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## 10 Industrial Districts and Regional Clusters <sup>\*</sup>

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### Jonathan Zeitlin

**Abstract:** The Rediscovery of Industrial Districts: A Disciplinary Paradox – Problems of Definition and Conceptualization – Origins and Sustainability – Institutions and Governance – The Impact of National Institutions and Public Policies – Contemporary Transformations and Challenges – Conclusions

**Keywords:** **policies**, **origin**,

### 10.1 The Rediscovery of Industrial Districts: A Disciplinary Paradox

DURING the 1980s, a long-forgotten concept unexpectedly re-emerged at the center of international debates about economic restructuring: the industrial district. Originally coined at the end of the nineteenth century by the British economist Alfred Marshall (1922, 1927, 1975) to describe sectorally specialized agglomerations of small and medium-sized enterprises (SMEs) such as Lancashire cottons, Sheffield cutlery, and South Wales tinplate, the concept was revived nearly a century later by the Italian economists Giacomo Becattini (2004) and Sebastiano Brusco (1982, 1989, 1990) to capture the extraordinary efflorescence of similar decentralized industrial complexes across the central and northeastern regions of

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their own country. <sup>1</sup>

<sup>1</sup> For early English-language collections of this work, see Goodman *et al.* (1989) and Pyke *et al.* (1990).

Economists, geographers, sociologists, political scientists, and business scholars quickly discovered a broad array of analogous local and regional production systems scattered across Western Europe, North America, and East Asia. As in central and northeast Italy, many of these districts specialized in light, labor-intensive industries like clothing, textiles, shoes, jewelry, and furniture, but a substantial proportion could also be found in more technologically demanding and capital-intensive sectors such as metalworking, machine tools, ceramics, plastics, aerospace, electronics, film and other entertainment/communications media. <sup>2</sup>

<sup>2</sup> For overviews, see Sabel (1989) and Pyke and Sengenberger (1992).

These industrial districts—sometimes known by other cognate terms such as local production systems, regional economies, or territorial clusters—attracted widespread attention for a number of interrelated reasons. Foremost among these were their impressive economic performance, as measured by new firm formation, employment, and exports; their capacity for endogenous development; and their ability to sustain high relative wages and labor standards in the face of international competition. No less remarkable, however, were the districts' flexibility in adapting to changing markets and demand patterns; their capacity for generating and diffusing technological innovation in products and processes; and their ability to combine competition and cooperation among local actors. Taken together, these accomplishments challenged established models of industrial progress based on mass production by large, vertically integrated corporations, and suggested to many observers that the districts could constitute a new organizational framework for flexible specialization in an increasingly volatile post-Fordist economy.<sup>3</sup>

<sup>3</sup> The *locus classicus* for this view is Piore and Sabel (1984); for a review of the ensuing debate, see Hirst and Zeitlin (1991).

Such contemporary upheavals in markets, technology, and industrial organization in turn raised new questions about the historical antecedents of industrial districts and flexible production, which Charles Sabel and I among others began to explore (Sabel and Zeitlin 1985, 1997). Few historians at that time were interested in or aware of industrial districts, even if there were points of contact with the burgeoning literature on protoindustrialization, as well as on the origins of mass production and the modern corporation. This disjunction was particularly apparent in the Italian case, where social scientists rather than historians were displaying a keen interest in the origins and development of “diffused industrialization” in the “Third Italy”, defined in opposition to the large-firm dominated “industrial triangle” of the northwest and the underdeveloped south (Bagnasco 1988; Trigilia 1986, 1989, 1990; Becattini 1999, 2001, 2003). But the relative disinterest of most historians was equally striking in the case of France, where

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“fabriques collectives” closely resembling the Italian industrial districts had played a crucial and dynamic role in nineteenth and early twentieth century manufacturing, as well as in the United States, Germany, and Britain, where the concept itself originated.<sup>4</sup>

<sup>4</sup> For a pioneering historical discussion of the “fabriques collectives” by a French sociologist, see Cottureau (1986); another French sociologist, who participated in the rediscovery of “localized industrial systems” during the 1980s, has referred to them as “invisible objects” (Raveyre and Saglio 1984; Saglio 2005). For parallel critiques of the “blending out” of decentralized regional economies and specialty production in standard narratives of German and American industrial history, see Herrigel (1996) and Scranton (1997) respectively. A major exception to these strictures was Japan, where there was a longstanding historical interest in geographic concentrations of small and medium-sized enterprises known as *sanchi* (production districts) or *jiba sangyo* (community-based industries): see for example Abe (1992, 1999). But even there, as Yonemitsu and Tolliday (2003) point out, much of the most influential work, in both English and Japanese, was produced by social scientists rather than historians.

