

The Facts of the Cotton Famine

John Watts

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THE COTTON FAMINE

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THE FACTS
OF
THE COTTON FAMINE

JOHN WATTS

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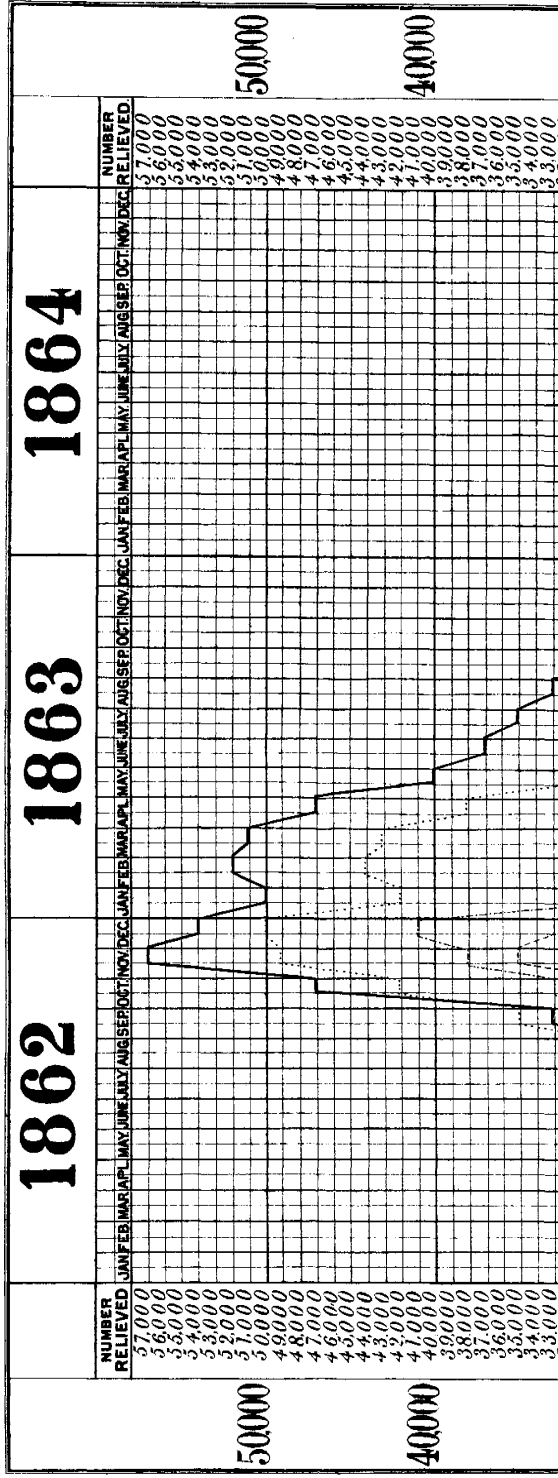
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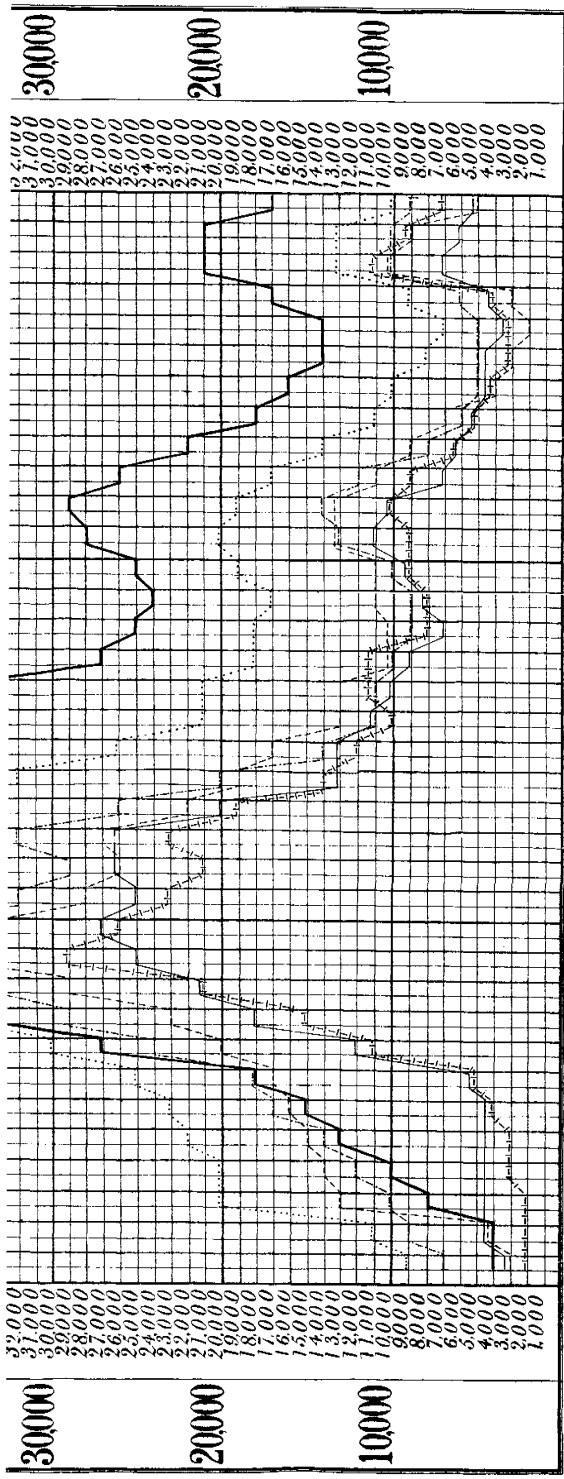
The publisher has gone to great lengths to ensure the quality of this reprint but points out that some imperfections in the original may be apparent

DIAGRAM OF FLUCTUATIONS

In the number of persons RELIEVED.

EITHER BY THE GUARDIANS OR THE LOCAL COMMITTEES,
IN SIX OF THE TWENTY-EIGHT UNIONS, IN THE
DISTRESSED COTTON MANUFACTURING DISTRICTS.





<i>U n i o n s</i>	<i>Population</i>	<i>Assessment £</i>	<i>Monthly-Expenditure of Guardians January, 1862.</i>	<i>Monthly-Expenditure of Local Committees & Guardians December, 1862.</i>	<i>Monthly-Expenditure of Local Committees & Guardians December, 1864.</i>
<i>ASHTON</i>	134,761	313,350	£ 652	£ 9,147	£ 6,353
<i>PRESTON</i>	110,488	331,701	" 2,048	" 7,071	" 3,007
<i>BLACKBURN</i>	112,237	272,448	" 1,404	" 5,185	" 2,872
<i>STOCKPORT</i>	94,361	242,361	" 752	" 3,885	" 2,451
<i>OLDHAM</i>	111,267	226,201	" 428	" 3,870	" 2,744
<i>ROCHDALE</i>	91,758	254,208	" 876	" 4,216	" 2,198

Drawn by R. E. JOHNSON, from Returns compiled by J. W. MACLURE.

THE FACTS
OF
THE COTTON FAMINE.

BY
JOHN WATTS, PH.D.,
MEMBER OF THE CENTRAL RELIEF COMMITTEE.

LONDON: SIMPKIN, MARSHALL, & CO.
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1866.

P R E F A C E .

IN producing this volume, my only motive has been to secure a reliable record of the main facts of the cotton famine. The great extent and importance of the cotton manufacture, its rapid rise and progress, its direct and reflex influences at home and abroad, its sudden paralysis by the indirect shock of the American war; the bearing of the people under their unexampled trials; the immense flow of benevolence to their aid; the various and manifold organisations which were improvised for the collection and distribution of the means of sustenance;—all seemed to me to demand registration for future reference. A hurried compilation, got up to hit the humour of the passing hour, could not possibly meet the want; and I suggested successively to several gentlemen, who were fully competent, that they should undertake the work. The result surprised me. It was an urgent request, from every quarter to which I applied, that I should myself prepare the record; and, seeing no other way of filling the void, I reluctantly consented; and have, for the last twelve months, given to the object all the leisure which my ordinary and imperative engagements would allow.

