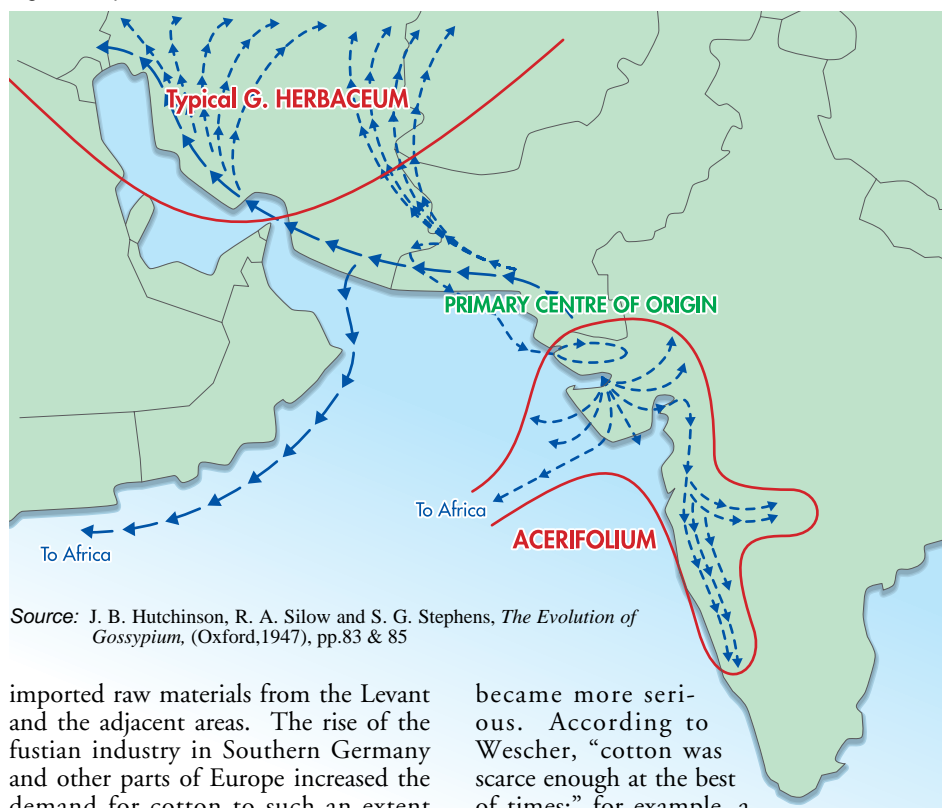
ance of fustian there is mentioned in 1318 in the statutes of grocers of Brieg, stating that the weavers of Schweidnitz in Silesia made fustian. Cotton first appeared in Ulm around 1320.<sup>27</sup> A little later, Ravensburg, Memmingen, Biberach and Urach in Swabia, Frankfurt, Strasburg in western Germany emerged as centers of fustian weaving.<sup>28</sup> Among these cities in Germany, Ulm and Augsburg dominated cotton manufacture. In the late 14<sup>th</sup> century, cotton manufacturing spread from Swabia into the Rhineland, Bavaria, Austria, Bohemia, Silesia, Hungary and Poland.<sup>29</sup> In the 15<sup>th</sup> century Basel and Zurich in Switzerland also began to produce a fustian called “Schurlitz.”<sup>30</sup> In the course of the 15<sup>th</sup> century, German fustian made great inroads into international commerce at the expense of Italian output.<sup>31</sup>

The quality of cotton goods used in Medieval Europe would have been coarse because Asiatic short-stapled cotton was a type of medieval raw cotton. Besides, the increased consumption of raw materials in various European cotton manufacture centers led to the exploitation of inferior grade Levant cot-

ton from the Black Sea, Greece and Asia Minor,<sup>32</sup> and particularly the import of the coarser grades from present Turkey.<sup>33</sup> This deteriorated the quality of cloth and yarn, leading to a shift toward heavier and thicker fabrics.<sup>34</sup> Secondly, from the viewpoint of technology, the equipment was also crude. The only major advance in the spinning process before the Industrial Revolution was limited to the introduction of the spinning wheel.<sup>35</sup> The spindle wheel was not known until the 13<sup>th</sup> century; even after its introduction, there was prejudice against it and spinning with a spindle and distaff changed little from the time of ancient Greece to the 15<sup>th</sup> century.<sup>36</sup> In the 15<sup>th</sup> century, the flyer-wheel was invented, which converted spinning and winding into a single continuous action.<sup>37</sup> In 1530, a foot-treadle was incorporated with the flyer-wheel, which increased the speed slightly. But the basic structure of a spindle-and-whorl or a spinning-wheel remained the same throughout the late medieval period. What mattered in the medieval instrument was not the quality, but the methods of increasing the rate of yarn-production.<sup>38</sup>