It was not until the mid-1990s, some ten to fifteen years after the onset of the original debate, that historians in Italy, France, Britain, Germany, the United States, and Japan really began to produce a significant body of new research on industrial districts and flexible production. This time lag doubtless reflects the long gestation period of historical research projects, as well as the role of generational succession in shifting the balance of historiographical debate. In any case, the results of this shift are extremely impressive: a proliferation of

excellent historical articles, monographs, and edited volumes, both national and comparative, documenting an extraordinary range of districts too vast to enumerate individually here.<sup>5</sup>

<sup>5</sup> Any short list is necessarily invidious. But prominent examples of recent historical work in this area include: Sabel and Zeitlin (1997); Scranton (1997); Odaka and Sawai (1999); Amatori and Colli (2001); Eck and Lescure (2002); Alaimo (2002); Colli (2002a); Wilson and Popp (2003); Lescure (2006).

But therein lies a paradox. At the same time as historians have discovered the attractions of the industrial district as a research subject, regional economies have been changing in ways that are leading contemporary social analysts to question the continued applicability of the concept, at least in its classic form. This is true not only of countries like France and Britain, where claims of a contemporary resurgence of industrial districts met with considerable skepticism from the outset, but also to a growing extent in Italy as well. Is this just the standard "owl of Minerva" syndrome, whereby the serious historical study of a topic can only begin once it is truly past? Or does the contemporary reorganization of the industrial districts and the associated reconfiguration of the relationship between the local and the global open up new questions, both theoretical and empirical, around which historians and contemporary social researchers might conduct a mutually productive dialogue?

I will return to these questions by way of conclusion, after first considering the definition and conceptualization of industrial districts, their origins and

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sustainability, governance mechanisms, the influence of national institutions, and the nature of current transformations.

## 10.2 Problems of Definition and Conceptualization

Part of the problem is one of definition and conceptualization. Those who insist on the limited contemporary relevance of industrial districts typically refer to the "canonical" model of the Marshallian district as a "socio-economic notion" elaborated by Giacomo Becattini and others (Becattini 2004; Becattini *et al.* 2003) on the basis of postwar Italian experience. Like Marshall himself, these Italian authors emphasized the external economies of specialization, information, and skilled labor supply arising from the concentration of large numbers of SMEs engaged in a single industrial sector (including "subsidiary" industries such as machinery manufacture) within a localized geographical area. And they likewise embraced Marshall's account of the dynamic benefits of such districts' "industrial atmosphere" in stimulating the acquisition of specialized skills and the diffusion of innovation through informal socialization and interaction among local actors. But their "canonical" model went on to embellish these elements of Marshall's original concept by adding a series of more explicitly "social" features drawn from a stylized account of the Italian districts, such as a non-metropolitan, small-town environment; a set of shared values like hard work, cooperation, and collective identity; and a local social structure dominated by small entrepreneurs and skilled artisans.<sup>6</sup>

<sup>6</sup> For a fuller discussion of the relationship between Marshall and Becattini's conceptions of the industrial district, see Zeitlin (1992).

Despite its theoretical coherence and heuristic value, this tightly specified neo-Marshallian model of the "canonical" district had the disadvantage of excluding many apparently similar specialized agglomerations of SMEs that did not share all of the prescribed socio-cultural features, including important Italian

cases such as Bologna's packaging machinery cluster, which had to be classified instead as an "urban industrial subsystem" (Capecchi 1997: 381).<sup>7</sup>

<sup>7</sup> A recent careful attempt by Paniccia (2002) to operationalize the quantitative identification of Italian industrial districts found that only a small minority corresponded to the canonical model.

