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**THE ITALIAN ALTERNATIVE:
FLEXIBLE ORGANIZATION AND SOCIAL MANAGEMENT
II. THEORETICAL ANALYSES**

Guest Editor: Giorgio Inzerilli
Rotterdam School of Management
Erasmus University Rotterdam, The Netherlands

Introduction Giorgio Inzerilli (The Netherlands)	3
The Environmental Bases of Diffuse Industrialization Giorgio Fuà (Italy)	5
The Social Bases of Diffuse Industrialization Massimo Paci (Italy)	21
The Political Bases of Diffuse Industrialization Carlo Trigilia (Italy)	38
The Economic Bases of Diffuse Industrialization Gabi Dei Ottati (Italy)	53
The Social Management of Diffuse Industrialization Evelyne Ritaine (France)	75
Italian Industrial Districts: Problems and Perspectives Giacomo Becattini (Italy)	83

GIORGIO FUA

The Environmental Bases of Diffuse Industrialization

1. Premises

1.1. Origin and character of this book

In 1981, the Italian Chancellor Giorgio La Malfa commissioned the ISTAO (Istituto Superiore di Studi Economici Adriano Olivetti) to prepare a document for the International Symposium on the theme of "Rural Evolution and Public Management," held by the OECD in Paris on October 19-22 of that year.

The document was entitled "Experiences of Diffuse Industrialization in Italy" and aimed to provide foreign readers with an initial idea of the peculiar type of industrialization that had taken place over previous decades in the regions of the northeast and center (which we shall refer to as the "NEC model" for the sake of brevity), based on prevalently autochthonous small firms, widespread over the area and intimately linked to the countryside and small and medium-sized towns.

Following the presentation of the document, which had a certain amount of resonance, the team of researchers that produced it decided to make further investigations into the NEC model, with the help of other scholars. Research thus entered a second stage, and this article's aim is to present the results thereof.

1.2. The problems of recently developed countries

The comparative study of the most recently developed countries, including Italy, and early industrialized countries shows that a set of systematic differences exists between the two groups as far as economic structure and appropriate policies are concerned.¹ Of the differences noted, there are two points that will be at the center of attention in this study. First, a high percentage of the overall

The author is on the Faculty of Economics at the University of Ancona, via Pizzecolli 37, 70100, Ancona, Italy. This article was originally published under the title "L'Industrializzazione nel Nord-Est e nel Centro" in G. Fuà and C. Zacchia (eds.), *Industrializzazione senza Fratture*, Bologna: Il Mulino, 1983. Translated from the Italian by Dr. J. Irwing.

population of recently developed countries still lives in rural areas.² Second, a high percentage of production activity in these countries is carried out in small firms and a correspondingly high percentage of employment is still autonomous rather than subordinate.³

Up until a short time ago, the common opinion was that the replacement of this apparently "decentralized" structure by a more "centralized" one (i.e., centralization of the population in big cities, centralization of production in big firms) was a *sine qua non* for the progress of recently developed countries, and that the operation had to be completed as quickly as possible. This orientation was motivated by a series of easily comprehensible reasons: from the even ingenuous aspiration to imitate the wealthiest nations (which today, unlike in the distant past, and perhaps in the distant future, display centralized structures) to the fact that, in response to the demand of wealthy societies, the world supply of technologies tended to give priority to those utilizable in centralized structures.

Yet the idea that it is possible to pass from one economic structure to another entirely different one in a short space of time has recently been undermined. It has been realized that it is easy to throw away the heritage of culture, organization, and tangible construction built up over centuries, but that it takes time to put together another one just as valid—these issues were dealt with in the study cited at the start of this section. It must also be remembered that, in the early industrialized countries themselves, the centralized structures we see today (and which we envy, perhaps wrongly) have been formed by changes to and replacement of pre-existing decentralized structures as a result of long, gradual evolution.

Counterevidence is available of experiences of brusque breakaways from pre-existing structures in recently developed countries, encouraged by spontaneous forces or public intervention, whose limited success provides food for reflection.

An example of this is the precipitous urbanization of Mediterranean chief towns and the accompanying social disintegration. Another is the building of the so-called "cathedrals in the desert" by big business spurred on by the state or from the outside.

There is, therefore, today a more careful attitude toward radical transplants and a greater interest in producing development formulas that set out from what exists *in loco*, exploiting it to the full, and modifying it only gradually, thus preserving continuity with historical roots.

The NEC experience would appear to match such requisites almost perfectly. Albeit still evolving, it demands attention due to its unusual characteristics and the macroscopic dimensions it has taken on.⁴

The problem is to understand the initial conditions and the operative mechanisms of this particular model of industrialization; the positive and negative results it has produced, and the prospects for future development opened up by the present status of the areas in question; and, finally, whether the experience of these areas provides teachings transferable to others or not.