There were at least three factors which prevented the medieval cotton industry from developing further. Firstly, because the European climate precluded the introduction of cotton cultivation except in the southern area, the primary requisite for European cotton industry development was based entirely on

Figure 2 Spread of *G. herbaceum*



Source: J. B. Hutchinson, R. A. Silow and S. G. Stephens, *The Evolution of Gossypium*, (Oxford, 1947), pp.83 & 85

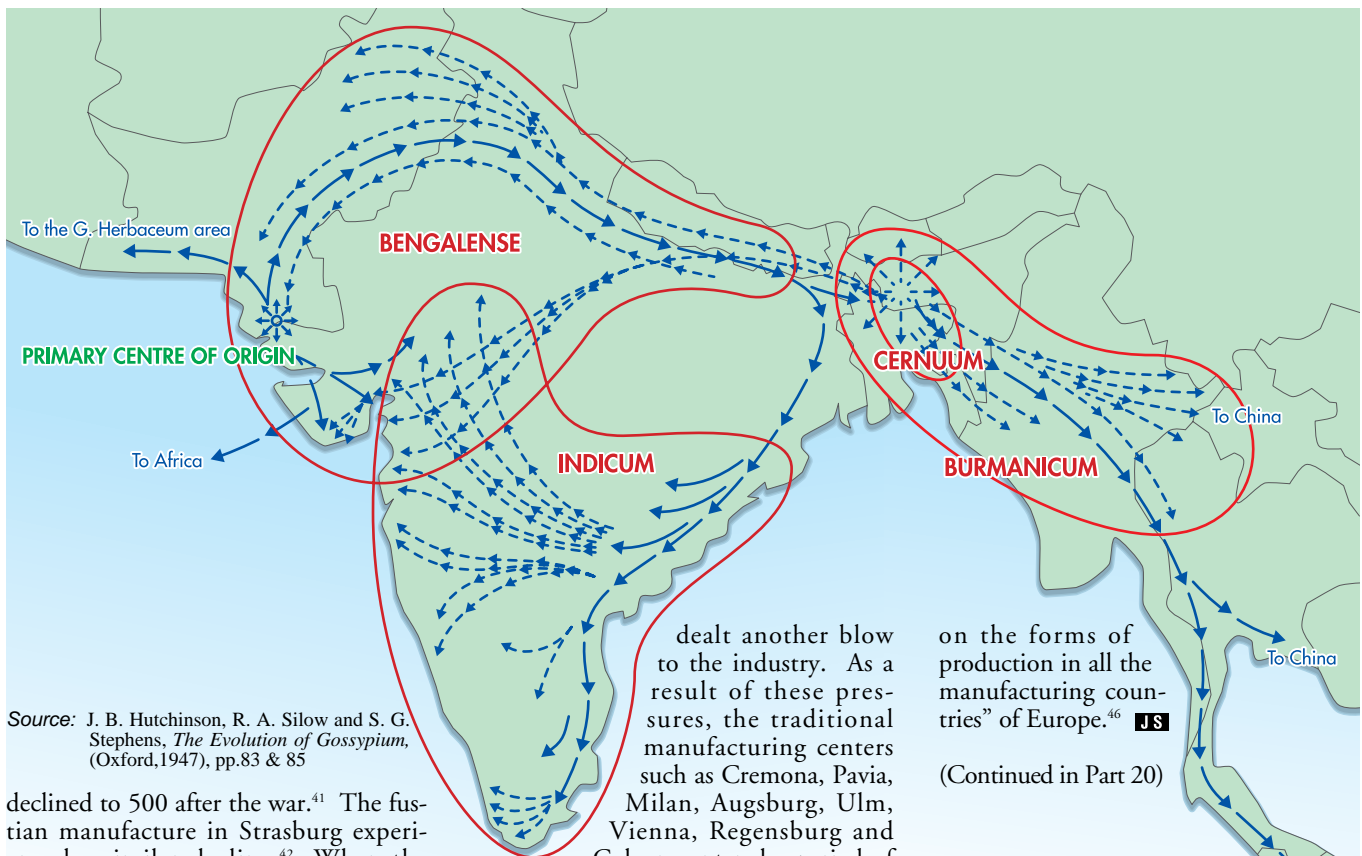
imported raw materials from the Levant and the adjacent areas. The rise of the fustian industry in Southern Germany and other parts of Europe increased the demand for cotton to such an extent that Venice was hard put to cope with the volume of trade which developed. Soaring prices for cotton resulting partly from political disturbances in the East in the last decade of the 14<sup>th</sup> century and in the opening years of the 15<sup>th</sup> century made the import of raw cotton difficult.<sup>39</sup> In the latter half of the 16<sup>th</sup> century the difficulties in procuring cotton

