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The Industrial Village of the Future

Pëtr Kropotkin

1884

The two sister arts of Agriculture and Industry were not always so estranged from one another as they are now. There was a time, and that time is not far off, when both were thoroughly combined: the villages were then the seats of a variety of industries, and the artisans in the cities did not abandon agriculture; many towns were nothing else but industrial villages. If the medieval city was the cradle of those industries which fringed art and were intended to supply the wants of the richer classes, still it was the rural manufacture which supplied the wants of the million; so it does until the present day in Russia. But then came the water-motors, steam, the development of machinery, and they broke the link which formerly connected the farm with the workshop. Factories grew up, and they abandoned the fields. They gathered where the sale of their produce was easiest, or the raw materials and fuel could be obtained with the greatest advantage. New cities rose, and the old ones enlarged with an astonishing rapidity; the fields were deserted. Millions of laborers, compelled to leave their cottages, gathered in the cities in search of labor, and soon forgot the bonds which formerly at-

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tached them to the soil. And we, in our admiration of the prodigies achieved under the new factory system, overlooked the advantages of the old system under which the tiller of the soil was an industrial worker at the same time. We doomed to disappearance all those branches of industry which formerly used to prosper in the villages; we condemned in industry all that was not a big factory.

True, the results were grand as regards the increase of the productive powers of man. But they proved terrible as regards the millions of human beings who were plunged into an unprecedented, unheard-of misery in our cities. The system, as a whole, brought about those quite abnormal conditions which I have endeavored to expose in two preceding articles.¹ We are thus driven into a corner; and while a thorough change in the present relations between labor and capital is becoming an imperious necessity, a thorough remodeling of the whole of our industrial organization has also become unavoidable. The industrial nations are bound to revert to agriculture, they are compelled to find out the best means of combining it with industry, and they must do so without loss of time. To examine the special question as to the possibility of such a combination is the aim of the following pages. Is it possible, from a technical point of view? Is it desirable? Are there, in our present industrial life, such features as might lead us to presume that a change in the above direction would find the necessary elements for its accomplishment? -- Such are the questions which rise before the mind. And to answer them, there is, I suppose, no better means than to study that immense, but over-looked and underrated, branch of industries which are described under the names of rural industries, domestic trades, and petty trades: to study them, not in the works of the economists who are too much inclined to consider them as obsolete types of industry, but in their life itself, in their struggles, their failures and achievements.

¹ *Nineteenth Century*, April and June, 1888.

Most of the petty trades, we must admit, are in a very precarious condition. The wages of the workers are very low and the employment uncertain; the day of labor is by two, three, or four hours longer than in the factories; the crises are frequent, and they last for years. And each time a crisis ravages some branch of the petty trades, there is no lack of writers to predict the speedy disappearance of the trade. During the crisis which I witnessed in 1877 amid the Swiss watch-makers, the impossibility of a recovery of the trade in the face of the competition of machine-made watches was a current topic in the press. The same was said in 1882 with regard to the silk-trade of Lyons, and, in fact, wherever a crisis has broken out in the petty trades. And yet, notwithstanding the gloomy predictions, and the still gloomier prospects of the workers, that form of industry does not disappear. Nay, we find it endowed with an astonishing vitality. It undergoes various modifications, it adapts itself to new conditions, it struggles without altogether losing hope of better times to come. Anyhow, it has not the characteristics of a decaying institution. In some industries the big factory is undoubtedly victorious; but there are other branches in which the petty trades hold their own position. Even in the textile industries which offer so many advantages for the factory system, the hand-loom still competes with the power-loom. As a whole, the transformation of the petty trades into great industries goes on with a slowness which cannot fail to astonish even those who are convinced of its necessity. Nay, sometimes we may even see the reverse movement going on -- occasionally, of course, and only for a time. I cannot forget my amazement when I saw at Verviers, some ten years ago, that most of the woolen cloth factories -- immense barracks facing the streets, with more than a hundred windows each -- were silent, and their costly machinery was rusting, while cloth was woven in handlooms in the weavers' houses, for the owners of those very same factories. Here we have, of course, but a temporary fact, fully explained by the spasmodic character of the trade and the heavy losses sustained by the owners of the

factories when they cannot run their mills all the year round. But it illustrates the obstacles which the transformation has to comply with. As to the silk trade, it continues to spread over Europe in its rural industry shape; while hundreds of new petty trades appear every year, and when they find nobody to carry them on in the villages -- as is the case in this country -- they shelter themselves in the suburbs of the cities, as we now learn from the inquiry into the 'Sweating System.'