Hence contemporary scholars like Storper (1997), Porter (1998), Crouch *et al.* (2001, 2004), or Courlet (2005) who argue for the continuing importance of "local production systems" or "regional clusters" typically adopt a looser definition encompassing a wider typology of empirical cases, including not only classic industrial districts like woolen textiles in Prato or metalworking in France's Arve Valley, but also "technological districts"

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such as Silicon Valley or Cologne's new media complex, "commercial service districts" like Lille–Roubaix–Tourcoing, "financial districts" like the City of London, and "logistics districts" like Duisburg or Venlo on the Dutch-German-Belgian border.<sup>8</sup>

<sup>8</sup> On logistics districts, see also Bologna (1998); on the City of London as a financial district, see Amin and Thrift (1992).

Historians, especially those operating outside Italy, have often found the neo-Marshallian model of the industrial district excessively restrictive, and have therefore preferred to develop more variegated typologies of their own. Thus Wilson and Popp (2003), in their recent collection of essays on Britain distinguish between districts, clusters, and regional business networks, mainly in terms of geographical scale and the linkages between firms and industries. More elaborately still, Scranton's grand tour of US specialty production in the late nineteenth and early twentieth centuries not only differentiates firms into "integrated anchors", "networked specialists", "specialist auxiliaries", and "outliers", but also localities into "interactive", "parallel", "derivative", and "narrow focus" sites (Scranton 1997: 81–3).

My own view, formulated originally at the beginning of the 1990s (Zeitlin 1992), is that the industrial districts debate, both contemporary and historical, would benefit by moving away from a "thick", "closed" model based on a stylized account of a particular national experience towards a "thin", "open" model capable of accommodating a variety of empirically observable forms.<sup>9</sup>

<sup>9</sup> See also the convergent observations in Courault and Romani (1992) and Daumas (2004).

Such a model might take its point of departure from Marshall's original definition of the district as a geographically localized productive system based on an extended division of labor between small and medium-sized firms specialized in distinct phases or complementary activities within a common industrial sector. Each of these elements in turn could be transformed into empirical scalar variables, yielding a multiplicity of intermediate or hybrid cases defined in terms of their relation to the ideal type: for example, the degree of localization, the size distribution of productive units, and the extent of inter-firm linkages. I also argued for the necessity of separating structure and performance, avoiding the assumption that industrial districts defined in this way are necessarily innovative, flexible, consensual, or otherwise successful. For as comparative and historical research has shown, stagnant or declining districts display many of the same structural features (such as geographical localization and an extended inter-firm division of labor) as their more vibrant counterparts. Nor is there any reason to assume that as industrial districts develop, they will necessarily evolve towards the pure Marshallian model.

At the same time, however, concepts cannot be stretched indefinitely without losing their analytical power, and there is some degree of variation on each of

these dimensions (localization, size distribution, linkages) beyond which it becomes no longer useful to speak of a local economy as an industrial district (even if it is

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difficult to specify a precise threshold in advance).<sup>10</sup>

<sup>10</sup> A logical criterion for defining such a threshold is that a local economy should no longer be considered an industrial district when inter-firm ties *outside* the area become more important than those *within* it. I am indebted to Chuck Sabel for suggesting this formulation.

And it is worth recalling in this context that, as elaborated in Chapter 6 above on the “historical alternatives” approach, industrial districts *per se* are neither necessary nor sufficient conditions for flexible production, but rather one possible organizational framework within which the latter may flourish, alongside large internally decentralized or federated firms and networks of external suppliers.

### 10.3 Origins and Sustainability

Closely related to the choice between a narrow and an expansive conceptualization of industrial districts is the question of origins. The neo-Marshallian model of the “canonical” district, as we saw, included a series of distinctive socio-cultural characteristics, such as a local collective identity based on cooperation among independent artisans, skilled wage workers, and small-firm owners. And these features of diffused industrialization in the Third Italy were widely interpreted as a product of historical inheritances such as the extended family, sharecropping, and peasant proprietorship, and local political subcultures, both “red” (Socialist/Communist) and “white” (Catholic).