became more serious. According to Wescher, "cotton was scarce enough at the best of times;" for example, a Zurich cotton merchant, who went to Venice in 1584 to buy raw cotton, reported that he had been unable to purchase any.<sup>40</sup>

Secondly, constant wars, particularly the Thirty Years' War (1618-48), dealt a serious blow to the industry. 6,000 weavers were said to be living in Augsburg in 1600, but the number had

## References

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- A. M. Watson, "The Arab Agricultural Revolution and its Diffusion 700-1100", *The Journal of Economic History*, Vol. XXXIV, (1974), pp.8-35.
- Almost all the crops originated in India. A complete list of the useful plants such as rice, sorghum, hard wheat, sugar cane, cotton, watermelons, eggplants, spinach, artichokes, colocasia, sour oranges, lemons, limes, bananas, plantains, mangos, and coconut-palms, etc. is said to have numbered well into the hundreds. (Ibid., p.9.)
- E. Ashtor, "The Venetian Cotton Trade in Syria in the Later Middle Ages", *Studi Medievali, Serie Terza, Anno XVII, Fasc. II*, (1976), p.676.
- Ibid.
- M.F. Mazzaoui, "The Cotton Industry of Northern Italy in the Late Middle Ages: 1150-1450", *The Journal of Economic History*, Vol. XXXII, (1972), p.265.
- The fact that the word "cotton" was derived from the Arabic word "qutn," is indicative of how European contacts with this plant were established; The Arabic form with the definite article (al-goton) gave the French boqueton, in the sense of a vest of cotton padding to be worn under the armor. [Agnes Geijer, "Some Evidence of Indo-European Cotton Trade in Pre-Mughal Times", *The Journal of Indian Textile History*, No.1, (1955), p.35; the Arabic quth is, in turn, possibly traceable to an Indian root. (M.F. Mazzaoui, *The Italian Cotton Industry in the Later Middle Ages 1100-1600* (Cambridge, 1981), p.26.]
- E. Ashtor, (1976), op.cit., p.678.
- M. F. Mazzaoui, (1981), op.cit., p.23.
- Ibid., (1981), op.cit., pp.29 & 63.
- E. Ashtor, (1976), op.cit., p.677.
- Syrian and the other types of cotton also entered through Pisa and Marseilles. (M. F. Mazzaoui, 1972, op.cit., p.267.)
- E. Ashtor, (1976), op.cit., p.675.
- Ibid., pp.685-7.
- Ibid., p.690.
- Ibid., pp.691-4.
- M. F. Mazzaoui, (1981), op.cit., p.43.
- The cotton of Hamath and Aleppo in Syria was the best. (E. Ashtor, op.cit., p.681.)
- R. Patterson, "Spinning and Weaving," *History of Technology, vol. II*, ed. C. Singer, (Oxford, 1956), p.199.
- M. F. Mazzaoui, (1981), op.cit., pp.31 & 38.
- See Table I-1 (I).
- J.B. Hutchinson, R. A. Silow and S. G. Stephens, *The Evolution of Gossypium*, (Oxford, 1947), p.92.
- R. Patterson, "Spinning and Weaving," op.cit., p.199.
- Idem., "Spinning and Weaving," *A History of Technology, vol. III* ed. C. Singer (Oxford, 1957), p.156.
- M. F. Mazzaoui, (1972), op.cit., p.263.