Now the advantages offered by a big factory in comparison with hand-work are self-evident as regards the economy of labor, the facilities both for sale and for having the raw produce at a lower price, and so on. How can we then explain the persistence of the petty traders? Many causes, most of which cannot be valued in shillings and pence, are at work in favor of the petty trades, and these causes will be best seen from the following illustrations. I must say, however, that even a brief sketch of the countless industries which are carried on on a small scale in this country, and on the Continent, would be far beyond the scope of a review article. When I began to study the subject some seven or eight years ago, I never guessed, from the little attention devoted to it by the orthodox economists, what a wide, complex, important, and interesting organization would appear at the end of a closer inquiry. So I see myself compelled to give here only a few typical illustrations, and to prepare a separate work which will embody the bulk of the materials which I have gathered in connection with the subject.

As far as I know, there are in this country no statistics as to the exact numbers of workers engaged in the domestic trades, the rural industries, and the petty trades. The whole subject has never received the attention bestowed upon it in Germany, and especially

² We find it stated in various economical works that there are nearly 1,000,000 workers employed in the big factories of England alone, and 1,047,000 employed in the petty trades -- the various trades connected with food (bakers, butchers, and so on), and the building trades being included in the last figure. But I do not know how far these figures are reliable.

if possible. But that is the capitalist's view of the matter, not the community's view. As to the workers, who ought to be the real managers of industries, they will find it healthy not to perform the same monotonous work all the year round, and they will abandon it for the summer, if indeed they do not find the means of keeping the factory running by relieving each other in groups.

The scattering of industries over the country -- so as to bring the factory amid the fields, and to make agriculture derive all those profits which it always finds in being combined with industry (see the Eastern States of America) -- and the combination of industrial with agricultural work are surely the next step to be made, as soon as a reorganization of our present conditions is possible. That step is imposed by the very necessities of producing for the producers themselves; it is imposed by the necessity for each healthy man and woman to spend a part of their lives in free work in the free air, and it will be rendered the more necessary when the great social movements, which have now become unavoidable, come to disturb the present international trade, and compel each nation to revert to her own resources for her own maintenance. Humanity as a whole, as well as each separate individual, will be gainers by the change, and the change will take place. But such a change also implies a thorough modification of our present system of education. It implies a society composed of men and women each of whom is able to work with his or her hands, as well as with his or her brain, and to do so in more directions than one.

in Russia. And yet we can guess that even in this country of great industries, the numbers of those who earn their livelihood in the petty trades most probably equals, if it does not surpass, the numbers of those employed in the big factories.² We know, at any rate, that the suburbs of London, Glasgow, and other great cities swarm with small workshops, and there are regions where the domestic industries are as developed as they are in Switzerland or in Germany. Sheffield is a well-known example in point. The Sheffield cutlery -- one of the glories of England -- is *not* made by machinery: it is chiefly made by hand. There are at Sheffield a few firms which manufacture cutlery right through from the making of steel to the finishing of tools, and employ wage workers; and yet even these firms -- I am told by my friend, E. Carpenter, who kindly gathered for me information about the Sheffield trade -- let out some part of the work to the 'small masters.' But by far the greatest number of the cutlers work in their homes, with their relatives, or in small workshops supplied with wheel-power, which they rent for a few shillings a week. Immense yards are covered with buildings, which are subdivided into series of small workshops. Some of them cover only a few square yards, and there I saw smiths hammering, all the day long, blades of knives on a small anvil, close by the blaze of their fires; occasionally the smith may have one help, or two. In the upper stories scores of small workshops are supplied with wheel-power, and in each of them, three, four, or five workers and a 'master' fabricate, with the occasional aid of a few plain machines, every description of tools: files, saws, blades of knives, razors, and so on. Grinding and glazing are done in other small workshops, and even steel is cast in a small foundry the working staff of which consists only of five or six men. When walking through these workshops I easily imagined myself in a Russian cutlery village, like Pavlovo or Vorsma. The Sheffield cutlery has thus maintained its olden organization, and the fact is the more remarkable as the earnings of the cutlers are very low as a rule; but, even when reduced to a few shillings a week, the cutler prefers to vegetate on his small earn-

ings than to go as a waged laborer in a 'house.' The spirit of the old trade organizations, which were so much spoken of five-and-twenty years ago, is thus still alive.

Until lately, Leeds and its environs were also the seat of extensive domestic industries. When Edward Baines wrote, in 1857, his first account of the Yorkshire industries (in Thomas Baines's Yorkshire, Past and Present), most of the woolen cloth which was made in that region was woven by hand.³ Twice a week the hand-made cloth was brought to the Clothiers' Hall, and by noon it was sold to the merchants, who had it dressed in their factories. Joint-stock mills were run by combined clothiers in order to prepare and spin the wool, but it was woven in the handlooms by the clothiers and the members of their families. Twelve years later the hand-loom was superseded to a great extent by the power-loom; but the clothiers, who were anxious to maintain their independence, resorted to a peculiar organization: they rented a room, or part of a room, and sometimes also the power-looms in a workshop, and they worked independently -- a characteristic organization partly maintained until now, and well intended to illustrate the efforts of the petty traders to keep their ground, notwithstanding the competition of the factory. And it must be said that the triumphs of the factory were too often achieved only by means of the most fraudulent adulteration and the underpaid labor of the children. Cotton-warp became quite usual in goods labeled 'pure wool,' and 'shoddy' -- i.e. wool combed out of old rags gathered all over the Continent and formerly used only for blankets fabricated for the Indians in America -- became of general use. In these kinds of goods the factories excelled. And yet there are branches of the woolen trade where hand-work is still the rule, especially in the fancy goods which continually require new adaptations for temporary demands. Thus, in

³ Nearly one-half of the 43,000 operatives who were employed at that time in the woolen trade of this country were weaving in handlooms. So also one-fifth of the 79,000 persons employed in the worsted trade.