It is said that a sculptor is never satisfied with his own work, and I can well understand the feeling; for I am anything but satisfied with my book, and know that if it had to be re-written it would be materially improved.

I have, however, endeavoured to render it useful as well as interesting, by including a sketch of the rise and progress of the manufacture, up to the occurrence of the American war; and of the later social developments amongst the working classes, such as strikes for wages, and the establishment of co-operative stores and manufacturing companies; and seeing that the home trouble arose from our almost total dependence upon one foreign source of supply, I have set forth the efforts which have been made from time to time to abate that evil; and have discussed the helps and hindrances of the government, particularly as regards the attempts to extend and improve the growth of cotton in India. I have gone into considerable detail on the principal aspects of the crisis, and upon the principles and actions of the central executive; and have fully discussed the various remedial measures which were adopted, including the Rate in Aid Act, the Public Works Act, and the Union Chargeability Act; and have freely, but, I hope, fairly, criticised the various prominent actors therein. As "it is an ill wind which blows nobody good," I have endeavoured to find out who have got the good out of the cotton famine, and to apportion the gains and losses, amongst the cotton, woollen, and flax traders and their various dependants.

In the earlier portions of the book I have been much indebted to Mr. Mann's History of the Cotton Trade; the late Archibald Prentice's Historical Sketches of Manchester; and Mr. David Chadwick's pamphlet on wages; also to Mr. Henry Ashworth, and Mr. Bazley, M.P. In the sanitary portion, I have made free use of Sir J. P. Kay-Shuttleworth's valuable book on education. In the narrative of the famine itself, I have to acknowledge great and willing assistance from Mr. Maclure, the honorary secretary to the central executive; and I have quoted freely from Mr. Edwin Waugh's descriptive sketches of the condition of the people, contributed to the *Manchester Examiner and Times*. To these, and to all who have rendered aid, I tender hearty thanks; and in the hope that my own labour may prove in some degree useful, I dedicate this volume to all who subscribed to the funds of the various relief committees, and to all who aided in the distribution of those funds; in the full conviction that the munificent gifts of the subscribers, and the arduous and pains-taking work of the distributors, saved thousands of valuable lives, and kept thousands also from worse than death.

JOHN WATTS.

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THE

FACTS OF THE COTTON FAMINE.

CHAPTER I.

Introduction—Antiquity of Cotton Manufacture—The Cotton Fibre—The Term Spinster—Inventions of Whyatt and Kay—Domestic Loom Shops—Habits of Early Cotton Operatives—Character of the Population—Holidays—Marriage—Rise of the Factory System—Cost of Cotton Goods in 1741 and 1860—Inventions of Hargreaves and Arkwright—The Bridgewater Canal—Silk Factories—Turkey Red Dyeing and Calico Printing—Crompton's Mule—Cost of Spinning in 1779 and 1860—Cartwright's, Bell's, and Miller's Power Looms—Richard Roberts's Self-acting Mule and Loom—Watt's Steam Engine—Application of Coal Gas—Government Helps and Hindrances.

It is probable that the manufacture of clothing from vegetable fibre is almost as old as the existence of man, varied in different countries by the indigenous productions of each locality, and the varying necessity and ingenuity of the inhabitants. The most ancient mummies of Egypt are found wrapped in linen, and the earliest records of India show the existence of the cotton manufacture there as nearly as possible in the condition which subsists in the interior of that country at the present time, and which was universal until the recent establishment of cotton mills in Bombay. The distaff is still used for spinning, and the looms are still of the rudest construction, and yet some of the woven fabrics vie with the finest productions of Lancashire or Lanarkshire—showing that in this, as in many other arts, our progress has not been in delicacy of manipulation, but simply in the quantity of goods produced within a given time, by the substitution of machinery for hand labour. Cotton goods were exported from India in the second century of

the Christian era, and the muslins of Bengal were even then famous for their beautiful texture, and Surat produced at that time some such goods as the coloured chintzes which are now made in Lancashire, and used for bed furniture, or for chair and sofa covers. But the trade of Lancashire is the growth of not more than a single century, during which time it has risen to such a position as to enable the poorer portion of the population of the world to clothe themselves almost wholly in garments made from the filmy wings of the cotton seed. If these delicate fibres were not gathered by man, they would serve the same purpose to the cotton seed which the filaments attached to the seed of the dandelion perform for it—they would waft it through the air, or float it upon the water, until wind or waves found it a new home, so that, if deposited in proper soil, it might reproduce its kind. The genius of man economises the productions of nature, and, whilst appropriating to his own use the wings of the cotton seed, he performs by deputy the office of those wings for such a proportion of the seed as is necessary for his own future enjoyment. He carries it with certainty to earth already prepared for it, and is thus enabled to otherwise utilize the large proportion of seed which, apart from his superintendence, would fall “by the way side, or amongst thorns, or on stony ground,” and produce no fruit.

The universality of the term “spinster” is proof enough of the former employment of one half of the unmarried population; and we know from history that matrons as well as maidens frequently spent a large portion of their time in preparing the materials of clothing for the family. At the present time, some 600,000 of the population of Lancashire, Lanarkshire, and their borders, produce the cotton clothing for half the world; a large proportion of this production being exchanged by our merchants for the comforts and luxuries of almost every clime. The tea of China, the coffee and corn of Turkey, the spices and dye stuffs of India, the tobacco of South America, the gold of California, the tallow and flax of Russia, the silk of Italy, the wool of Australia, the fruits of the Ionian Islands, and the furs of the Hudson’s Bay settlements, are all bought directly or indirectly with the manufactures of Lancashire.

The cotton manufacture, doubtless owes its great progress to the durability, the cheapness, and the capacity for ornamentation offered by the various products of its industry.

The fibre of cotton is so fine and delicate as to need the use of a microscope for familiar examination, yet it is spun into yarns varying from the candle and lamp wick to that which forms the meshes of the finest lace; and the waste from these processes is made into twines and cordage, for tying up drapers' parcels, and for the package of heavy goods. Cotton yarns are woven into an immense variety of commodities, from the heaviest moleskin to the finest muslin; the bricklayer's labourer and the belle of the ball-room being alike indebted for their clothing to the wings of the cotton seed. Cotton yarn frequently forms the weft of silk velvets; it contributes one-half the substance of Orleans and Cobourg cloths, lustres, and lastings, and of many materials used for figured vestings. The march of economy which has led to the manufacture of woollen waste, has also opened up a new field for cotton yarns, and they now form the warp for low-priced cloakings and trouserings; whilst raw cotton is often also "scribbled in" amongst the wool which forms the weft of these articles. The gorgeous silk damasks, which adorn the windows and cover the sofas and chairs of the nobility, frequently have cotton thread for weft; and the basis of the gimps, fringes, and trimmings, which ornament the dresses of the most fashionable ladies, is composed of cotton. And the refuse of refuse—the sweepings of the cotton mill—which, to appearance, is beyond all utility, is sent, together with the ragged remnants of cotton clothing, to the paper mill, is there torn literally to atoms, converted into pulp, and so diffused in water as to be invisible whilst the water is in motion, and in this condition is spread in a thin layer upon a blanket, pressed between rollers, sized, and dried, and then made a vehicle of knowledge in the shape of printing or writing paper, or it enters again into commerce as wrapping paper, and has before it as wide a field of usefulness as in its former and pristine condition. Up to the year 1741 the various processes of converting cotton fibre into useful articles constituted literally a manufacture in the proper sense of the term, for handwork was everything, machinery nothing. About that time the first step of improvement was achieved in each of the twin processes,—spinning and weaving. John Whyatt, of Birmingham, constructed a machine to spin a number of threads at once, by means of rollers instead of the spinning wheel, which produced only one thread at a time; and John Kay, of Bury, produced the fly shuttle, to be driven

by the picking peg, instead of being thrown by the weaver from one hand to be caught by the other. By the old process a wide cloth would need two weavers to one loom, for one man would not be able to reach across the web. Kay's simple contrivance doubled the possible produce of a loom devoted to the making of plain goods, and was soon followed by the invention of the drop-box, which enabled the same contrivance to be applied to checks, by the use of two or three shuttles, each of which was supplied with a different coloured weft, as may be seen to this day amongst the hand-loom silk weavers of Spitalfields, in London; or amongst the same class at Middleton or Failsworth, in Lancashire; or even amongst the lingering remnant of gingham weavers by hand-loom in Manchester. At this date, and for many years afterwards, the cotton manufacture was entirely a domestic occupation. Spinners fetched their cotton and linen, weavers their warp and weft, from their employers to their own homes, and carried back the finished article to exchange for wages, just as many silk weavers and stocking frame knitters do at present.