These are the questions to which this study attempts to give at least partial answers.

2. An overview of the NEC model

2.1. Conditions at the outset

Across the various parts of the vast geographical area considered, there are not only similarities but also differences. First of all, not all the regions comprised within the area are at the same stage on the road to industrialization. Some have already achieved a high degree of maturity—in some cases, in terms of income per inhabitant—whereas others are at a halfway mark, others are at the starting post, and others still have yet to start. Furthermore, there are differences from region to region as to the pattern of development. Part of the differences in patterns of development and maturity may be attributed to chance, but many others may be easily explained by different geographical locations, availability of natural resources, and the historical legacy of individual regions.

This chapter will not attempt to analyze the industrialization of a single region, with all its individual characteristics. Instead, it will strive to define a schematic model capable of providing an "initial rough idea" of the general nature or overall effect of the cases that concern us (i.e., local histories of recent industrialization in the region in question), at the cost of failing to reflect any of the individual cases *with perfect accuracy*.

The geographical denomination given to the model serves also merely as a rough orientation. Although this should already be obvious, it is worthwhile repeating it. For this denomination aims to show that phenomena of industrialization, stemming more or less from the same model, characterize most (but not all) of the regions comprised within the two geographical divisions, the northeast and central Italy. The remaining divisions, on the other hand, reveal not a lack but a limited presence of similar phenomena.

An important initial factor in defining the NEC model is the environmental framework within which the process of industrialization starts. In evocative, albeit hurried terms, the environment of origin is *l'Italia dei Comuni*, the Italy of the city-states, thus named to distinguish the area from the territories of the old Kingdom of Naples.

It is necessary to describe some of the connotations of this environment, traces of which are subsequently to be found in the model of industrialization. The area as a whole is dotted with a host of medium-sized and small towns. These are full of urban functions, with traditions of efficient, democratic local administration and relatively lively private enterprise in trade, the professions, and crafts.

The countryside is served by a thick road network, and boasts a reasonable number of civilian infrastructures and access to services. Prevalent in agricul-

ture is the small family-based farm (tenant-owned, sharecropping, or leased). The rural population is numerous and has intense relations with the urban population.

The overall population (urban and rural) is characterized by a relatively high frequency of self-employment. Relatively common are the cases in which the economic role of the family is not restricted merely to consumption but also to production. A large section of the population can rely upon a house or a farm or a workshop or a small family shop as an alternative means of support. Relations of solidarity are in force in the context of the "wider family" and neighbors, and, to use something of a generic phrase, there is strong participation in the community and in social integration.

This type of environment has all the makings of a combination charged with high development potential, if something comes along to set it off.

I shall first briefly describe what actually constitutes the change factor here, and then pause to describe the combination produced. It is possible to single out the general factors that apply to the whole area, and to explain why, at a certain moment in time, it becomes mature for change in the direction of industrialization. It will suffice to mention three of the most evident.

The first is the universal trend toward reorganization of agricultural employment, which cannot fail to make itself felt in the long run in the NEC area.

The second factor is the enormous progress registered in communications and transport, which opens up completely new opportunities for contact and exchange between these regions and even the remotest parts of the outside world.

Third, there is the fact that, whereas the demand for industrial products is expanding and differentiating, the most mature, centralized industrial systems reveal growing inelasticity, onerousness, and ingovernability—which is exactly what opens up room for the development of new industrial systems.

In addition to these factors, which make the change mature, there are guiding principles (or, if we prefer a different analogy, terminal agents) that cause the spark leading to the stimulus to change. And this takes place in ways that differ considerably from place to place, as I shall describe with a few brief examples.

In some cases, change starts with the arrival of homework contracts from firms a long distance away. After a while, the most enterprising homeworkers start to work on their own. In other cases, resettling emigrants are the bearers of change: they have been able to acquire industrial experience in foreign lands, to establish contacts with external manufacturers and markets, and to put aside savings. On their return home, they exploit all this by setting up small businesses of their own.

There are regions in which industrialization reaches other bordering regions by means of a snowball effect. Noteworthy, finally, are the cases in which industrialization sets off because other economic activities in the district have registered an accumulation of capital and entrepreneurial know-how that, at a certain point, requires new outlets, and finds them in industry. Often cited exam-

ples of this are the industrial initiatives generated by tourism and agricultural cooperation in Emilia-Romagna.⁵

Let us now define the process that is consequently set into motion.