Why should Paris refine sugar for almost the whole of France and Greenock for Russia? Why should one-half of the boots and shoes used in United States be manufactured in the 1,500 workshops of Massachusetts? There is absolutely no reason why these and like anomalies should persist; and the scattering of industries amid all civilized nations will be necessarily followed by a further scattering of factories over the territories of each nation.

Agriculture is so much in need of aid from those who inhabit the cities, that every summer thousands of men leave their slums in the towns and go to the country for the season of crops. The London destitutes go in thousands to Kent and Sussex as hay-makers and hop-pickers; whole villages in France abandon their homes and their cottage industries in the summer and wander to the more fertile parts of the country; and in Russia there is every year an exodus of many hundreds of thousands of men who journey from the north to the southern prairies for harvesting the crops' while many St. Petersburg manufacturers reduce their production in the summer, because the operatives return to their native villages for the culture of their allotments. Extensive agricultures cannot be carried on without additional hands in the summer; but it still more needs a temporary aid for *improving* the soil, for tenfolding its productive powers. Steam-digging, drainage, and manuring would render the heavy clays to the north-west of London a much richer soil than that of the American prairies. To become fertile, those clays want only plain, unskilled human labor, such as is necessary for digging the soil, laying in drainage tubes, pulverizing phosphates, and the like; and that labor would be gladly done by the factory workers if it were properly organized in a free community for the benefit of the whole society. The soil claims that aid, and it would have it under a proper organization, even if it were necessary to stop many mills in the summer for that purpose. No doubt, the present factory owners would consider it ruinous if they had to stop their mills for several months every year, because the capital engaged in a factory is expected to pump money every day and every hour,

the present conditions the leviathan factories offer great inconveniences, as they cannot rapidly reform their machinery according to the constantly varying demands of the consumers. As to the new branches of industry which I mentioned at the beginning of this article, they must make a start on a small scale; and they can prosper in small towns, as well as in big cities, if the smaller agglomerations are provided with institutions stimulating artistic taste and the genius of invention. The progress achieved of late in Germany in those villages which are busy in toy-making, as also the high perfection attained in the fabrication of mathematical and optical instruments, are instances in point. Art and science are no longer the monopoly of the great cities, and further progress will be in scattering them over the country.

As to the natural conditions upon which depends the geographical distribution of industries in a given country, it is obvious that there are some spots which are most suited for the development of certain industries. The banks of the Clyde and the Tyne are certainly most appropriate for shipbuilding yards, and shipbuilding yards must be surrounded by a variety of workshops and factories. The industries will always find some advantages in being grouped, to a limited extent, according to the natural features of separate regions. But we must recognize that not they are *not* grouped according to those features. Historical causes -- chiefly religious wars and national rivalries -- have had a good deal to do with their growth and geographical distribution, and still more considerations as to the facilities for sale and export; that is, considerations which are already losing their importance with the increased facilities of transport, and will lose it still more when the producers produce for themselves, and nor for customers far away. But why, in a rationally organized society, ought London to remain a great center for the jam and preserving trade, and manufacture umbrellas for nearly the whole of the United Kingdom? Why should the Whitechapel petty trades remain where they are, instead of being spread all over the country?

1881 the handlooms of Leeds were pretty well occupied with the fabrication of woolen imitations of sealskins.

The variety of domestic industries carried on in the Lake District is much greater than might be expected, but they still wait for careful explorers. I will only mention the hoop-makers, the basket trade, the charcoal-burners, the bobbin-makers, the small iron furnaces working with charcoal at Backbarrow, and so on.⁴ As a whole, we do not well know the petty trades of this country, and therefore we sometimes come across quite unexpected facts. Few continental writers on industrial topics would guess, indeed, that nails are still made by hand by thousands of men, women, and children in the Black Country of South Staffordshire, as also in Derbyshire.⁵ Chains are also made by hand at Dudley and Cradley, and although the press is periodically moved to speak of the wretched condition of the chain-makers, the trade still maintains itself; while nearly 7,000 men are busy in their small workshops in making locks, even of the plainest description, at Walsall, Wolverhampton, and Willenhall. The various ironmongeries connected with horse-clothing -- bits, spurs, bridles, and so on -- are also largely made by hand at Walsall. Nay, Mr. Bevan tells us that even needles are largely made by hand at Redditch.