A walk through the older portions of the towns of the cotton districts will exhibit clear evidence that the dwellings of the working people were built with a view to other than the purposes for which they are now occupied. The long ranges of windows in the upper stories were never intended for sleeping rooms, and their existence bespeaks a necessity which in later years has passed away, and enabled modern builders to assimilate their cottages to those of the workpeople of other localities. These upper stories were loom shops; and the traveller of sixty or seventy years ago through these streets would find the nicknack of the hand-loom as familiar a sound in Lancashire as the click of the stocking frame is in the villages of Leicestershire at the present day. Outside the towns the loom shop was often a one storied erection attached to the back of the cottage, with unplastered walls, unceiled roof, and soil for the floor. And, judging from the records which remain to us, it would appear that the men of those days were too frequently as rude as their dwellings and workshops; a rough, honest, jovial, and hardy set of fellows, who worked when it suited them, and played as heartily as they worked. A meeting of hounds for a fox or stag hunt would stop most of the looms in a village; bull-baiting, bear-baiting, badger-baiting were thoroughly

popular sports, and in the absence of any such excitement, a cock-fight or a duck-hunt would frequently be improvised, or "Saint Monday" would be spent at foot racing or football during the day, whilst the evening would be jovially spent at the public-house or "hush shop" over cards or dominoes, with intervals for bacchanalian songs. Of course, gambling was not then any more than at present exempt from quarrelling, and the manner of settlement of these quarrels shows the terrible energy and earnestness of the Lancashire character. In the days when gentlemen thought it necessary to show their sense of right and to prove their courage by submitting in a quarrel to the chances of the best shot, the working men of Lancashire under similar circumstances stript themselves to the waist, and then grasped each other and fought with hands and feet, striking with the fists, kicking with their heavy clogs, pressing with the knees, strangling by grasping at the throat, up and down, until one or other was forced to relax his hold by sheer exhaustion.

The rudeness of the Lancashire character is, however, considerably modified, and is accompanied by so much hearty generosity amongst all classes, that it is at once forgotten in the genuine hospitality which follows. A traveller will find the country inns homely and cheap, and the landlords mostly intelligent and obliging; but men who are engaged in public business will seldom need to trouble the innkeepers. A guest to an educational or social gathering will on arrival commonly find lodgings prepared for him; he will be warmly welcomed at the festive board; his feet will rest upon rich ottomans, or be buried in long woollen snowy hearthrugs; and when the labours and enjoyments of the evening are over, he will find sweet oblivion upon a bed of down in a room heavy with decorations, and from which the light of day is strictly excluded, until the footman comes in the morning with hot water and announces the time to rise.

And the generosity of the poor is, except in its accessories, not very different to that of their richer brethren. The men are cast in the same mould; they give a rougher but not less hearty welcome; they unhesitatingly link arms with the visitor, and tell him that he is to "go to Thompson's to tay;" and, during the progress of the meal, he is frequently reminded that he is "aitin nought," whilst a brisk conversation is meanwhile kept up about the business

in hand. The tea is universally accompanied by hot cakes of flour, or flour mixed with potatoes, baked specially for the occasion, and soaked with butter. Oatcake of home production and cheese are also commonly found upon the table. But the lodging accommodation amongst the working class in the villages, during the first quarter of the present century, betokened more friendliness than delicacy. It happened too frequently that a workman's cottage consisted of but one room down stairs and one up; and if the family was small, the children would occupy a portion of the same room with the parents. Where could the kind-hearted souls stow away a visitor? The practice (which we hope is now extinct) was for the visitor in such a case to occupy a part of the host's bed—a male visitor sleeping behind the husband, and a female behind the wife. The writer was once, after attending a public meeting, taken to a lodging engaged for him, and, after supper shown into a double-bedded room. Not liking to complain about the accommodation which his good-hearted friends had provided, and assuming that the other bed was for a male lodger, he retired to rest, but had not got to sleep before the hostess and her grown-up daughter made their appearance in the room, and having partially undressed, extinguished the light which they had brought, and in due time took possession of the second bed. A slight noise disturbed the guest before daylight, but when the sun had risen, he found himself the sole occupant of the room. The hostess and her daughter had risen to work, and appeared at the breakfast table without a blush, thoroughly unconscious of any improper action. Breakfast amongst the operatives usually consists of oatmeal porridge, with milk or treacle according to taste, followed by a cup of boiled coffee, with bread and butter or cheese and oatcake.

It is said that one of the greatest disadvantages with which trade has to contend in Roman Catholic countries is the frequent holidays which interfere with and depreciate the discipline of the workshop, and thus by hindering work enhance the cost of production. In the days when the manufacture of cotton was a domestic occupation, holidays were frequent in Lancashire also, and so popular that even the most steady-going people felt impelled to join in them; and the physical exercise and enjoyment of these holidays, whilst hindering production and preventing economy, had yet their good side in promoting the health and longevity of the people. They were worse housed, worse paid, and worse taught, but

outside the towns they were stronger and longer lived than at present. The ceremony of marriage is regarded everywhere with especial interest. Rich and poor invite their friends to rejoice over the auspices of the new adventurers on the sea of life. In many countries the visitors are bearers of costly gifts, which serve not only as tokens of affection but aid materially in furnishing the house for the young couple. In rural Lancashire the custom a century ago differed somewhat from the usages of polite society; and Manchester, being a very large parish extending to Oldham and to Ashton, occasionally even now exhibits a remnant of the olden time. Manchester Cathedral or Parish Church is the favourite place for marriages amongst the country people; and it frequently happens that several couples, from the same locality, arrange their weddings for the same day, and make holiday in Manchester after the ceremony. Probably the blushing brides are kept in better countenance by the largeness of their escort, and stand the gaze of the smiling citizens better than they would do alone. However that may be, it was not unusual a few years ago for a company to adjourn from the church to the hotel, and after liberal refreshment to parade the streets, preceded by a fiddler playing some merry tune, and occasionally the confidence in the future was so great that a cradle formed part of the procession on the return home. The visitors to the weddings of the poor do not bear many presents, but the feast is never stinted, and it is common when all is over to share the expenses. This custom is sometimes abused by regular toppers, who, knowing that many moderate people will share the payment, drink as long as they can keep their seats, and turn the marriage feast into a drunken orgie.

These strong-limbed and shrewd lovers of liberty, who were ready for any game requiring strength, agility, or endurance; ready even to be drilled by moonlight upon the mosses and wastes, so that they might be ready, in case of need, to fight for "their political rights;" were to be disciplined to regular hours of work, to learn to run at the sound of the factory bell as a serf at the command of his lord, or a dog at the word of his master. It is easy for us now-a-days to set up the doctrine that all useful work is honourable; easy for us to see that the lad who sweeps a crossing to the best of his ability is a hero; that it is a duty for every man to perform the work which is before him with all his might,

and that in so doing he is contributing to the progress of civilization, and increasing the enjoyments of all by whom he is surrounded ; but the commencement of the factory system made great demands upon the workmen of Lancashire. They had been used to control their own time and to spend it as suited them ; but factories demanded regular work, because all the fixed expenses would be the same whether all the hands were at work or not. Rents and taxes would go on, fuel must be paid for, and the machinery kept in motion if only half the proper number of hands were in attendance, and the economy of production would therefore depend very much upon the proportion of hands present to the machinery in rotation. But the economy of the employer would often look like cruelty to the workpeople, and there was a long and a hard struggle against the change from liberty and domesticity to the discipline of the factory ; but it was the struggle of ignorance against intelligence, of weakness against strength, the struggle of man against the powers of nature.