2.2. *The process of industrialization*

On the one hand, we have a mass of workers who no longer find satisfactory employment in agriculture, but who resist the idea of moving away definitively from their place of origin, where they feel well integrated and secure. They thus seek work as near as possible to home. On the other hand, in this world of family concerns and self-employed workers, we encounter a wealth of experience of management, initiative, and sense of responsibility, all qualities that are widespread among the population, albeit to a tiny degree and in modest forms. This potential mobilizes to exploit the labor force liberated by agriculture, and this leads to the starting up of small—often tiny—industrial initiatives.⁶

The new firms that ensue, their growth, and their propagation by gemmation are financed mainly and directly by the family savings of entrepreneurs. There is commitment to exploit as best as possible the scant funds available by adopting an investment strategy of "a step at a time," rather than in large blocks. Firms are located in places where the labor force is already present, and here they can exploit pre-existing private structures and public infrastructures. What ensues is a somewhat diffuse spatial distribution corresponding to a logic of development that exploits pre-existing factors, and minimizes traumas and fractures as much as possible.

This type of industrialization also has the advantage of avoiding problems of wage demands and labor conflict.

It may suffice to mention two points. First, by being able to continue to live in their environment of origin, the new industrial workers find themselves in favorable conditions (in comparison to those who go to work away from home) in terms of availability of integrative activities, cost of living, quality of life, and social protection, and this is one of the motives that moderates their wage demands. Second, there is generally little social distance between the new small entrepreneurs and their employees; often there are even family ties, and, furthermore, there are frequent exchanges between these two roles, thus fostering a climate of collaboration.

The commercial and technological aspects of production are consistent with the other peculiar features of the NEC model listed above. The new industry is oriented toward sectors, technologies, and product types for which the small scale presents no insuperable disadvantages, and prefers to specialize in those products with which it is possible to turn to profit craft-based skills already present *in loco* as a legacy of the past. Only rarely do the products responding to this set of requisites have a suitable outlet in the surrounding neighborhood. In practice, most of the firms that have developed in the NEC area operate princi-

pally for extraregional and extranational markets, something now possible because of recent progress in transport and communications.

It is thus possible to answer students of regional economics, who ask themselves whether the fact that industry develops in one place or another depends principally on the availability of outlets or raw materials, or on other factors. Undoubtedly, in the NEC model, the role of "other factors" prevails, although there are a small number of exceptions related to special locations and products. In this model, industrialization finds fertile ground in the availability locally (albeit still partly in a latent state) of entrepreneurial energy and labor supply and savings, and in the existence of a well-structured society, with its own institutions and culture, and its own set of tangible infrastructures. The success of the model is precisely the result of the possibility it provides, in terms of modern-style development, of reharnessing all the forces and resources—even the most modest—already possessed by the pre-existing social organization. All this presupposes the nonintroduction of transplants and changes so drastic as to cause the sudden disintegration of the premodern society, with the consequent dispersion of whatever may be properly exploited within it.

Some mention has still to be made of a transformation in quality that NEC industry displays with growth.

2.2.1. Two phases of development

Since the surrounding environment continues to suffer from underemployment and depression in the initial phase of industrialization, new firms are faced with an abundant, undemanding labor supply. In turn, the authorities and the public at large hold anyone creating new employment in special esteem, and there is thus a certain leniency in the enforcement of company law. On the other hand, it is unlikely that in this phase firms grow up capable of standing on a technical and organizational par with the competition of mature economies. These two features peculiar to an industrial world still making its first steps—in terms of its low level of know-how and its modest demands—give rise to a compensation. Firms that are technically and organizationally inferior to the competition of mature economies manage to be profitable and competitive, due to the fact that they pay lower wages and fewer taxes, and are bound by fewer restrictions in terms of professional hazards and environmental pollution.

In a subsequent phase, as industry grows, the labor supply becomes tighter and more demanding, and social monitoring more stringent. The wages, charges, and restrictions imposed on firms tend to come into line with those imposed by mature economies, and firms thus manage to stay profitable and competitive only by achieving corresponding increases in productivity.

In this phase, NEC industry effectively achieves great technical and organizational progress, thanks also to its exploitation of two levers that are particularly suited to the model itself. One is the increasingly improved organization of

integrated systems of small firms. Another is increased specialization in quality and small-scale ("Italian style") or even custom-built (e.g., robot construction) products.

The above is a brief outline of the overall model. In the following sections, I shall break it down further to describe parts of it in detail.

3. The NEC model in detail

3.1. Entrepreneurship and labor force

First of all, it is necessary to focus on the social characteristics of entrepreneurship and labor force, and the effects they have on the economy.