The Birmingham gun and rifle trades are well known. As to the various branches of dress, there are still important divisions of the United Kingdom where a variety of domestic trades connected with dress is carried on on a large scale. I need only mention the cottage industries of Ireland and lace made by hand in South Devon, as also in the shires of Buckingham, Oxford, and Bedford; hosiery is a common occupation in the villages of the counties of Nottingham and Derby, and several great London firms send out cloth to be made in the villages of Sussex and Hampshire. Woolen hosiery is at home in the villages of Leicester, and especially in Scotland;

⁴ E. Roscoe's notes in the English Illustrated Magazine, May 1884.

⁵ Bevan's Guide to English Industries.

straw-plaiting and hat-making in many parts of the country; while at Northampton, Leicester, Ipswich, and Stafford shoe-making is a widely spread domestic occupation, or is carried on in small workshops; even at Norwich it remains a petty trade to a great extent, notwithstanding the competition of the factories.

The petty trades are thus an important factor of industrial life even in Great Britain, although many of them have gathered into the towns. But if we find in this country so much less of rural industries than on the Continent, we must not imagine that their disappearance is due only to a keener competition of the factories. The chief cause is the compulsory exodus from the villages and the accumulation of immense numbers of destitute in the cities. The work-shops, much more even than the factories, multiply wherever they find cheap labor; and the specific feature of this country is, that the cheapest labor -- that is, the greatest number of destitutes -- is found in the great cities. The agitation raised (with no result) in connection with 'the Dwellings of the Poor,' the 'Unemployed,' and the 'Sweating System' has fully disclosed that characteristic feature of the economical life of England and Scotland; and the painstaking researches made by Mr. Booth and communicated to the Statistical Society have shown that one-quarter of the population of London -- that is, 1,000,000 out of 3,800,000 -- would be happy if the heads of their families could have regular earnings of less than 1*1.* a week all the year round. Half of them would be satisfied with much less than that. Cheap labor is offered in such quantities at Whitechapel and Southwark, at Shawlands and other suburbs of the great cities, that the petty and domestic trades which are scattered on the Continent in the villages, gather in this country in the cities. Exact figures as to the small industries are wanting, but a simple walk through the suburbs of London would do much to realize the variety of petty trades which swarm in the metropolis, and, in fact, in all chief urban agglomerations. The evidence given before the 'Sweating System' Committee has shown how far the furniture and ready-made cloth palaces and the 'Bonheur des Dames' bazaars of

The moral and physical advantages which man would derive from dividing his work between the field and the factory are self-evident. But the difficulty is, we are told, in the necessary centralization of the modern industries. In industry, as well as in politics, centralization has so many admirers! But in both spheres the ideal of the centralizers badly needs revision. In fact, if we analyze the modern industries, we soon discover that for some of them the cooperation of hundreds, or even thousands, or workers gathered at the same spot is really necessary. The great iron-works and mining enterprises decidedly belong to that category; oceanic steamers could not be made in village factories. But very many of our big factories are nothing else but agglomerations under a common management of several distinct industries; while others are merely agglomerations of hundreds of copies of the very same machine. Such are most of our gigantic spinning and weaving establishments. The manufacture being a strictly private enterprise, its owners find it advantageous to have all the branches of a given industry under their own management; they thus cumulate the profits of the auxiliary industries. But, from a technical point of view, the advantages of such accumulation are trifling and doubtful. Even so centralized an industry as that of the cottons does not suffer at all from the division of production between several separate factories: we see it at Manchester and the neighboring towns. As to the petty trades, no inconvenience is experienced from a still greater subdivision between the workshops in the watch trade and many others.

We often hear that one horsepower costs so much in a small engine, and so much less in an engine ten times more powerful; that the pound of cotton yarn costs much less when the factory doubles the number of its spindles. But such calculations are good only for those industries which prepare the half-manufactured produce for further transformations. As to those countless descriptions of ware which derive their value chiefly from the intervention of skilled labor, they can be best fabricated in smaller factories which employ a few hundreds, or even a few scores, of operatives. Even under

The sweater becomes all-powerful, frightful overwork is resorted to, and the whole trade often falls into decay.

Such facts, as well as the pronounced tendency of the factories towards migrating to the villages, are very suggestive. Of course it would be a great mistake to imagine that industry ought to return to its hand-work stage in order to be combined with agriculture. Whenever a saving of human labor can be obtained by means of a machine, the machine is welcome and will be resorted to; and there is hardly a single branch of industry into which machinery work could not be introduced with great advantage, at least in some of the preliminary stages of fabrication. In the present chaotic state of industry we can make nails and penknives by hand, or weave plain cottons in the hand-loom; but such a chaos will not last. The machine will supersede hand-work in the manufacture of plain goods, while hand-work probably will extend its domain in the artistic finishing of many things which are now made entirely in the factory. But the question arises, why should not the cottons, the woolen cloth, and the silks, now woven by hand in the villages, be woven by machinery in the same villages, without ceasing to remain connected with work in the fields? Why should not hundreds of domestic industries, now carried on entirely by hand, resort to labor-saving machines as they already do in the knitting trade? There is no reason why the small motor should not be of much more general use than now, wherever there is no need to have a factory; and there is no reason why the village should not have its factory wherever factory work is useful, as we already see it occasionally in Normandy. It is evident that now, under the capitalist system, the factory is the curse of the village, as it comes to make paupers out of its inhabitants; and it is quite natural that it is opposed by all means by the workers, if they have succeeded in maintaining their olden trades' organizations (as at Sheffield, or Solingen), or if they have not yet been reduced to sheer misery (as in the Jura). But under a more rational social organization the factory would find no such obstacles: it would be a boon to the village.