Kay's fly shuttle appears to have been willingly and speedily adopted, for it enabled each weaver to increase his production, and if it did not find him more work to do would simply give him more leisure for enjoyment. It required no costly alteration, sacrificed no old machinery, and could therefore make its way with "undertakers" who owned shops of looms, and spent their own time principally in going to and from the warehouses and in general superintendence of the workshop ; and the drop-box would doubtless meet with equally ready acceptance for the same reasons.

Mr. Mann, in his history of the cotton trade, tells us that in 1741 (*i.e.*, just prior to these inventions), the weaving of a piece containing 12lbs. of one shilling and sixpence weft (a very coarse quality) occupied a weaver's family about fourteen days, and that the price for weaving was eighteen shillings ; that spinning the weft cost nine shillings ; and picking, carding, and roving about eight shillings ; making a total cost for work alone, exclusive of spinning the warp, of thirty-five shillings—add for the spinning and preparing the linen warp eighteen shillings, and the total cost of workmanship alone would be fifty-three shillings for a piece of coarse cloth weighing about 24lbs. Just before the cotton famine, good grey twills of pure cotton were freely sold at tenpence per pound, or twenty shillings for 24lbs.

Improvements in the process of spinning were in quite a different category to those in weaving. A spinning frame producing a number of threads at the same time threatened to annihilate the spinning wheel,—threatened also the domestic arrangements which had hitherto been carried on in harmony with the demands of trade. Kay had simply doubled the power of the loom, but there was no apparent limit to be set to the power of a spinning frame, and it therefore threatened also to deprive some people of employment.

It would be a curious inquiry to trace out the causes which lead to the centralising of any industry in a particular locality, but it is beyond our present range. It is easy enough to see that prior to the construction of railways and canals it would be difficult to conduct any operations of great magnitude far from the market for produce, and thus, in trades dependent upon foreign countries, the towns and cities upon navigable rivers would enjoy a great advantage over those situate in the interior of the country. Cotton seems to have tried various localities before finally settling down in South Lancashire. Whyatt's first frame for spinning two hundred and fifty threads at once was set up in the Priory at Birmingham, and was turned by cattle, and he afterwards tried another at Northampton. Hargreaves, who worked a spinning frame in 1767, was driven from Blackburn to Nottingham, and was followed there by Arkwright with his water frame, and about the year 1795 cotton was also spun on frames in the Priory at Coventry; but in later years the trade has been almost confined to Lanarkshire, in Scotland, and in England can hardly be said to flourish beyond a forty miles radius from Manchester. Probably the convenience of the rivers Mersey and Irwell, which practically join Manchester to the cotton port of Liverpool, materially assisted in this centralization, and the energy of the late Duke of Bridgewater, and of his engineer, Brindley, practically settled the question, by means of the canal which, having wharves close to various pits and making an additional highway between Manchester and Liverpool, distributes coals for consumption and also carries produce to market.*

The total amount of cotton imported into this country in 1781 was 5,198,778lbs., or about 13,000 bales of 400lbs. each, which was equal to the consumption of about a day and a half in 1860.

* The available coal of South Lancashire is estimated at 4,000,000,000 of tons.

The greater portion of that amount probably came from the Levant, for the whole of the cotton exported from India fifteen years later was 853,920lbs., and 864lbs. of this was sent to America, where the cultivation of this important staple was just commencing. In the year 1800 the consumption of cotton in this country had reached about 129,000 bales of 400lbs. each, being equal to about three weeks consumption in 1860.

No good results were achieved by Whyatt's spinning frame, and the invention was practically neglected for a generation, whether for lack of capital or from imperfect working does not appear; but from the date of the invention of the jenny by Hargreaves, and the application of the water frame by Arkwright, progress was really begun, and has been steadily continued ever since.

The great advantage of these frames was the increase of production, but by their superior work they also enabled cotton to be substituted for linen warp, and thus further economised the cost of manufacture. Trade was rapidly extending and Manchester merchants were growing rich, and to meet the ever increasing demand they, about the year 1800, put out warp and weft for weaving, not only to dwellers in their immediate vicinity, but to undertakers from the surrounding villages, and from Oldham, Ashton, Hyde, Bury, Bolton, and other places. A lounge on the outskirts of Manchester would often see an irregular procession of weavers, with their white aprons, coming to town in the morning with calico pieces, and returning in the evening with wallets slung over their shoulders loaded with warp and weft for the next week's work. And not unfrequently would they turn into a favourite alehouse on the road, and, forgetting that wives and children were anxiously waiting their return, would carouse far into the night, and then stagger home under burdens increased by inebriety but with sadly lightened purses, and a prospect of short supplies until the next delivery of goods.

Mr. Mann tells us that a person engaged for eight hours at the spinning wheel could only produce about twelve ounces of yarn of a low quality, and that the average cost of spinning would be about three shillings per pound. A fair estimate of all the improvements will be formed when we state that the cotton consumed in 1860 was more than six hundred times as great as at

the period spoken of, and that the cost of spinning alone, calculated at three shillings per pound, would be nearly thrice as much as the total value of all the cotton goods produced; or, in other words, that the improvements have reduced the cost of goods to about one-twelfth their former price. One shilling in 1860 would purchase nearly as much as twelve shillings did at the period spoken of by Mr. Mann.

The invention of the spinning frames necessitated the erection of large buildings, and pointed to the application of water or other mechanical power, and the exchange of domestic for factory labour. There is no difficulty in realising the fact that such a change would be regarded with intense dissatisfaction by the jovial and liberty-loving operatives of South Lancashire. It is easy enough to rise early and to work long hours under excitement, for some special object; but for boys and girls to rise regularly through the bleak winter, and trudge a mile or more through rain, or sleet, or snow, to be ready for the six o'clock bell, would be a great hardship. When working at home a temporary headache or toothache would be a fair excuse for an hour's extra rest, a feeling of listlessness would be dispelled by a turn in the garden or up the field path, and the accidental call of a friend from a distance would lead to an afternoon's chat or a country walk; but factory occupation forbids all these indulgences; a slight ailment must not interfere with work, and absence without leave would necessarily endanger employment.

And factory work would not only destroy domesticity and freedom, but would also annihilate the capital of the workman. Many a man who by hard work and strict economy had become the owner of a few looms would, if he lost health, solace himself, and say to his wife, "Well, lass, if aught happens me thou'lt ha' th' looms, and they'll help thee along;" and he would look upon anything which lessened the value of this property not only as a misfortune, but as a cruel injustice. Perhaps the natural repugnance of the people to forsake their domestic occupations stimulated the resort of manufacturers to the agricultural districts for families for the sake of their juvenile labour, and to workhouses for apprentices to learn cotton spinning and weaving. Persons who remember what the workhouses were before the enactment of the new poor-law, how the name workhouse, or house of industry, was an entire

mockery, will not be surprised that the transference of ignorant youths from abodes of idleness into factories heated to sixty or seventy degrees Fahrenheit, where the labour required continual and close attention for twelve hours per day, should originate tales of the grossest cruelty ; and that the "herding" together of hundreds of persons of both sexes should have been pronounced productive of great immorality. Nor is it likely that the reports were all fictitious, for it would be difficult even now to give scores of orphans into the charge of men whose only interest is to extract out of them as much labour as possible, without finding plenty of room for complaint ; nevertheless thousands of parish apprentices have fulfilled their terms of service and become clever workmen, and have seen reason to be thankful that they were sent into the cotton districts, instead of being left to alternate for life between southern agricultural wages and the workhouse. We all dislike flogging at school, and some of us have had experience of brutal schoolmasters, but we learn in after life to see that the faults were not all on one side, and all malice is dismissed, and we shake hands heartily in our maturer years with the men who were the terror of our youth ; and the experience of the school is equally applicable to the period of apprenticeship or any other servitude.