At least during the initial phases, the labor force comes mainly from farming families. Many nonfarming families also maintain strong links with agriculture.⁷ Most workers have some family property (farm, small shop, house), and hence can count on a sort of safety net for when times are hard; in other words, they are not in proletarian conditions. Entrepreneurship has a "popular character." If, on the one hand, we read that the protagonists of the industrial development of the north in the Giolitti period [*editor's note*: early in this century] originated mainly from the upper classes, those involved in the development of NEC come from all levels of society; indeed, the majority are from the lower-middle and lower classes.⁸ In the wake of a first generation of pioneers, the entrepreneurial classes are largely peopled by individuals who have started off in industry as employees, and then set up on their own.⁹

Social mobility, the opening up of job opportunities, and career flexibility are general aspects of the NEC model and stem from the latter's being a flexible system based on a great number of small units. Just as the model entails fluid mobility between dependent and self-employed jobs, it also (at least in its advanced stages, as in Emilia, for example) permits a wide range of choice for the worker who wants a job that he likes—e.g., hard work with high wages, or, on the contrary, low wages but light work. Brusco [*editor's note*: in Fuà and Zaccchia, 1983] stresses the merits of this situation in terms of community life; its merits in terms of utilization of resources should also be emphasized. It provides a means of exploiting entrepreneurial and professional skills that in a more rigid, closed structure would be wasted. It may also be noted that the situation also exerts an influence on the industrial culture. In the NEC model, business management assumes a popular rather than elitist cultural style.

Class polarization is not felt strongly; workers and employers are of identical or similar social extraction, and are frequently bound by family ties and open prospects of mobility. This is helped by the fact noted by Bagnasco [*editor's note*: in Fuà and Zaccchia, 1983] that "from the worker who is not wholly proletarianized, inasmuch as he can count upon family resources, to the labor unit, to the craft-based firm, to the small and then to the medium-sized firm there exists a

de facto cultural continuum that facilitates interclass relationships." Workers and employers share a work ethic inherited from the pre-existing society of family farms and craft-based firms. To use the words of Becattini and his team [*editor's note*: in Fuà and Zacchia, 1983], it is an ethic based on the "traditional conviction that there is a link between effort and reward, hard work and social affirmation." The ensuing result is highly emulative behavior and labor relations inspired by collaboration rather than conflict. Even a problem such as the loss of a job can be faced with less anxiety when (as is very common here) the worker can rely on support from the family (a house, a farm, a small shop) for temporary refuge, and there is also a wide range of paths he can follow in order to reenter the labor market. Hence, firms encounter little resistance when it comes to reorganizing or reducing employment.

It should also be noted that, in this social situation, there is a complex of factors that tend to mitigate wage demands, as I indicate in the next section.

3.1.1. Wage levels and standards of living

In the first place, there are factors that make it possible to obtain a given volume of real purchasing power with a monetary wage lower than that necessary in an environment of centralized industrialization. Here are a few examples: the average cost of a house is limited by the fact that old dwellings are still exploited, and that not even new ones are subject to rent as high as in areas of high demographic concentration. Family ties with farming make it possible to procure some foodstuffs at favorable conditions. Travel from home to work tends to be less costly, in terms of time and money, than for workers in metropolitan areas.

Other factors may be added: it is harder to measure them in terms of money, but they are no less appreciated, and depend on the fact that workers remain in their original environment. I prefer not to describe them here in order to move immediately to a final point that is particularly deserving of attention.

I refer to the high degree of utilization of labor potential. The diffuse presence of family-based production activities and the strong network of family and neighborhood ties create the conditions for the exploitation—albeit through informal labor relations—of the marginal quantities of working capacity (housewives, old people, students), people who, in other environmental conditions, would struggle to find employment. Besides the utilization of "half forces," the environment also fosters a super-utilization of "full-scale forces." Numerous small-scale employers tend to work overtime everywhere. And dependent workers here frequently have a second job to which they dedicate part of the time left free by their main occupation. It is often a question of informal cooperation offered on the family farm or in the family shop. This is also the solution adopted as a temporary standby by many laid-off workers, so as not to remain inactive. For some, it is also a way of turning their holidays to profit. Orlando [*editor's note*: Fuà and Zacchia] speaks of the periodic return of children working in industry to the paternal farm to lend a hand in the peak periods of agricultural

activity. It should also be noted that there is no lack of deviant behavior: sometimes the time devoted to the second job is not taken out of the holidays or leave to which the worker is entitled, but out of unlawful sick leave. Such deviant cases cannot obviously be counted among those due to overtime work. Two notable consequences result from the high degree of utilization of labor and the way in which it is achieved. First, wages per working hour cover a wide range of figures, and this may be explained by the wide variety of marginal quotas of working capacity recovered, and the ways in which it is exploited. Second (and more important), a given *standard of living of the working population* is achieved with an average level of *real wage per hour worked* lower than that required in an environment of centralized industrialization, where the margin of working capacity remains largely unexploited.