This reinterpretation of the Marshallian district proved fruitful both in focusing attention on the distinctive social and historical features of Italian small-firm development and in stimulating the search for analogous phenomena elsewhere. In certain such cases discovered by social scientists and historians, the social matrix of development bears some affinities to that of the Third Italy. In France, for example, agrarian smallholdings, independent artisans, and a “white” or “red” political subculture also appear to have contributed to the formation of industrial districts in places like Cholet, Oyonnax, and the Arve Valley; and a similar argument could be made for Baden-Württemberg or the Bergisches Land in Germany and West Jutland in Denmark.<sup>11</sup>

<sup>11</sup> On Cholet, see Minguet (1992), Courault and Rerat (1992), Lescure (2002). On Oyonnax, see Saglio (1997, 2005). On the Arve Valley, see Courlet (1992) and Judet (2006). On Baden-Württemberg and the Bergisches Land, see Herrigel (1996) and Boch (1997). On West Jutland, see Kristensen (1992) and Kristensen and Sabel (1997).

But there are many other possible examples which do not fit this model, especially if we are prepared to include technological districts emerging from the decline of large-scale mass production like the automotive and industrial automation complex in and around Turin or contemporary high-tech regions such as Silicon Valley, whose origins turn out, as recent historical research has shown, to owe as much to

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military procurement, itinerant engineers, and local amateur radio operators as

to university science.<sup>12</sup>

<sup>12</sup> For Turin's evolution from a FIAT company town to an "automotive technology district", see Bianchi *et al.* (2001). For recent historical research on the origins of Silicon Valley, see Lécuyer (2002); Heinrich (2002); Kenney (2000). For discussions of the distinctive properties and developmental trajectories of "high-tech" districts, see Crouch *et al.* (2004: pt. III); Trigilia (2005); Burroni (2004). One could make similar arguments about the evolution of entertainment districts like Hollywood or of financial districts like the City of London, on which there is now a substantial historical literature. For Hollywood, see Storper (1989, 1997); Scott (2005). On the City of London and other international financial centers, see Kynaston (1994–2001); Cassis and Bussière (2005); Cassis (2006).

Even for earlier periods, moreover, Italian historians now place increasing emphasis on the role of medium-sized towns, public technical schools, and large firms themselves as crucial sources of skills and entrepreneurial experience for the emergence of dynamic local productive systems during the course of the twentieth century.<sup>13</sup>

<sup>13</sup> For a useful synthetic overview, see Alaimo (1999).

Thus it seems that there is no empirically plausible short list of contextual factors conducive to the formation of industrial districts—any more than for economic development more generally. The deeper researchers dig into the evolution of industrial districts in countries like Italy, France, Germany, Denmark, or the United States, the greater the number of additional factors that need to be integrated into the story, and the more the result comes to look like an irreducibly diverse set of historical descriptions rather than a single overarching theoretical explanation.

This impasse in the search for the origins of industrial districts should have the correlative benefit of redirecting attention towards the more important question of their reproduction and sustainability. For whatever their origins, industrial districts or local productive systems which survive for an extended period of time are typically obliged to surmount a succession of challenges and crises, both internal and external. Most fundamental of these is the need to respond to periodic shifts in markets and technologies, which may involve far-reaching changes in products, materials, and skills, as well as in forms of organization. A capacity for collective innovation, adaptation, and reconversion is thus the hallmark of successful districts over the longer term, whose mechanisms require further exploration.

## 10.4 Institutions and Governance

This brings us to the question of institutions and governance. Much of the theoretical literature on industrial districts claims that the costs of decentralized transactions are contained by a cultural disposition among local actors towards trust and cooperation resulting from the embeddedness of social relations within a closely knit community. And historians seeking to explain the prevalence of

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opportunistic behavior and conflict within particular industrial districts, such as the North Staffordshire potteries, have often attributed such negative outcomes to a lack of trust and social cohesion within the local business culture (Popp 2001). Explanations of this type are not only intrinsically tautologous, but also run foul of a key finding of comparative research, namely that most successful districts have experienced more or less severe internal tensions and overt conflicts among local actors at various points in their histories. The key issue thus shifts from the assumed role of cooperative business cultures in preventing the emergence of conflicts of economic interest among local actors to the institutional mechanisms through which such conflicts were managed and

resolved.<sup>14</sup>

<sup>14</sup> For fuller discussions, see Zeitlin (1992) and Chapter 6 above.