The progress of the factory system in Lancashire is being enacted over again in the silk trade in the present day. During the last half-century the "single hand loom," making one ribbon at a time, has been superseded by the "engine loom," making from four to thirty pieces at once ; and that again by the "power loom," adapted for domestic use by the substitution of a windlass or a lever for the work of hands and feet at the batten and the treddles ; and many a man who, forty years ago, reckoned his possessions at a hundred pounds in looms finds his fortune reduced to the value of firewood. So strong was the feeling in Coventry against the factory system, thirty years ago, that an intelligent weaver, in a discussion upon the utility of the application of steam power to machinery, declared that rather than let his children go to work in a factory he would dash out their brains against the wall. The strength of this prejudice burned down the first ribbon factory, and has since led to an attempt at compromise between domestic employment and the mill. Rows of cottages have been built with loom-shops in the upper story, and a shaft running through the

whole of the shops, turned by a steam engine erected in the centre of the row. A charge is made for steam power in the rent, and the engineer attends during a given number of hours per day; but if the weaver desires to continue at work after the engine has stopped he resorts to the windlass, which he gets a boy to turn. The weak point in this system is, that the vagaries of fashion render ribbon weaving an irregular trade, so that in a row of twenty cottages it will often happen that half of the looms are empty. Yet the power must be paid for whether used or not, and the weaver finds himself saddled with a burden which, under the factory system, would be borne by the employer; and the consequence is, that on the occurrence of bad trade the power-loom cottages are the first to be deserted, and thus the landlord loses not only his steam-power rent but that of the cottages also. The remedy will probably be found by the employer owning the cottages, and charging for power only when the looms are at work, which will make it doubly his interest to keep the tenants employed.

In 1762 Wilson, of Ainsworth, began to dye Turkey red, and in the following year grass bleaching was generally resorted to; but it was a tedious process, requiring constant exposure and frequent wetting of the goods for months. In 1774 it was shortened one-half, by the use of diluted acid; and in 1786 James Watt brought home from France the invention of Berthollet for chemical bleaching, which reduced the time of the operation to a few hours, and released the pastures, which, to a stranger's eye, had for a quarter of a century looked like pictures of winter all the year round. In 1764 calicoes were first printed in Lancashire; and in 1786 machinery invaded this department also, substituting cylinders with continuous patterns for the square blocks of wood, from which patterns had hitherto been impressed by hand; and the race of improvement has gone on until as many as fifteen cylinders and fifteen different troughs of colour contribute simultaneously to the most complicated and beautiful patterns which adorn the furniture prints of the present day.

Hargreaves' spinning jenny commenced in 1767 with eight spindles; in 1770 it had sixteen spindles, but it was only fit for weft yarns, which require less strength than warp. Arkwright followed closely upon the heels of Hargreaves, and in 1769 produced the water frame, which, whilst drawing out the roving, gave

it also the requisite twist to fit it for warp yarn. The drawing or elongating was effected by passing the yarn between two sets of rollers, the second pair of which revolved more rapidly than the first, and therefore elongated the thread in the proportion of the different rates of motion.

As this machine was an improvement upon, so it practically superseded that of Hargreaves, and left him unrewarded for all his labours. Arkwright succeeded in finding the necessary capital for the erection of mills, and in producing largely enough not only to repay his outlay but to accumulate a handsome competency.

In 1769 he erected a mill at Nottingham ; and in 1771 he built a second at Cromford, in Derbyshire, and increased the produce of yarn to such an extent that he found it advisable also to procure looms for weaving it.

The father of the first Sir Robert Peel had attempted cylinder carding in Blackburn about 1760, instead of hand combing to straighten the fibres of cotton, but the difficulty of stripping the cylinders by hand caused its abandonment. Hargreaves, in or about 1773, brought out the crank and comb for stripping the cotton from the cylinders in one continuous sheet of fleece, which, being contracted and drawn through a funnel, formed a "sliver" or loose filmy roll, ready for twisting. Two years later this contrivance was included in a patent by Arkwright, and poor Hargreaves was again left stranded. Some authorities, however, it is fair to say, give to Arkwright the credit of the invention, as also of the drawing frame, which is connected with it in the patent. This latter machine straightens the fibres by stretching the sliver each time it is passed through, two or more slivers being united into one before each passage. The sliver is then ready for the roving frame, which being fitted with three pairs of rollers, each revolving at different speeds, so as to continue the stretching process and reduce the sliver to the requisite degree of fineness, then delivers it into tall circular tin cans, which are kept revolving rapidly, so as to twist the sliver or roving sufficiently to allow it to be wound upon wooden bobbins. This machine enabled spinners to substitute cotton for linen warp yarn, thus achieving a measure of economy whilst supplying a more satisfactory medium for calico printers. Microscopic examination shows that the fine and delicate cotton fibre is a hollow cylin-

drical tube, and it is said that the mordaunt used by printers drives the colour into the interior of these tubes, and thus produces fast colours; but that the colour rests only upon the surface of the solid woody fibre of linen, and so more easily washes off.

In 1779 the inventions of Arkwright were in turn eclipsed by the mule produced by Samuel Crompton, of Bolton, a machine which derived its name from its combination of the principles of the jenny of Hargreaves and the water frame of Arkwright. This machine draws out the roving, as in the water frame, and when a certain length is drawn out, it is then twisted by revolving spindles, and wound into a somewhat conical form, called a cop, and is ready for the shuttle. Crompton's first mule had only twenty spindles, but the principle combining the greatest simplicity with the most economical and perfect result yet attained was there, and was capable of indefinite extension. The best commentary upon the value of this invention is the fact that, whilst the size of the mule has been increased time after time, until it has reached twelve hundred spindles, producing twelve hundred threads at once, the only considerable variation from or addition to Crompton's arrangement has been the introduction of the self-acting principle—moving the carriage backwards and forwards by means of the steam engine instead of by the hands of the spinner, and securing thereby the same exact amount of twist in each length or stretch of yarn, instead of depending on the judgment of the workman. The movable carriage upon which the spindles are ranged recedes from the rollers more rapidly than they deliver the threads, and the yarn is therefore stretched and twisted at the same time, in addition to the stretching produced by the increasing velocity of the different sets of rollers. The mule in its rudest form sufficed to produce what is called 80's yarn, but it has since produced usable yarn so fine as to require eight hundred hanks of 840 yards each to weigh one pound.

This machine—much more valuable for its saving of labour than the water frame—was not patented; and the consequence was that, whilst Arkwright amassed a very large fortune, and received a baronetcy from the crown, to be converted into a peerage in the son of his partner (Mr. Strutt, afterwards Lord Belper), it cost a vast amount of labour to get from the government the paltry sum of five thousand pounds for Crompton; and this sum

was the reward for all his labours, the value of which to society would be beyond the power of estimate in money. In 1785 the inventions of Arkwright also became public property, the validity of his patents having been successfully contested—a circumstance which is held by some persons to prove only the malice of his competitors, and by others that his genius consisted mainly in the clever manipulation of the fruits of other men's labours.

The cost of spinning 80's mule yarn in Crompton's time was forty-two shillings; of 60's, twenty-five shillings; and of 40's, fourteen shillings per pound; the cost of the same articles just prior to the cotton famine was one shilling, sevenpence halfpenny, and fourpence respectively.

In 1783 the atmospheric engine was applied to machinery in Manchester, and in the next year Dr. Cartwright, of Glasgow, endeavoured to secure progress in the weaving process, so as to bring it more nearly into accord with the great advance made in spinning machinery. The productive power of the spinner had been increased a hundred fold, whilst that of the weaver had simply been doubled.

With this view he constructed a loom to be worked by steam power. It was a clumsy instrument and brought its author no profit, but it was the commencement of a great revolution. The necessity for improvement was obvious, and men's minds were now directed to the subject; and the fortune accumulated by Arkwright seemed to say that there were prizes as great in store for successful improvers of looms as had been already achieved by adventurers in the spinning department. England was becoming famous for her machinery, but the legislature was exceedingly jealous of foreigners, and a law was passed in 1786 which imposed fines upon persons who were *guilty* of exporting it. Thus early was the progress of one trade sacrificed to the mistaken idea of protecting another, as if a trade in machinery would not have served the interests of England as well as a trade in textile or any other fabrics.