London are mere exhibitions of samples, or markets for the sale of the produce of the small industries. Thousands of 'sweaters,' some of them having their own workshops, and others merely distributing work to sub-sweaters who distribute it again amid the destitutes, supply those palaces and bazaars with goods made in the slums or in very small workshops. The commerce is centralized in those bazaars -- not the industry. The furniture palaces and bazaars are thus merely playing the part which the feudal castle formerly played in agriculture: they centralize the profits -- not the production.

In reality the extension of the petty trades, side by side with the big factories, is nothing to be wondered at. The absorption of the small industries is a fact, but there is another process which is going on parallel with the former, and which consists in the continuous creation of new industries, usually making their start on a small scale. Each new factory calls into existence a number of small workshops, partly to supply its own needs and partly to submit its produce to a further transformation. Thus, to quote but one instance, the cotton mills have created an immense demand for wooden bobbins and reels, and thousands of men in the Lake District set to manufacture them -- by hand first, and later on with the aid of some plain machinery. Only quite recently, after years had been spent in inventing and improving the machinery, the bobbins began to be made on a large scale in factories. And even yet, as the machines are very costly, a great quantity of bobbins are made in small workshops, with but little aid from machines, while the factories themselves are relatively small, and seldom employ more than fifty operatives -- chiefly children. As to the reels of irregular shape, they are still made by hand, or partly in small machines continually invented by the workers. New industries thus grow to supplant the old ones; each of them passes through a preliminary stage on a small scale before reaching the factory stage; and the more active the inventive genius of a nation is, the more it has of these auxiliary industries.

Besides, the factory stimulates the birth of new petty trades by creating new wants. The cheapness of cottons and woollens, of paper and brass, have created hundreds of new small industries. Our households are full of their produce -- mostly things of quite modern invention. And while some of them already are turned out by the million in the factory, all have passed through the small workshop stage before the demand was great enough to require the factory organization. The more we may have of new inventions, the more shall we have of such small industries; and again, the more we shall have of them, the more shall we have of the inventive genius, the want of which is so justly complained of by William Armstrong [first baron]. We must not wonder, therefore, if we see so many small trades in this country; but we must regret that the great number have abandoned the villages in consequence of the bad conditions of land tenure, and that they have migrated in such numbers to the cities, to the detriment of agriculture.

The variety of petty trades carried on in France, both in the villages and the cities, is very great, and it would be most instructive to have a general description of those small industries, and to show their importance in the national economy. Let me only say that the very maintenance of the small peasant proprietorship in several parts of France is due, to a great extent, to the additional incomes which many peasants derive from the rural manufactures. In fact, it is estimated that while one-half of the population of France is living upon agriculture and one-fourth part upon industry, this fourth part is equally distributed between the great industry and the petty trades, which thus give the means of existence to no less than 1,500,000 workers -- more than 4,000,000 persons, families included. As to the rural folk who resort to domestic trades without abandoning agriculture, we only can see that their numbers are very considerable, without knowing the exact figures.

The most characteristic feature of the French petty trades is, that they still hold so important a position in the textile manufactures. Thus, it was reckoned during the last exhibition (1878) that there

Pavlovo -- two cutlery villages, one of which is purely industrial, and the other continues to till the soil -- could be quoted as striking instance for such a comparison.¹¹

Much more ought to be said with regard to the rural industries of Russia, especially to show how easily the peasants associate for buying new machinery, or for avoiding the middlemen in their purchases of raw produce -- as soon as misery is no obstacle to the association. Belgium, and especially Switzerland, could also be quoted for more interesting illustrations, but the above will be enough to give a general idea of the importance, the vital powers, and the perfectibility of the rural industries.

The facts which we have briefly reviewed will also show, to some extent, the benefits which could be derived from a combination of agriculture with industry, if the latter could come to the village, not in its present shape of capitalist factory, but in the shape of a socially organized industrial production. In fact, the most prominent feature of the petty trades is that a relative welfare is found only where they are combined with agriculture. Apart from a few artistic trades which give a comparative well-being to the workers in the cities, everywhere we find but a long record of overwork, exploitation of children's labor, and misery. But even amid the general misery there are oases of relative well-being, and these oases invariably appear where the workers have remained in possession of the soil and continue to cultivate it. Even amid the cottonweavers of the north of France of Moscow, who have to reckon with the competition of the factory, relative welfare prevails as long as they are not compelled to part with the soil. On the contrary, as soon as high taxation or the impoverishment during a crisis has compelled the domestic worker to abandon his last plot of land to the usurer, misery creeps into his house, although the competition of the factory may be of no moment in his trade (as in the toy trade).