The overall situation of entrepreneurship and the labor force outlined in this section depends to a large extent on the persistence of a certain "ethic," or, if we prefer softer tones, of a certain attitude toward labor. It is the attitude of one who aims not to achieve sure wages and pleasant working conditions, but rather to achieve economic and social success as the result of hard work ("rolling one's sleeves up") and taking risks. We are thus close to the attitude typical of previous generations of small farmers and craftsmen, and very distant from an attitude typical of a bureaucratized world. Yet the persistence of this attitude is threatened by ever more frequent contacts with other lifestyles. Sons and daughters with higher education who refuse to accept the work ethic of worker or small entrepreneur fathers and sharecropper grandfathers are a more and more common phenomenon. This is a basic problem for the future of the NEC model.

3.2. The small-firm system

From the outset, we have stressed the small size of firms as one of the characterizing elements of the NEC model. In the environmental conditions in question, small size represents the formula most likely to succeed and also best suited to the conservation of the environment.

It is the formula most accessible to local entrepreneurship, which would be too immature to realize big concentrations of capital and to run complex organizations even if it wanted to. It is also the formula most suited to the recruitment of labor in a geographical area made up of rural settlements interspersed with small and medium-sized towns. This type of area does not possess pools of labor appropriate for big industrial concentrations, but rather for smaller, more numerous industrial installations.

Small firm-based industrialization, in turn, demands fewer radical changes than that based on big concentrations, not only to the territorial organization and the related factors of town and country planning, but also to the pre-existing social framework. For example, the small-firm system maintains the continuity of the family's role in production and the old-fashioned work ethic, and does not

disturb the political equilibrium of local democratic administrations as much as the installation of a big industry would.

Now let us consider the types of products manufactured in small firms.

3.2.1. Preferred products

Commercial and technological decisions seem to be steered, in the NEC model, by three different types of consideration, the relative weights of which are changing apace with development. We shall be examining them separately below. First, products are chosen that are within the cultural horizon and technical and financial capacities of local operators. At least in the early stages of industrialization, this implies the implementation of technologies that are not too far removed from the experience of a world of small farmers and craftsmen. There is also a clear preference for types of industry directly related to previous craft-based skills typical of each individual district. Many important industrial nuclei have previous experience of this type. To mention just a few examples, we might recall the leather industry in Valdarno Inferiore, footwear around Fermo in the Marche, furniture in the Natisone Valley in Friuli, and pottery around Sassuolo in Emilia. The fact that there is such a smooth shift from the pre-existing craft-based culture facilitates the first industrial steps, while not preventing the latter from evolving, as it gradually grows and diversifies, toward cutting-edge technologies.

Second, the environmental conditions existing in the early stages of industrialization push firms toward types of production with relatively low labor costs and no severe protection of the environment and the health of workers. As long as there is a large labor supply, it is normal that this is reflected in low labor costs, and that entrepreneurs prefer labor-intensive types of production. Cause and effect are bound to disappear with the progress of industrialization. What seems harder to justify is the indulgence (and hence implicit encouragement) by the community and local administrations toward polluting, harmful manufacturing processes. It is legitimate to think that underemployment is not a sufficient excuse to seek cost reduction through the acceptance of such evils, and that any political and civic negligence of this type needs to be checked.

A final point remains to be discussed. Preference is given to industries in which it is possible to fragment the production process by phases or by products without having to resort to inferior techniques. The result is that, if a very small firm concentrates its activity exclusively on a limited phase of the process—and/or on a restricted product quality specification—it may prevent its size or scale from becoming suboptimal from the technical point of view. I have left this point for last precisely because, as we shall see in a moment, it is the richest in consequences for the industrial structure. It is also the point out of the three that remains valid longest. For it combines with the other two to steer entrepreneurial decisions right from the early stages of industrialization, and later, as development proceeds, exerts a growing influence, whereas that of the other two tends to wear out.

3.2.2. Division of labor and modes of integration

The extreme fragmentation of production activity implies the existence of a tightly knit network of interdependencies among firms. Furthermore, whereas in the case of production in a narrow sense it has been possible to reconcile the small size scale of the firm with technical excellence by means of fragmentation by phases and products, in the case of other important business functions—from financial management to marketing to personnel training—the disadvantages of the small dimension remain conspicuous. It is therefore economical to free the small entrepreneur of these functions and entrust them to special agents, who perform them on a suitable scale for a number of manufacturers. Hence the combination of two close networks of division of labor among firms: division of labor among a number of industrial firms; and division of labor between industrial firms on the one hand, and firms supplying services to industry on the other.