In a recent study of the Birmingham Jewelry Quarter, for example, Francesca Carnevali (2004) argues that trust and cooperation within industrial districts do not arise spontaneously, but depend instead on the conscious efforts of governance institutions such as trade associations. In Birmingham, ease of entry into the trade and the economic incentives for embezzlement of high-value materials meant that control of opportunistic behavior resulted from the ability of the local jewelers' association to assess the character of its members, monitor their activities through credit checks and investigations, and enforce the law against bad actors.

Carnevali's persuasive analysis of the Birmingham case confirms the findings of comparative-historical research on industrial districts more broadly. In order to serve as an effective framework for flexible production, a growing body of empirical studies shows, industrial districts must develop a set of coordination and governance mechanisms capable of checking opportunistic behavior without stifling fluid cooperation among decentralized economic actors. Crucial in this regard are institutions for the resolution of disputes and the provision of collective services beyond the capacity of individual small and medium-sized firms to supply for themselves, such as training, research, market forecasting, credit, and quality control (Sabel and Zeitlin 1985, 1997).

Although the functions performed by such governance mechanisms display many common features across districts, their organizational form varies widely. Examples from the case studies examined in Sabel and Zeitlin (1997) include joint boards of conciliation and arbitration like the French *conseils de prud'hommes*; piece price lists or *tarifs*; standard-setting bodies; collective vocational education and training systems; and cooperative research and technology transfer institutions. There were also institutions which blurred the line between regulation and service provision, such as the rules for apprentice payment, design copyright, and repayment of loans for equipment purchase in the nineteenth-century Lyon silk *fabrique*, which as Alain Cottereau (1997) shows, were designed at one and the same time to ensure equity and encourage collective investments in product and process innovation and training. A recent collection of essays on "intermediate institutions

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and local development" in Italy (Arrighetti and Seravalli 1999; cf. also Provasi 2002) likewise emphasizes their "variable morphology", with different bodies playing the lead role in organizing the provision of public goods and services in different times and places, from charitable foundations and craft guilds in eighteenth-century Lumezzane, through professional schools in late nineteenth-century Friuli, to municipal governments and rural banks in Modena and Castel Goffredo after 1945.

Neither the range of necessary collective services nor the appropriate organizational framework for their provision can thus be specified precisely in advance. Hence perhaps the most critical, but also the most fragile, institutional requirement for the sustained reproduction of industrial districts is the constitution of a public deliberative forum or policy network open to the full range of relevant local actors within which effective solutions to common problems can be jointly discovered.<sup>15</sup>

<sup>15</sup> For the concept of an "industrial public sphere", see Hirst and Zeitlin (1991) and Zeitlin (1992).

## 10.5 The Impact of National Institutions and Public Policies

If the sustained reproduction of industrial districts depends on the existence of a robust set of governance mechanisms for collective problem-solving, then the differential impact, both positive and negative, of national institutions and public policies must play a major part in any comparative analysis.

I have sought to sketch out elsewhere the key elements of the process whereby the United Kingdom was transformed during the first three-quarters of the twentieth century from a kaleidoscope of Marshallian industrial districts to the most concentrated of all advanced capitalist economies, with few if any dynamic local clusters of small and medium-sized firms (Zeitlin 1995; cf. Crouch and Farrell 2001). Among the critical factors identified in this analysis were the early amalgamation and centralization of the banking system, the promotion of industrial concentration through mergers and acquisitions by the state and the capital markets, and the progressive reduction of local government autonomy within a unitary constitutional polity.<sup>16</sup>

<sup>16</sup> For a convergent and more fully documented analysis, see Carnevali (2005).

On the more positive side, Gary Herrigel (1996) and others have traced in rich detail how the changing national framework of German federalism influenced the fortunes of decentralized regional economies in different eras from the Kaiserreich through Weimar and Nazism to the postwar *Bundesrepublik*. Among the key elements of this story are the shifting fiscal autonomy of state and local governments,

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the (re)construction of a multi-tiered regional banking system oriented towards *Mittelstand* finance (cf. also Deeg 1999), and the 1957 compromise on antitrust legislation which permitted the survival of specialization cartels.