¹¹ Purgavin, in the *Vyestnik Promyshlennosti*, June 1884.

wages are characteristic of the Russian factories as well. It depends also upon the circumstance that the peasant who grows his own food, but suffers from a constant want of money, sells the produce of his industrial labor at any price. Therefore, all manufactured ware used by the Russian peasantry, save a few printed cottons, is a produce of the rural manufactures. But many articles of luxury, too, are made in the villages, especially around Moscow, by peasants who continue to cultivate their allotments. The silk hats which are sold in the best Moscow shops, and bear the stamp of 'Nouveautés Parisiennes,' [New Parisians] are made by the Moscow peasants; so also the 'Vienna' furniture of the best 'Vienna' shops, even if it goes to supply the palaces. And what is most to be wondered at is not the skill of the peasants -- agricultural work is no obstacle to acquiring industrial skill -- but the rapidity with which the fabrication of fine goods has spread in such villages as formerly manufactured only goods of the roughest description.

As to the relations between agriculture and industry, one cannot peruse the documents accumulated by the Russian statisticians without coming to the conclusion that, far from damaging agriculture, the domestic trades, on the contrary, are the best means for improving it, and this the more, as for several months every year the Russian peasant has nothing to do in the fields. There are regions where agriculture has been totally abandoned for the industries; but these are regions where it was rendered impossible by the very small allotments and the poverty of the peasants, who were ruined by high taxation and redemption taxes. But as soon as the allotments are reasonable and the peasants are less overtaxed they continue to cultivate the land; their fields are kept in better order, and the average numbers of livestock are higher where agriculture goes hand in hand with the domestic trades. Even those peasants whose allotments are small find the means of renting more land if they earn some money from their industrial work. As to the relative welfare, I need hardly add that it always stands on the side of those villages which combine both kinds of work. Vorsma and

were in France 328,000 handlooms, as against 120,000 power-looms, and although a great number of the former are now silent, still the handlooms at work number much more than a quarter of a million. It is not my intention to enter here into a detailed description of the French petty trades, and I will mention only four chief centers -- Tarare, the North, Lyons, and Paris -- as four different and characteristic types of small industries. In the manufacture of muslins, Tarare holds the same position as Leeds formerly held in the clothiers' trade. Its factories prepare the materials for weaving the muslins, and they finish the stuffs which are woven in the villages. Each peasant's house, each farm and *métairie* [smallholding], all round Tarare, are so many workshops, and Eeybaud says that you often see a lad of twenty who embroiders fine muslins after having cleaned his stables. The great variety of stuffs woven and the continuous invention of new designs, too often changed to be profitably made by machinery, are the real key to the maintenance of that rural manufacture. As to the results of its combination with agriculture, all descriptions agree in recognizing that it is beneficial for the maintenance of agriculture, and that without it the peasantry could hardly resist the depressing agencies which are at work against them. The same is true with regard to northern France, where we have widely spread manufactures, side by side with such important manufacturing centers as Amiens, Lille, Eoubaix, Eouen, and so on. Even cotton velvets and plain cottons are woven to a very considerable amount in the villages of the Nord and Normandy.⁶ In the valley of the Audelle, in the *département* of the Eure, each village and hamlet are industrial beehives, and everywhere agriculture thrives best where it is combined with industry. The comparison between the weavers' cottages in the country and the weavers' slums in the industrial cities is striking, and it is still more to the advantage of the country if the village keeps a communal fac-

⁶ According to Baudrillart, 2,500,000*1.* worth of plain cottons were woven in 1880 in the villages around Rouen.

tory, as is the case occasionally in Normandy. The attachment of the weavers to the soil is so strong, that the clothiers of Elbeuf, who cannot keep enough livestock to till the soil themselves, resort to a custom which I saw also in Haute-Savoie, and noticed at Clairvaux, namely, that of having one householder in the village who keeps the necessary team of horses, and tills the soil for all the others, the turn being always kept with a scrupulous equity, as it is also kept for the thrashing machine, or, in wine-growing districts, for the pressoir.