To say that firms participate in a division of labor is tantamount to saying that they form an integrated system. And the development of systems of even very highly integrated small firms is, indeed, acknowledged as a key feature of the NEC model. A variety of names has been given to this phenomenon, including "industrial districts" (a term borrowed from Marshall), "system-areas," "clusters of firms," and "constellations of firms." The various coiners of these terms evidently had their eyes on different variants of integrated systems. And the typology we encounter in reality is, in effect, highly various. There are systems with relatively well-defined boundaries (i.e., most transactions take place within the system) and others with more diffuse boundaries; systems included in limited or nonlimited geographical locations; and systems with or without formalized links among firms.

Modes of connection vary from financial participation to supply contracts, to simple family relations, to temporary informal agreements. Some examples will be provided in subsequent sections. One example is the coordinating function performed for small-scale Tuscan industry by Florence-based private export organizations, which not only "effect the adaptation of overseas demand to Tuscan products and vice versa" but, at the same time, also perform "important complementary functions of commercial and financial service and quality control" for small firms.

In other cases, the connection is achieved at a grass-roots level. Here, for example, is Brusco's description of the role played by the associations of craftsmen and small entrepreneurs in Emilia-Romagna:

These associations have given life, right across the region, to centers responsible for preparing wage packets, keeping the books, making tax payments and compiling tax returns. In essence, these centers provide small firms with the know-how of large-scale administrative and accounting offices at very low prices. Not only that, these associations also give rise to consortia for the sale

of products, technical advisory offices, and, perhaps most important of all, guarantee cooperatives, which present themselves to banks as liable for the solvency of a single entrepreneur, and negotiate the best interest rates with banks. (S. Brusca, "Il modello Emilia: disintegrazione produttiva e integrazione sociale." *Problemi della transizione*, 5, 1980)

Both the modes of integration—the associations (still somewhat limited in scale) and the private exporting agents—are in operation in the Marche region, which is still in a stage of early industrialization. Yet a perhaps more crucial role is reserved for a myriad of private professional studios, many of them extremely modest, upon which small firms rely for accounting and every other form of consultancy.

Another mode of integration present in all NEC regions is the small system of firms guided by a leader—which is not necessarily any bigger than the others. Here I quote once more Brusco, who describes, as an exemplary case of this kind, the Morini motorcycle factory of Bologna:

The plant, which has only 100 employees, turns out 5,000 motorcycles a year. . . . Yet anyone visiting the factory will find that many workers are involved in assembly, on lines on which labor is relatively unfragmented. All the manufacture of the motorcycle parts is decentralized outside, except that of the drive shaft and the motor casing. The chassis, the gas tank, the shock absorbers, the handlebar, the brakes, the gears, and the wheels—in short, all the other parts are manufactured by subcontractors. (Brusco, op. cit.)

It is possible to conclude the example by referring to the very particular model of integration achieved in the woolen industry in Prato, described later on [editor's note: in Fuà and Zacchia, 1983]. Here, "the leading firm very often consists of a firm without employees, in which only the entrepreneur works: he is known as the *impannatore*, and is responsible for designing fabric and having it spun, and commissions different firms for the weaving, finishing, and mending."

3.2.3. Local systems specialized by product

A frequent phenomenon is the spatial agglomeration of small firms devoted to productions that are similar or vertically connected—in other words, the formation of areas specialized in one type of product. This agglomerative phenomenon has in itself important effects, irrespective of the modes (examples of which are supplied above) by which firms are interconnected. It has thus been the subject of much study, and it is to this phenomenon in particular that some authors give the name "system area."

By applying a somewhat restrictive definition of the system area, in a recent survey Garofoli has identified over seventy agglomerations of this type in Italy.¹⁰ Most of these are in the NEC area and a good many are also in the northwest; in the south, on the other hand, there are very few. Many of the system areas (but not all) have, as an antecedent, an old craft-based specialization within the dis-

trict itself. Many remain monocultural, but some diversify over time, especially toward vertical integration. Examples are the system areas of Prato and Schio (and, likewise, Biella in the northwest), which started out as monocultures of the woolen industry only to become important manufacturers of machinery for the industry as well. The system area of Valdarno Inferiore started with tanning; now it also manufactures footwear.

The well-known fact whereby the contiguousness of similar firms procures each of them a complex set of economies and stimuli gives the process of agglomeration, once it has started, something of a snowball effect—thanks to the mutual strengthening of firms within the area, the arrival of new firms from outside, and the way in which the area of initial agglomeration overflows into, annexes, or involves its surrounding areas.