Cartwright's loom was never got effectually to work, and of course brought him no profit, as it did society no positive service; but in 1794 Bell, also of Glasgow, produced a power loom of improved pattern; and two years later Miller, of Preston, tried his fortune in the same direction; but it was not till 1813 (a generation after

Cartwright's attempt) that a really-useful loom was produced, by Horrocks, of Stockport; and this invention, like the self-acting mule, received its final form from the late Richard Roberts, of Manchester, an universal mechanical genius, the owner of nearly a hundred patents, who nevertheless died at last in great poverty. One of the chief difficulties in power-loom weaving was the want of an automatic dressing machine. In 1804 Johnson, of Stockport, patented a plan for dressing a whole length of warp at once; and two years later this machine was improved upon by M^r. Adam, of Glasgow, and a few years later still was further improved by Messrs. Ross & Radcliffe, of Stockport.

The application of the power of falling water to the propulsion of machinery would have enabled all the inventions of which we have spoken to be utilized, but if water alone had constituted the motive power, the manufacture would have been confined to the river banks, and have been dependent to a most injurious extent upon the state of the weather; so that the vast extension of the last half-century, with its multiplied comforts and enjoyments, would have been impossible. But simultaneously with the progress of cotton machinery, experiments upon a new motive power were being carried on, and in 1785 Messrs. Boulton & Watt produced their steam engine—a giant so perfect in his advent that five years only elapsed before Arkwright's mills at Cromford were turned by the strength of his arms. From Hargreaves' jenny to Crompton's mule were twelve years, from Cartwright's loom to that of Horrocks were thirty years, but James Watt produced and successfully applied the steam engine at once, and the greatest industry of the world was thus unchained; and, leaving the river banks, climbed the hills and spread over the moors, reclaiming them from waste to produce food for the tens of thousands of operatives, who, by the help of the new power, were elaborating useful and luxurious clothing for half the world.

The engineer of the Bridgewater canal is reported to have been so enthusiastic in his profession as to have said that the chief use of rivers was to feed canals; much more reasonably might an enthusiast for the steam engine assert that the chief use of water is to be converted into steam as a motive power, for its utility is so vast and its application so varied as to be perfectly astounding. A pint of water and two ounces of coals will, by the aid of a steam

engine, raise a weight of seventy-four tons to the height of one foot, and a single bushel of coals will exert as much force as fifty-four horses.

By the labour of the steam engine mines are sunk and drained, coals and metallic ores are raised to the surface, thus providing its own food and water; the metallic ores are crushed, the metal forged and rolled, planed, turned, drilled, bored and polished, ready to be fitted into machines of all kinds, including the steam engine itself, which may therefore be called self-producing; by the aid of the steam engine, stones are cut and dressed; clay is ground and compressed into bricks; corn is converted into flour and kneaded into dough; wool, flax, silk, and cotton are spun into thread, woven into cloth, and stitched into garments; and when all these things are prepared for use, the steam engine distributes them throughout the length and breadth of the land, and carries them across the ocean, against wind and tide to the uttermost ends of the earth, spreading civilization and increasing enjoyment everywhere.

But one more invention was necessary to achieve the complete independence of the cotton trade. The improvements in spinning and weaving furnished immense powers of production; the steam engine gave a wide range in the choice of locality for the trade; the people learned in due time to respond to the factory bell as the pious villager does to the Sunday chime: but wintry days were short and dark, whilst the fixed charges of the spinner remained the same as in summer, and the light of oil and candles was dear, dull, dirty, and dangerous. The crowning point of invention was reached in 1803, when coal gas was introduced into a mill in Salford, giving light enough for efficient work independently of the sun, and thus practically doubling the powers of production, and minimising the danger of artificial light, by compressing twenty-three candles into a single jet at less than a quarter of the cost.

The progress of the cotton trade would, in all probability, have been even more rapid if it had not been an object of especial care from time to time with the legislature. In 1798 an import duty was levied upon raw cotton, and was continued with no less than fourteen changes in the rate of duty till its final extinction in 1845; so that this giant trade has only been completely unfettered at home for twenty years. But not satisfied with taxing the raw material, the legislature imposed a ban upon the ornamentation

of calico, in the shape of an excise, first of sixpence, and afterwards of threepence per square yard on printed cottons, which latter duty was only removed in 1831. Practically, they said to the people, "if you will seek to increase your comforts by importing foreign productions for manufacture, you shall pay a fine for each offence, and when you have suffered the punishment you may make plain calico if you like; but if you venture to exercise taste upon it, or to gratify the love of colour in any way, you shall pay an additional fine to the government." Thus enterprise and improvement met with the same treatment as misdemeanours, and the taxes imposed made an unnaturally large capital necessary for the pursuit of trade, whilst the merchants were converted into tax-gatherers, at salaries dependent on the competition amongst themselves; but they were forced to pay the taxes, whether they collected them or not; they paid not only on their incomes but on their losses also, for if they never got paid for goods sold they must still pay the tax, as well as losing the goods. It is not wonderful that such legislation led to schemes to cheat the government; and employées of the last generation of calico printers tell strange stories about the excisemen being plied with wine whilst charging the duty, and forgetting their own duties in consequence. It is wonderful that any trade should flourish at all when subjected to the incubus of excise, but it is not wonderful that morality should give way, before the prospect of large profit, by pleasing a corruptible official.

CHAPTER II.

Views of Employers and Operatives on Improvements of Machinery—A League against Machine-spun Yarns—Machinery Riots in 1779—Measured Madness—The War of 1793 and its Effects upon Trade—The Wage Question—Machinery the Scapegoat for War—Bankruptcies in 1793—The War of Tariffs and the Price of Bread—Import Duty on Cotton, and its Effects—Prohibition to Export Machinery—Government Nursing—The State of Blockade, 1806, and the Orders in Council—The American Embargo on Foreign Trade—Machinery and Food Riots at Leicester, Nottingham, Manchester, &c.—Economical Errors of Employers—Prejudices against Foreigners—Riots of 1826 and 1829—Destruction of Power Looms—Commencement of Working Class Day Schools, and Rise of Political Feeling.

IMPROVEMENT is never secured without labour and trouble. It has often been asserted that teaching is the hardest work in the world, and every thoughtful man knows that it is much more difficult to teach men than to teach children. The potter hath power over the clay, but that is before it is burned ; for after the action of the fire of experience, or the hardening process of age with ignorance, it is very difficult to secure a change, however obvious the advantage. The working classes are in these days often very severely judged when they oppose obvious improvements, but they are not more than two generations behind their employers in their strongest prejudices.

The spinning wheels and primitive looms were commonly either the property of the operatives who worked them, or of undertakers who fitted up (gaited) the looms, and then occupied themselves mostly in superintendence. The capital of the employer purchased the raw cotton and the imported fine warp yarns of cotton, or of home-spun linen, and paid the wages of the operatives. Any improvement in looms seemed to the weaver to threaten his employment, by needing fewer hands to supply the then present demand for goods ; to the undertaker it threatened to annihilate the value of his property ; and to the masters any improvement which increased production by a competitor in spinning or in weaving seemed as if it would rob them of a market for their

goods, the demand being looked upon by nearly all as a fixed quantity. So when the inventions of Hargreaves and Arkwright promised to increase the production of yarns beyond the power of the then looms to weave, the employers of the weavers combined amongst themselves in a determination not to purchase machine-made yarns. The intention was to ruin the frame spinners, but the effect was to make Arkwright a manufacturer as well as a spinner. And when the government had determined to tax machine-made calico as if it was of foreign manufacture, and an application was made to parliament for relief, this league of employers opposed the application. This opposition failed, and it became really clear that employers who meant to prosper must invest capital in machinery, and then poor Hargreaves' patent was pirated without scruple because he was poor, and Arkwright's was legally contested and nullified four years before it would have expired by effluxion of time. It was seen that the race for riches would be won by the owners of spinning frames and power-looms, and employers who possessed the necessary means entered heartily into the contest, and left the prejudices against machinery as a legacy to the operatives.