The importance of the silk trade, for which Lyons is a center, is best seen from the fact that it occupies no less than 110,000 looms in the departement of the Ehône and seven neighboring départements. Great advance has been made of late as regards weaving the most complicated designs in the power-loom; stuffs formerly reputed unfeasible by machinery are now made by the iron-worker. Yet silk-weaving still remains chiefly a domestic trade, and the factory penetrates into it very slowly. The number of power-looms in the Lyons region was from 6,000 to 8,000 in 1865, and it was expected that they would rapidly multiply; but twenty years later they numbered only from 20,000 to 25,000, out of the 110,000 looms which were at work. The slowness of the progress astonishes even those manufacturers who are persuaded that the power-looms must supplant most of the handlooms.⁷ The organization of the trade still remains the same as before -- that is, the Lyons weaver is more of an artist who executes in silk the designs vaguely suggested by the merchant -- while in the surrounding region all kinds of silks, even to the plainest ones, are woven in the houses of the workers. The

⁷ Out of the 110,000 looms, only from 15,000 to 18,000 handlooms have remained at Lyons, as against 25,000 to 28,000 in 1865. I am indebted for these figures to the President of the Lyons Chamber of Commerce, who kindly gave me, in a letter dated April 25, 1885, all kinds of information about the petty trades of the Lyons region and to whom I am glad to express my full gratitude, as also to the President of the Chamber of Commerce of St. Etienne who supplied me with most interesting data with regard to the various trades of the St. Etienne region.

and that their production reaches, at the lowest estimates, more than 150,000,000**l.*, and most probably 200,000,000**l.* (2,000,000,000 rubles every year).¹⁰ It thus equals the total production of the great industry. As to the relative importance of both for the working classes, suffice it to say that even in the government of Moscow, which is the chief manufacturing region of Russia (its factories yield upwards of one-fifth in value of the aggregate industrial production of European Russia), the aggregate incomes derived by the population from the domestic industries are three times larger than the aggregate wages earned in the factories. But the most striking feature of the Russian domestic trades is that the sudden state which was made of late by the factories are growing up fastest. Another most suggestive feature is the following: although the most unfertile provinces of Central Russia have been from time to time immemorial the seat of all kinds of petty trades, several domestic industries of modern origin are developing in those provinces which are best favored by soil and climate. Thus, the Stavropol government of North Caucasus, where the peasantry have plenty of fertile soil, has suddenly become the seat of a widely developed silk-weaving industry in the peasants' houses, and now it supplies Russia with cheap silks which have completely expelled from the market the plain silks formerly imported from France.

The capacities of the Russian domestic industrial workers for co-operative organization would be worthy of more than a passing mention. As to the cheapness of the produce manufactured in the villages, which is really astonishing, it cannot be explained in full by the exceedingly long hours of labor and the starvation wages, because overwork (twelve to sixteen hours of labor) and very low

¹⁰ it appears from the house-to-house inquiry, which embodies 855,000 workers, that the yearly value of the produce which they use to manufacture reaches 21,087,000**l.** (the ruble at 24*d.), that is, an average of nearly 25**l.* per worker. An average of 20**l.** for the 7,500,000 persons engaged in domestic industries would already give 150,000,000**l.** for their aggregate production; but the most authoritative investigators consider that figure as below the reality.

scientific toys, under the influence of schools for modeling in clay and general education spread amid the workers. The organization of some of these industries (especially of the knitting trade) offers most suggestive illustrations of successful combination in order to struggle against the big capitalists, and adapt themselves to the new conditions of production, among thousands of peasants who are spread over a very wide area -- from Switzerland to Saxony. But I must refrain from entering here into that most interesting subject, as I have to add a few words about other countries.

In Hungary, no less than six percent of the population -- that is, 801,600 persons -- are engaged in domestic industries, the textiles alone giving employment to more than 680,000 workers. Switzerland, Italy, and even the United States, have also considerably developed domestic industries; and there are parts of Belgium of which we may say with full safety that if agriculture continues to thrive there, notwithstanding so many hostile influences, it is chiefly because the peasants have the possibility of adding to their incomes the earnings in a variety of industries. But it is especially in Russia that we can fully appreciate the importance of the rural industries, and the loss which the country would sustain if they were to disappear.

The most exhaustive inquiries into the present state, the growth, the technical development of the rural industries, and the difficulties they have to contend with, have been made in Russia. The house-to-house inquiry embraces nearly one million of peasants' houses all over Russia; and in the fifteen volumes published by the Petty Trades' Committee, and nearly all the chief provincial assemblies, we find the exhaustive lists giving the name of each worker, the extent and the state of his fields, his live stock, the value of his agricultural and industrial productions, his earnings from the technical, economical, and sanitary points of view.

The results obtained from these inquiries are really imposing, as it appears that out of the 80,000,000 population of European Russia no less than 7,500,000 persons are engaged in the domestic trades,

conditions of the French silk-weavers have been most precarious during the last few years, partly because France has no longer the monopoly of the trade, and partly because of the competition of the factory, which now manufactures all cheap descriptions of silks which formerly were resorted to even by the best hand-weavers when orders for higher sorts were not forthcoming. Nevertheless the hand fabrication of silk spreads in France; it has extended over the neighboring *départements* as far as Upper Savoy, and gone over to Switzerland; as to Lyons, the industry abandons it, and it becomes more and more a mere center for the best weavers who are capable of promptly executing any order for new and complicated stuffs which may be received by the merchants.