The French case presents a number of peculiarities which have begun to attract the attention of historians in recent years. One of these is the flourishing of *fabriques collectives* during the nineteenth and early twentieth centuries<sup>17</sup>

<sup>17</sup> For useful surveys, see Cottureau (1986) and Dewerpe (1992).

despite the absence of a firm legal/political basis for local regulation stemming from what Hirsch and Minard (1998) call "the Le Chaplier effect", the weakness of intermediate institutions between state and citizen resulting from their *de jure* abolition during the Revolution. Another puzzle is the longstanding persistence of numerous local and regional banks despite the rise of a powerful circle of Paris-centric financial institutions, which as Michel Lescure (1995, 2003, 2004) has argued, depended not only on the informational advantages derived from intimate knowledge of their small and medium-sized industrial customers, but also on the favorable discounting policies pursued by the Bank of France from the 1900s to the 1930s. After 1945, conversely, there is a broad consensus on the responsibility of national state industrial, credit, and merger policies for the dramatic destructure and decline of most of the country's historic industrial districts and flexible regional economies.<sup>18</sup>

<sup>18</sup> See for example Ganne (1995), and for the key case of Lyon textiles, Sabel and Zeitlin (1985).

Comparatively little attention, by contrast, has been devoted to the impact of national institutions and policies on the development of industrial districts in Italy. Insofar as Italian scholars have seen the national state as a causal factor in the rise of the industrial districts, it is generally in negative terms, emphasizing for example the failure of French-style efforts at rationalization and

centralization of industrial policy and labor relations during the 1960s and 70s (Locke 1995). Other forms of state intervention such as the favorable legal regime for artisanal firms or subsidized loan schemes for small business are viewed as too generic to explain much about the territorially differentiated growth of industrial districts in certain regions but not others.<sup>19</sup>

<sup>19</sup> Compare Weiss (1988) with Trigilia (1992).

Yet some recent research suggests that the national state may have played a larger part in this story. Thus Giovanni Ferri (2006) makes a strong case for the negative impact on Italian industrial districts of the trade, industrial, and financial policies of the Fascist regime, which were largely reversed after 1945. Ferri and Giuseppe Conti (Conti and Ferri 1997) have also underlined the positive contribution of the Bank of Italy's postwar "via svizzera" strategy in supporting through its discount policies local and regional bank lending to small and medium-sized district firms—another sharp point of contrast with the French situation during *les trentes glorieuses*.

In the United States, many features of national institutions and public policy appear to have exerted a negative influence on the long-term prosperity and survival of industrial districts and regional clusters. Thus, for example, as Alfred Chandler

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(1977, 1990) himself has long emphasized, antitrust policy made a major contribution to the growth of mergers and concentration in US industry by prohibiting cartels, pools, and other cooperative arrangements between legally separate firms prevalent in other capitalist economies like Germany during the late nineteenth and early twentieth centuries.<sup>20</sup>

<sup>20</sup> See also Keller (1980); Hannah (1979).

But as Gerald Berk (1994) has persuasively demonstrated, judicial actions such as court-ordered receiverships, debt write-downs, and rate regulation decisions played an equally critical part in shaping the outcome of late nineteenth and early twentieth-century struggles between regionalist and transcontinental system-building strategies on the US railroads. During the 1920s and 1930s, similarly, the Justice Department and the Supreme Court repeatedly struck down efforts by firms and public officials (including Federal Trade Commissioners and prominent antitrust jurists like Louis Brandeis) to regulate competition, orchestrate information exchange, and promote collaborative learning within decentralized specialty trades through institutional mechanisms such as "trade conferences", "open price associations", and industry codes. Yet as both Scranton (1997, 1998) and Berk (forthcoming) have also shown, localized specialty producers like Cincinnati machine tool makers and Grand Rapids furniture manufacturers were nonetheless able to organize the provision of collective services, enforce informal rules of trade behavior, and even coordinate effective resistance to price cuts in recessions, while "developmental" trade associations in industries such as printing were permitted by the courts to collect and disseminate detailed information on production costs provided that they refrained from explicitly discussing selling prices. After World War II, moreover, antitrust consent decrees obliging Bell Laboratories and IBM to license their transistor and computer technologies to competing firms provided a vital stimulus to the development of Silicon Valley as a regional electronics complex (Borras and Zysman 1997). Another important, though still scarcely explored issue, concerns the likely contribution to the continuing emergence of new local industrial clusters of the United States' decentralized commercial banking system, reinforced until the mid-1990s by federal legislation prohibiting cross-state branching (Verdier 2002; Berger *et al.* 1999).