Although the exuberant growth of these agglomerations constitutes a prime component of the overall growth of NEC industry in the short term, if it is not well channeled, it runs the risk of creating difficulties in the long term. Two orders of drawback are to be prevented. First, it is advisable to avoid a situation whereby areas of large population volume depend totally or almost totally on one highly restricted production specialization—the risk being social disaster at the first slump within the sector. Second, it is necessary to prevent the attraction exerted by system areas from leading to a centralization of population and activity such as to create severe phenomena of congestion in the areas themselves (with a consequent loss of social integration and connection with the rural environment) and of abandonment elsewhere (with the consequent squandering of pre-existing structures). At this point, the very conditions that represent the strong points of the NEC model would be lacking.

3.2.4. Problems of services

It was seen above how industrialization based on small firms according to the NEC model demands and gives rise to wide development of suppliers of services for industry. This development is due for the most part to private initiatives, some of them extremely decentralized (for example, the professional firms mentioned with reference to the Marche), others centralized (the case of Florentine export firms, for instance) and sometimes managed at a grass-roots level, as was exemplified above with reference to Emilia-Romagna.

The overall range of services offered by existing suppliers is diversified and rich, but it is obviously still susceptible to improvement. Not only do the quality and cost of some services leave much to be desired, but there is also a whole set of services that are not offered or are insufficient. I am referring to scientific, training, and similar services, which a small firm (unlike the big firm, with a wide operative scope) is reluctant to buy, because most of its utility cannot be appropriated by an individual firm, and tend instead to spread through the system.

Given the fundamental importance of a service structure for the efficient functioning of the NEC model, and the weaknesses of the structure formed by

private initiative, there is a need for integrative public intervention. In reality, there is no lack of experiments in intervention, especially by regional and local administrations, yet the results achieved so far are modest. This comes as no surprise in view of the difficulties involved in finding types of public support that are effectively compatible with the NEC functioning mechanism, strengthening it rather than contaminating it with bureaucracy, excessive relief, and political favoritism. It will thus be necessary to be careful, on the one hand, not to intervene rashly, and, on the other, to intensify the pursuit of new and more promising forms of intervention.

There is a strong trend for the service activities brought to life by NEC industrialization to concentrate in the major cities of the area. A paradoxical phenomenon hence emerges: a decentralized, rural model of industry leads indirectly to a centralized, urban tertiary service model. This spontaneous tendency is also perceived and supported by public action. A number of regional and local administrations are elaborating programs for the future development of regional capitals and their metropolitan areas as capitals of "high tertiary services."

If things continue in this direction, and if the service sector is destined to absorb a growing share of employment (as is generally thought), what will follow will be the progressive abandonment of that decentralized system of human settlement, which is today one of the strong points of the NEC model. Not only that, but with the persistence of the spatial polarization whereby the service sector moves to the town and industry to the country, the ensuing risk is sharper differentiation between industry and services and, ultimately, their conflict. If the service sector continues to provide higher wages and better working conditions, this might heighten the sense that the town lives at the expense of the country and hence—according to the argument of Becattini and his collaborators—recreate "potential rivalry and distrust between town and surrounding countryside," as happened in the past in different historical situations, in which "surrounding countryside" signified poor tillers of the soil.

In view of these considerations, one cannot but view the present trends with some concern. Yet it is without doubt that the development of the "high tertiary service sector" is to be augured and encouraged, and that, in the present situation, firms in this sector achieve significant economies from strong urban concentration. It is also true, however, that the existing situation is the result of the policies implemented, and that attempts may be made to modify it by an appropriate orientation of future policies. In particular, a policy might be adopted aimed at exploiting the great potential for spatial decentralization offered by the new technological developments in the fields of telecommunications and telematics.

3.2.5. *The strong points of the system*

The analysis made so far has revealed the logic that leads to the formation of the small-firm system: the small size scale is adopted because it is the main route for development based on local forces; and firms must be integrated into a system in

order to obviate the diseconomies that would otherwise result from the small size scale. At this point, the question is posed of whether the small-firm system is merely a poor surrogate for countries unable (as yet) to support a large-firm system, or whether it has some points in its favor that make it superior. The answer may be that the small-firm system has strong points of its own (just as it has notoriously weak points), and what follows is a brief review of them.

First of all, it is necessary to remember the favorable environmental conditions provided by the overall functioning of the NEC model—low cost of living, intense utilization of labor potential, and persistence of the old-fashioned work ethic. On the one hand, small firms, as essential components of the model, join together to create such conditions and, on the other, benefit from them in terms of lower costs and better business efficiency.