The new factories have been built chiefly in the villages, and there we can see how they ruin the peasantry. The French peasants, overburdened as they are with taxes and mortgages, are compelled to seek an additional income in industry; their lads and lasses are thus ready to take work in the silk or ribbon manufacture, however low the salaries. But their homes being scattered in the country at considerable distances from the factory, and the hours of labor being long, they are mostly compelled to stay in barracks at the factory, and to return home only on Saturday. On Monday, at sunrise, a van is sent round the villages to bring them back to the looms. In this way they will soon have totally abandoned agriculture, and as soon as they are compelled to settle separately from their parents they will find it impossible to live on the present low wages. Then some of the factories depending on low wages will perish, and their operatives will be compelled to migrate to the cities. One easily sees all the mischief which the vicious organization is thus doing in the villages, instead of being a source of well-being, as it ought to be under different conditions.

I ought here to mention the lace trade, which gives occupation to nearly 70,000 women in Normandy, and to nearly 200,000 persons in France altogether; the cutlery of the Haute-Marne, a trade of recent origin, which has reached a high degree of perfection, and

now has spread through thirty villages in the neighbourhood of Nogent; the knitting trade about Troyes, where 20,000 persons, using a variety of small machines, are making knitted goods of every description; the well-known watch, jewelry, and turning trades of the Jura; and the variety of petty trades--silk ribbons, ribbons with woven inscriptions, hardware, arms, and so on--in the region of St. Etienne.⁸ But I economize my space, as I have to say a few words more about the petty trades of Paris.

The capital of France is an emporium for petty trades and domestic industries, and while it has a considerable number of great factories, the small workshops prevail to such an extent that the average number of operatives in the nearly 65,000 factories and workshops of Paris is only nine. In fact, nearly five-sixths of the Paris workers are connected with the domestic trades, and they fabricate the most astonishing variety of goods requiring skill, taste, and invention. Most of the petty trades of Paris are connected with dress,⁹ but jewelry, artificial flowers, stationery, bookbinding, morocco leather goods (500,000*1.* every year), carriage-making, basket-making, and many others, are very important branches, each of which is distinguished by the high perfection of its produce. It is worthy of note that while the Paris

⁸ Out of the 15,000 to 18,000 looms engaged in the weaving of ribbons at St. Etienne and its neighborhood, no less than from 12,000 to 14,000 belong to the workers themselves. The trade was once prosperous, so that most of the houses in the suburbs of St. Etienne were built by the weavers, but for several years since its prospects have been very gloomy. The manufacture of arms occupies from 5,000 to 6,000 workers. As to hardware, it is fabricated in a great number of small workshops all round St. Etienne, Le Chambon, Firminy, Rive de Giers, and so on. Of other petty trades, some of which have a considerable importance, let me mention the silk-growing of the Ardèche, the wire trades of the Doubs, the clothiers and the glove-makers of the Isère, the stay-makers, the broom and brush makers of the Oise (800,000*1.* every year), the button-makers, the shoe-makers of the Drôme, and so on.

⁹ The ready-made cloth and mantles alone are valued at 5,400,000*1.* every year; ladies' stays are made to the value of 400,000*1.* at Paris, and 2,000,000*1.* in France altogether.

industries are mostly characterized by artistic workmanship, they are remarkable also for the variety of handy and inexpensive machines which are invented every year by the workmen, for the purpose of facilitating production. The 'Galerie du Travail' [Work Gallery] of the Exhibition of 1878 was exceedingly instructive on that account, as it displayed in a thousand varieties the inventive genius of the masses; and, when walking through it, one asked oneself if all that genius really *must* be killed by the factory, instead of becoming a new fertile source of progress under a better organization of production.

The petty trades and domestic industries of Germany are perhaps still more important than those of France. Ninety-seven percent of all the industrial establishments of Germany employ less than five operatives, and much more than one-half of the 5,500,000 persons connected with industry are at work in those small workshops; while they are, on the whole, less than 10,000 factories which employ more than fifty workers. Moreover, 545,000 persons are engaged in domestic trades -- that is, they manufacture for the trade in their own houses or rooms -- and two-thirds of them belong to the textile industries. There are whole regions, such as the Black Forest, parts of Saxony, Bavaria, Silesia, and the Rhine provinces, where the domestic trades, partly connected with agriculture, are the chief means of existence for numerous populations. Let me add also that we have, in the works of Thun, Engel, and many others, excellent descriptions of several branches of the German petty trades. It would be impossible to examine here the German petty and domestic trades without entering into technical details, so let me merely mention that one of the most prominent features of the German trades is, so to say, their remarkable plasticity. The progress realized in some of them -- as, for instance, in the cutlery of Solingen or the toy trade of the Black Forest -- is striking. The former has been totally reformed in order to respond to the new demands of the market, and the latter has made a rapid start in the production of artistic and