To these latter the future did not look so promising; they were afraid of lessened employment, they saw their domestic machines losing all value, and they disliked the prospect of factory life, with its regular hours and its forced associations with persons who were not desirable companions; and, before the new institution could get fairly established, the curse of war came upon them, and, by shutting up foreign markets, brought about the woe and want which they innocently ascribed to the effects of machinery. Hargreaves was driven to Nottingham by the destruction of his jennies in Blackburn; Kay, of Warrington (said by some persons to have been the real inventor of the water frame), had preceded him for a similar reason; and Arkwright sought the same asylum after suffering the destruction of a mill at Chorley.

Mr. Mann tells us that "we have in the riots at Blackburn (1779) evidence that the use of machinery was producing an effect upon the working class." The mob scoured the country for miles, destroying all the jennies and other machines with which Hargreaves had supplied the spinners and weavers. And at this time the middle and upper classes looked quietly on, for they also

ignorantly supposed that the only tendency of the power afforded by the machines was to contract the demand for hand labour, not having yet learned that the improved and cheapened manufacture would inevitably cause a corresponding increase of demand.

But there was a measure to this madness amongst the rioters, for jennies having not more than twenty spindles were spared, whilst all others were either cut down to that same number or destroyed. A jenny of twenty spindles was a domestic implement, a larger one would scarcely stand in a cottage. A small measure of improvement was allowable, but a great improvement was mischievous! Such was the philosophy of the mob eighty or ninety years ago, and not of the mob only, for the rioters' cause was popular with those above them; and the destruction of Arkwright's mill went on in the presence of a large body of special constables, who appear to have made no effort to prevent it. The machinery belonging to Mr. Peel, the father of the first Sir R. Peel, was also destroyed at Oldham, and he afterwards retired to Burton-on-Trent. But amidst all this prejudice, and tumult, and riot, the trade still increased.

The consumption of cotton in 1785 (when Arkwright's machines became public property) was 17,992,888 lbs., and in seven years after it had risen to 33,442,032 lbs., an increase of nearly a hundred per cent.

On 28th January, 1793, the King (George III.) in his message to parliament, informed the members that he had resolved to augment his forces "for supporting his allies, and for opposing views of aggrandisement and ambition on the part of France, at all times dangerous to the interests of Europe, but especially so when connected with the propagation of principles subversive of the peace and order of society."

In this year the consumption of cotton fell to 17,869,363 lbs., or back to the position of 1785, when a large proportion of the goods produced were by the primitive spinning wheel and loom; and the exports fell from £2,024,368 to £1,733,807, being fourteen and a half per cent. Employment was scarce and wheat was rising in price, but the French revolution had effectually frightened the nation, and the war being popular could not of course be supposed to have produced scarcity of work, or to have added six shillings per quarter to the price of wheat. The doctrine that reproductive labour alone is

permanently useful had not yet found many preachers, and people could not understand why the cessation of corn growing and calico making for the employment of killing their customers should get them into trouble. The general opinion amongst workmen was that the rate of wages was according to the whim of the employer, and that it could only be the new machinery which enabled him to diminish their wages or to dispense with their services. They did not know that as the only reason for the employment of new machinery is the extra profit made by it as compared with the old, so a considerable proportion of that extra profit being saved by the employer goes to increase the employment fund, and must, therefore, in order to realise further profit, be re-invested, and add to the bulk of wages paid. It is true that the re-investment may not be wholly made in the department which produced it, that is to say, the profit got out of spinning may not all be spent in spinners' wages, and that, therefore, a temporary displacement may occur; but whether the profit be spent upon extra spinning, or on the production of machinery, or on the building of mills or houses, it must pay wages, must promote the prosperity of the operatives, and must increase the demand for all necessary and useful articles. They knew only that a larger proportion of operatives were out of work than before the improvements in machinery, and they looked no farther for the cause of their distress. But Wheeler, in his history of Manchester, throws a light upon the subject, for he tells us that in 1793 the bankruptcies nearly trebled those of the preceding year, shewing that the mercantile classes suffered not less than the operatives in the diminution of their wealth, if not of their food; and he also tells us that the peace of Manchester was only maintained by the parade of troops with torches through the streets by night. Bad harvests accompanied the war, and in three successive years the prices of wheat ran up from forty-seven shillings and tenpence to fifty shillings and eightpence—seventy-two shillings and elevenpence and seventy-six shillings and threepence per quarter. With war taxes, bad harvests, and the annihilation of foreign trade, it is not wonderful that a disposition to riot was frequently manifested in various parts of the country.

In 1796 the French, in order to strike a blow at the "nation of shopkeepers," prohibited the import of English manufactures, and

thus commenced the war of tariffs, whilst the human war was still raging; and, as if to punish the nations to the utmost for their folly, the earth refused its customary fruits, and the price of wheat, which in 1797 had fallen to fifty-two shillings and twopence, and in 1798 to fifty shillings and four-pence, ran up again in the next three years to sixty-six shillings and elevenpence, one hundred and ten shillings and fivepence, and one hundred and fifteen shillings and elevenpence per quarter. In this last year (1802) old men say that the sixpenny loaf was not larger than a man's fist, and was nearly as black as peat bog, and that thousands of people died from absolute want of food.

In 1798 the English government imposed a duty upon imported cotton, varying from six shillings and sixpence to twelve shillings and sixpence per 100 lbs., except on the productions of the East Indies, which were taxed at four per cent *ad valorem*, or five shillings and fourpence per 100 lbs. at the then price of Surats. Cotton goods, being cheaper than linen, were rapidly increasing in demand for home consumption, and this tax did not actually diminish the imports, which, indeed, were 7,500,000 lbs. more than in the previous year; but the power of the spinners had outstripped the demand of the manufacturers, and whilst the import duty raised the prices of raw cotton greatly beyond the amount of the tax, the prices of yarns fell off considerably. Uplands cotton rose from twenty-four pence to thirty-three pence per pound, Brazils from thirty-one pence to thirty-nine pence, and Surats from sixteenpence to twenty-three pence per pound; whilst mule twist, No. 100's, fell from nineteen shillings to nine shillings and tenpence per pound. A large portion both of the rise in cotton and the fall in twist was no doubt due to the increased demand created by the new machinery, and the facility of production by its means; but all experience goes to show that a tradesman cannot be made to invest his capital in taxes at less than a trading profit, which is always many times as much as the mere cost of collection. And this is necessarily so, for if a tradesman sells goods with the tax paid, and his customer becomes a defaulter, the tradesman is in the position of paying taxes upon his losses, and he must needs make his solvent customers pay for these bad debts, taxes included, in order to save himself from ruin.

It is very difficult, if not impossible, to understand the policy of the legislature in its various enactments concerning the cotton manufacture, for they are as inconsistent as the vagaries of an ignorant mother towards a child, which she first pets, and then scolds, and then pets again, just according to her own humour for the time being, and without regard to the real interests of her charge. In 1782 an act was passed prohibiting the export of engraved copper plates and blocks, and imposing a penalty of £500, or twelve months' imprisonment, for enticing any workman engaged in calico printing to go beyond the seas. The operatives, regardless of their own interests or inclinations, were to be kept at home for the benefit of the employer; and the employer, in his turn, was forbidden to sell the fruits of his enterprise to a Frenchman or a Dutchman, but was to be satisfied with the prices procurable at home. This was trade in a strait waistcoat, for fear that it should be mad enough to ruin itself by finding out and occupying the best markets.