Furthermore, the small size scale permits, in a variety of ways, swifter adaptation to ongoing changes in markets and technologies. First, in comparison to larger firms characterized by bureaucracy and union restraints, the small entrepreneur can more easily modify the volume and the modes of utilization of labor and other resources. Second, a small-firm system may simply shift subcontracting relationships to resolve problems of reorganization, which, in a large-firm system, would require substantial staff demobilization and transfers. In the third place, the small-firm system opens the way to the initiative and inventiveness of a large number of people, stimulating them by competition and emulation. Hence, although basic research is still insufficient, the type of research most directly applicable in industry, which leads to a continuous flow of small innovations (almost *learning by doing*), is nonetheless flourishing. There are many signs that applied research is producing better results in the small firms than in the big ones.¹¹

Greater flexibility and a better aptitude for small innovations make the small-firm system the best suited for the production of limited ranges or special one-off articles. It is thus in a strong position in markets most characterized by demand fragmentation by geographical areas or social groups (up to the extreme case of "made-to-measure" demand), or by variability in demand over time (the rapid succession of fashions or innovations).

The fact that it enjoys this vocation in the international division of labor is a point in favor of the NEC model, in that the relative importance of the markets mentioned is growing. NEC industry must thus seize its chance—which is what it has already started to do. It can exploit its greater flexibility to beat the competition of maturer economies, just as it can exploit its superior quality and technology to beat that of emerging low-wage economies.

Notes

1. See G. Fuà, *Problemi dello sviluppo tardivo in Europa*, Bologna, Il Mulino, 1980.
2. According to the estimates made in Fuà (op. cit., p. 93), in 1970 as much as 50 percent of the population of countries of recent development (in Italy 49 percent) lived in

rural areas or towns with less than 20,000 inhabitants. In developed countries, the figure was only 25 percent.

3. Again, according to the estimates made in the work cited in note 1 (p. 121), plants with less than 51 employees represented 60 percent and over of overall employment in the manufacturing sector in Greece and Turkey, and about 40 percent in Italy and Spain. The percentage was, instead, little more than 20 percent in Germany, and only slightly over 10 percent in the United Kingdom and the United States. The contrast between developed countries and recently developed countries is very strong in other sectors too—especially in building and commerce—and would be even more so if it were possible to take “black” employment into consideration.

4. As a rough reference, it may be remembered that the share of the northeast and center of the GDP of the Italian manufacturing industry increased from 32 percent in 1961 to 39 percent in 1980.

5. There are also some cases in which the initial impulse to small-scale local entrepreneurship is provided by big business arriving from the outside. One example of this may be found in the studies by M. Politi, which reveal how, in Piacenza, the business of AGIP (the National Oil Company) and the military arsenal have fostered the first steps of the local mechanical engineering industry. Yet this is an extreme case in the NEC model. In many others, it seems that the presence of big imported firms has quelled rather than stimulated local industrial initiative.

6. Another development—quantitatively even more important in certain districts—is constituted by tourist initiatives. These are not dealt with here, and will be the object of analysis of a special survey in the future.

7. See *Famiglia e mercato del lavoro in una economia periferica*, edited by M. Paci, Milan, 1980.

8. According to surveys carried out in a number of towns, such as Treviso, in the first wave of entrepreneurs, urban origin (crafts, trade, professions) prevails strongly over rural origin [*editor's note*: cited in Fuà and Zacchia, 1983, p. 151]. In other regions, however, such as Fermo, a net predominance of rural origin emerges.

9. This “dissemination” of new entrepreneurship by preexisting firms is strengthened, according to some observers, in situations of industrial depression. Referring to the Marche, V. Balloni notes that it was precisely the bankruptcy of a number of firms, with the subsequent flight of their staff, which had the virtue of creating the circulation of the “entrepreneurial energies best suited to overcoming new competitive barriers” (V. Balloni, *Origini modi e tempi di evoluzione delle strutture organizzative imprenditoriali*, in press).

10. See G. Garofali, “Lo sviluppo della ‘aree periferiche’ nell’ economia Italiana degli anni settanta,” *L’Industria*, 2 (1981), 391–404.

11. It is necessary to distinguish the advantages intrinsic in the small size scale from the ones transferred thereto by irrational regulation. I am referring, for example, to the exemption of firms with less than 15 employees from a number of onerous labor laws; to the size restrictions imposed to benefit from special treatment in aid of craft-based firms; to the fact that the small size scale facilitates evasion from welfare contributions and tax payments. It is to be regretted that an institutional situation exists in which some firms may be forced to avoid becoming bigger, not because this would mean less efficiency, but only so as not to lose such advantages (or such chances to evade charges).