In the case of Japan, a growing wave of scholarship has documented the largely positive impact of both public and private institutions, especially at the local level, in fostering the development of industrial districts. In the name of freedom of trade, the early Meiji government abolished craft guilds and local trade associations which had played an important role during the Tokugawa era in regulating business transactions, endorsing credit applications, and organizing apprenticeship training. But following widespread discontent among domestic merchants and artisans, the Meiji state legalized the formation of local trade associations (*ōgyō kumiai*) in 1884 and authorized them over the next two decades to perform collective functions such as quality inspection and the creation of trade schools for technical training.

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These local trade associations rapidly took root not only in historic urban craft centers like Kyoto and Osaka, but also in rural small-firm districts like the silk-reeling and cotton-weaving *sanchi* (producing centers). During the 1920s and 1930s, the national government sought to reinforce cooperation among localized groups of small firms, especially those producing for export, through the formation of industrial or manufacturers' associations (*kōgyō kumiai*) armed with stronger powers of compulsory membership and authorized to engage in collective activities such as joint purchasing, processing, marketing, and credit intermediation, which enabled them to do business on more equal terms with the large-firm sector. Although these compulsory organizations were formally disbanded after World War II, many of their functions were taken over by new trade and cooperative associations, which continue to provide a range of collective services to localized clusters of SMEs such as the urban machining districts of Hishagi-Osaka and Tokyo's Ota Ward (Fujita 1998; Abe 1992, 1999; Morris-Suzuki 1994; Whittaker 1997).

From the late nineteenth century onwards, Japanese small-firm associations of all types collaborated closely with prefectural and municipal administrations in adapting imported technologies, improving indigenous production methods, diffusing innovations, and training skilled personnel through the creation of experimental workshops, research laboratories and institutes, trade schools, and technical schools, whose numbers, scope, and sophistication have continued to expand during the post-World War II era (Morris-Suzuki 1994; Whittaker 1997; Sawai 1999). During the 1950s and 1960s, the Ministry of Trade and Industry (MITI) vigorously attempted to promote rationalization and concentration of fragmented sectors like machine tools and auto parts through a combination of administrative guidance and selective financial incentives. Not only did firms and their associations in these sectors prove largely successful in resisting such bureaucratic pressures for mergers and amalgamations, but local chambers of commerce (*shōkōka*) were often able to redirect MITI funds towards the contrary purpose of promoting the development of small enterprise clusters through support for technology diffusion, start-up finance, and the provision of collective services, as David Friedman (1988) has shown in detail for the machining district of Sakaki. More generally, small firms in Japanese industrial districts have benefited from a wide range of specialized financial institutions and credit guarantee schemes, both governmental and associational, which have also encouraged commercial lending to approved enterprises by regional and city banks (Whittaker 1997). At the same time, however, recent accounts of declining craft districts like Arita pottery and Nishijin silk weaving suggest that access to credit and provision of collective services have not been matched by the development of institutional mechanisms for regulating competition and resolving conflicts among local actors (Yonemitsu and Tolliday 2003; Hareven 2002).

Synthesizing the results of comparative research on these six countries, as well

as on other major cases such as Denmark (Kristensen and Sabel 1997), it seems possible to identify on a *prima facie* basis those institutional and policy conditions which have had the greatest impact on the reproduction and decline of industrial

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districts. Among the major axes of such cross-national variation are the territorial structure of the banking and financial system, the relative concentration of retail distribution, the effectiveness of state rationalization and merger policies, the form and intensity of antitrust regulation, the extent of political tolerance and/or encouragement of associational governance, and the balance between administrative centralization and local government autonomy.<sup>21</sup>

<sup>21</sup> For stimulating discussions of the historical relationship between political and financial centralization/decentralization, as well as their implications for the fortunes of industrial districts in different countries and periods, see Verdier (1998, 2002); Forsyth and Verdier (2003).