Figure 3 Spread of *G. arboreum*

Source: J. B. Hutchinson, R. A. Silow and S. G. Stephens, *The Evolution of Gossypium*, (Oxford, 1947), pp.83 & 85

declined to 500 after the war.<sup>41</sup> The fustian manufacture in Strasburg experienced a similar decline.<sup>42</sup> When the Thirty Years' War came to an end, fustian weaving, at one time an important branch of the textile industry in Southern Germany, had declined beyond all hope of recovery.<sup>43</sup>

Thirdly, the import of Indian exotic textiles by the Dutch and the English

dealt another blow to the industry. As a result of these pressures, the traditional manufacturing centers such as Cremona, Pavia, Milan, Augsburg, Ulm, Vienna, Regensburg and Cologne entered a period of rapid and unrelieved decline.<sup>44</sup>

The second period was approaching, in which the importance of raw materials from the Levant declined rapidly<sup>45</sup> and "the introduction into Europe of new stuffs, the cottons and muslins of India, began to exercise a widespread influence

on the forms of production in all the manufacturing countries" of Europe.<sup>46</sup> JS

(Continued in Part 20)

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26. *Ibid.*, (1981), op.cit., p.142.

27. H. Wescher, "Fustian Weaving in South Germany from the Fourteenth to the Sixteenth Century", *Ciba Review*, 64, (1948), pp.2339-40.

28. *Ibid.*, p.2343.

29. M. F. Mazzaoui, (1981), op.cit., p.142.

30. H. Wescher, "Schultz Weaving in Switzerland", *Ciba Review*, 64, (1948), pp.2351-4.

31. M. F. Mazzaoui, (1972), op.cit., p.284; *idem.*, (1981), op.cit., p.144.

32. *Ibid.*, p.43.

33. The bulk of Turkish cotton was consumed in the production of sailcloth and other heavy fabrics, which were the specialty of the growing rural industry of Lombardy and also of the new Flemish industry. Turkish cotton was adopted for other purposes such as candlewicks, quilts and mattress filling. (*Ibid.*, p.44)

34. *Ibid.*, p.79.

35. *Ibid.*, p.78.

36. R. Patterson, (1956), op.cit., pp.200-202.

37. *Ibid.*, p.205.

38. R. Patterson, (1957), op.cit., pp.160-162.

39. Before the conquests of the Ottoman Turks, the Italians traded without paying duty in a large area of the Byzantine and Latin Levant. But after the frontier of European trade receded, the Turks exacted

heavy tributes from European merchants. Moreover, the Egyptians sold goods at an exorbitantly increased price. In response, the Genoese endeavored to grow oriental plants in the West, even if that meant paying more and settling for inferior quality. (R.Lopez, et.al., "England to Egypt, 1350-1500: Long-term Trends and Long-distance Trade", *Studies in the Economic History of the Middle East*, ed. M. A. Cook, Oxford, 1970, p.115.)

40. H. Wescher, "Cotton Growing and Cotton Trade in the Orient during the Middle Ages", *Ciba Review*, 64, (1948), p.2337.

41. *Ibid.*, "Fustian Weaving in South Germany," op., p.2347.

42. *Ibid.*, pp.2348-9.

43. *Ibid.*, p.2349.

44. M. F. Mazzaoui, (1981), op.cit., pp.154-9.

45. In England, cotton is recorded among the earliest cargoes of 1587-8, but from the late 17<sup>th</sup> century its import became of less and less significance to English industry. On the other hand, French imports of Levant cotton grew rapidly in the eighteenth century, though France, like England, imported rapidly increasing quantities of cotton from the West Indies, as well. (Ralph Davis, "English Imports from the Middle East, 1580-1780", *Studies in the Economic History of the Middle East*, ed. M. A. Cook op.cit., pp.200-4.)

46. A. P. Wadsworth and Julia de L. Mann, *The Cotton Trade and Industrial Lancashire 1600-1780*, (Manchester 1931), p.116.