In the next year (1783), the import duty on foreign muslins, calicoes, and nankeens was reduced; and at the same time a bounty was given on the export of British printed and dyed cottons. Here there was in operation, at the same time, the removal of a piece of protection by the lowering of import duties, and the enactment of another by the gift of a bounty. Surely, if English prints needed a bounty to send them into foreign markets, there was not much need to prohibit the export either of operative engravers or of the plates produced by them; for their work could not be in great demand in markets which our finished goods needed a bounty to reach. The operative was kept at home to engrave, and the whole nation was taxed to make a foreign trade for him and for the calico printer; whilst, on the other hand, the price of the raw material, which employed them in common with all the cotton operatives, was artificially increased by the import duty on cotton, and the cost of dress was further enhanced at home by an excise on calico prints; when the simple removal of these taxes would in all probability have stimulated the whole of the trade, and have served the calico manufacturer and printer vastly more than any government nursing could do. But the nurse exacted wages from its child, for, in 1784, calico printers, bleachers, and dyers were obliged to take out licences, and an excise of a penny per

pound was imposed on all bleached calicoes. In the same year a tax was also imposed on fustians, which so manifestly hindered the trade that it was repealed in the next session of parliament. These oscillations between government petting and government punishment seem then to have settled down till 1802, when the import duty on raw cotton was increased in ratio, without producing an increased revenue ; and was increased again in 1803, and still again in 1805, when it reached its highest point ; and from 1809 was reduced on various occasions, until finally extinguished in 1845.

In 1806 the famous Berlin decree of Napoleon declared the British Islands in a state of blockade, and all captured British goods lawful prizes, and excluded British vessels from trade in all the ports of France, and all countries under her control ; and every vessel, of whatever nation, which had touched at any British port, was put in the same category.

In February, 1807 (three months after this decree, and in consequence of its promulgation), the "orders in council" announced the blockade of the whole French dominions, and forbade any neutral vessel from entering a British port if it had touched at any French port, and justified the capture of all French produce ; and it further decreed that no British vessel should trade with the enemy, so that all trade with France or her dependencies was henceforth reduced to smuggling.

In the next year was issued the American embargo on foreign trade, and the imports of cotton fell off to the extent of thirty millions of pounds. The orders in council continued in force, notwithstanding petitions against them from London, Manchester, and Hull merchants, till 1812, when the cotton imports again fell off about 28,000,000lbs. In that year, Mr. Brougham (now Lord Brougham) brought evidence before the House of Commons, on the state of trade and the terrible condition of the cotton operatives. Wheat was one hundred and twenty-two shillings and eightpence per quarter, and the food of the people was of the most wretched kind ; bread, or even potatoes, said he, are quite out of the question ; the luxuries of animal food, or even milk, they had long ceased to think of. So pitiable was the state of the people, that notwithstanding the vindictive feeling against France and her allies, the orders in council were upon these representations immediately repealed.

Bad harvests, war taxes, and an inflated currency, which raised the prices of all articles, except labour, had all contributed to this terrible distress, but the operatives saw principally one cause at work. Improved machinery had enabled one man to vastly increase the produce of his labour, and they concluded that if the machinery was out of the way, there would be more work and more wages for each of them. They did not know that the employment of more hands for the same result would not increase the purchasing power of the public, and that to raise the price of a commodity must needs prevent its sale, and so in their instance, whilst robbing the world of a large amount of clothing, would still leave the workman in the same miserable plight. How could they know these things? The education of the masses was as yet a dangerous doctrine, their only teaching was from the pulpits, and this teaching did not reach one half of the operative classes, and except amongst the dissenting local preachers, the universal tenor was "obedience to the powers that be, for they are of God," whilst want and suffering gave practical proof of the bitterness of the lesson.

In 1811-12 the powers of nature embodied in improved machinery for man's comfort were openly denounced as the cause of, and made the scapegoat for, his sufferings. The riots against machinery commenced at Leicester, where the workmen supposed themselves worse off, because, by the aid of a wide frame, a man could make more stockings in a given time than in a narrow one. As if the farmer who would be well off by the produce of six bags of wheat per acre should be ruined if the same land and the same labour gave him ten bags.

In April, 1812, there was a food riot in Manchester, which was quelled for the moment by an arbitrary arrangement of the authorities to reduce the prices of potatoes from fourteen shillings or fifteen shillings to eight shillings per load. A cart with fourteen loads of meal was stopped at New Cross, and the meal carried away. The cavalry were needed to preserve the peace, and the magistrates had to promise full protection to the farmers to induce them to bring produce to market for sale at all.

In the same month a riot took place at Middleton, where a mill had been erected for weaving by steam, and the object of the mob was to destroy the place. But the proprietors had been forewarned, and armed defenders occupied the building, and when the place was

attacked and the windows broken, the crowd was fired upon, three of them being killed and many more wounded. On the next day, the crowd returned to the charge, being then also armed, but the authorities were awake, and the factory was now defended by soldiers; and the crowd, foiled in their first object, turned to the house of the proprietor, and wreaked their vengeance by setting it on fire. Here they were followed by the military, and five more of their number were killed, and many others wounded. Four days later (24th April), a mob assembled at West Houghton with the declared intention of destroying the power looms which were at work at that place. A troop of soldiers was dispatched thither from Bolton, who, finding all quiet, returned home again, when the mob immediately re-assembled, set fire to, and completely destroyed a large factory. The operatives undoubtedly believed that the increased facilities for the production of wealth by improved machinery were the cause of their poverty, but this belief was, it was shrewdly suspected, made use of by designing persons to enable the government to crush out the new political life which was now rising into being, and struggling for development. However that matter may be, it is certain that the most susceptible prejudice was that against machinery, and that the next assize gave evidence of the fearful amount of passion which had been excited, and of the fearful retribution exacted; for, according to Archibald Prentice, more than twenty persons were sent to the gallows, and one of the poor fellows was so young as to call upon his mother at the scaffold in the vain hope that she could save him from a felon's death.

Amongst employers it was now well settled that the greater the power of production the more valuable the machine, and an improvement was tolerably certain of immediate adoption, the chief care of the inventor being to prevent piracy; but the knowledge of political economy as a science was still to come.

The employers petitioned against the corn law of 1815, upon the plea that its enactment would tend to raise wages, forgetting that if more means were expended on food there would remain less for clothing, and that consequently every addition to the price of corn would lessen the demand for cotton and other manufactures, and throw hands out of employ, and force those remaining at work to accept less instead of demanding more wages for work.

The sons of these men when agitating for the repeal of these same corn laws, from 1839 to 1846, thought it very foolish of the Chartists to declare that "cheap food meant cheap wages," and foolish enough it was, as the theory of political economy shewed, and as events have since demonstrated; but the working men Chartists were then only dressed in the cast-off clothes of their employers, for their doctrine was a perfect counterpart of that announced by the employers in 1815; they were just a generation behind in this respect, and in some other matters not quite so far.

A foreign trade in yarns had sprung up, and it was predicted that evil would arise from the exportation of twist; the assumption being that if twist was not exported the demand for calico would be increased proportionately, and thus thousands of extra looms be employed. It was forgotten that twist was not given away, but sold for a profit, and that so long as a profitable trade was done it mattered not to the interests of this country whether it was in yarn or cloth, for that if the sum spent by foreigners for yarn was spent on cloth it would simply employ extra weavers at the expense of some of the spinners. And it was also forgotten that to prohibit the export of yarns might possibly result in setting up rival spinners on the Continent instead of bringing extra customers for cloth; just as at an earlier date at home, Arkwright had been forced into manufacturing by the refusal of employers to purchase his yarns.

The same kind of foolish objections were urged against allowing foreigners, resident in Manchester, to purchase fustians in the grey instead of in the finished state, and it was even feared that some of them might become manufacturers! What would these old manufacturers think if they could return and look down the long array of German, Greek, and other foreign names which now adorns the list of merchants in the Manchester directory? How heartily they would laugh at their own former follies, and how glad would they be to see the demonstration that the interests of a nation are not promoted by exclusiveness, but by universal goodwill and fraternity. The foreigners are amongst the most enterprising of our merchants, and, whilst they do not obtrusively interfere with our local or national politics, they are yet found prominent amongst the donors to charitable objects.