From this last consideration, it is apparent that the reconfiguration of territorial governance may have a significant impact on the fortunes of industrial districts within different national contexts. Thus the prospects for the emergence and sustainability of dynamic industrial districts and clusters seem to have been enhanced by the widespread trend towards decentralization and devolution of authority from the national state to local and regional governments visible in historically unitary polities like France and the UK as well as in federal systems such as Canada and Belgium.<sup>22</sup>

<sup>22</sup> For an overview of this trend, see Ansell and Gingrich (2003). It is far too early to gauge the economic impact of the recent constitutional movement towards federalization and regional devolution in Italy. See, for example, the discussion in Ferrera and Gualmini (2004) and Vandelli (2002).

In some respects, too, the development of multi-level governance within the European Union has operated in a similar direction. Thus the construction of collective problem-solving capacities through concertation among local actors has been stimulated in many areas by the partnership requirements imposed by the European structural cohesion funds, as well as by related EU programs such as territorial employment pacts and local/regional action plans for employment and social inclusion.<sup>23</sup>

<sup>23</sup> See, for example, Sabel (1996); Geddes and Benington (2001); Zeitlin and Trubek (2003); Kristensen and Zeitlin (2005); Zeitlin and Pochet (2005).

Conversely, however, other dimensions of European economic and political integration may have a more negative impact on the institutional supports for flexible regional economies, such as the European Commission's current efforts to eliminate public guarantees for the non-profit savings and cooperative banks which remain the predominant source of finance for Germany's industrial *Mittelstand* (Deeg 1999; Hommel and Schneider 2003; Grossman 2006).

## 10.6 Contemporary Transformations and Challenges

But the greatest challenges to today's industrial districts come less from such political shifts than from deeper economic and technological transformations: the

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dramatic acceleration in the pace and volatility of change in products, markets,

and production processes, often subsumed under the ambiguous concept of “globalization”. At issue here is not so much competition from suppliers of similar goods and services in lower-wage countries, though that is certainly a problem for some districts. The more fundamental challenges instead are how to combine continuous improvements in cost, quality, design, and service for existing types of products and processes, while simultaneously developing the capacity to respond rapidly to the emergence of alternative technologies and/or abrupt shifts in demand for whole classes of goods.

Schematizing brutally, we can say that successful responses to these challenges have generally required closer, more continuous, and more formalized collaboration among economic actors within the districts on the one hand, and new combinations of knowledge and capabilities from multiple geographical sources on the other. The precise outcomes vary significantly across nations and regions, for example between Tuscany and the Veneto.<sup>24</sup>

<sup>24</sup> See, for example, the outstanding recent studies by Burroni (2001) and Messina (2001).

But three broad trends can nonetheless be delineated: (1) increased differentiation in the size distribution of enterprises within the districts, whether through the emergence of large “leader firms” or through the creation of formal and informal groups of firms (often including equity participations in key suppliers); (2) increased sourcing of products and materials from outside the district, including through direct investment in production facilities in other regions and countries; and (3) increased investment within the districts by foreign multinationals, who have often bought up key local firms.<sup>25</sup>

<sup>25</sup> For well-documented analyses of recent Italian developments, see Lazerson and Lorenzoni (1999), Brioschi *et al.* (2002); TeDIS Group (2003). For a parallel interpretation of recent trends in French districts, see Courlet (2005).

One major result of these trends towards greater internal differentiation and external openness of the districts has been to place great strains on their traditional governance mechanisms, especially where these have relied primarily on local tacit knowledge and informal social norms. Thus in the case of Prato, often viewed as the closest living example of a “canonical” Marshallian district, asymmetries in information and power among local economic actors resulting from such trends gave rise in the 1990s to a breakdown in the capacity of what Gabi dei Ottati (one of Becattini's close collaborators) has termed the “communitarian market” to contain opportunistic behavior. One particularly striking consequence of this breakdown was the crisis of Prato's Cassa di Risparmio, which was no longer in a position to evaluate authoritatively the financial position of local businesses or the technical and commercial merits of proposed investment projects.<sup>26</sup>

<sup>26</sup> For the crisis of communitarian governance mechanisms and local banking in Prato during the 1990s, see Dei Ottati (1996, 2003); and Conti and Ferri (1997). For Prato as a canonical district, see Becattini (2001); Becattini *et al.* (2003).

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But these upheavals and structural changes within the districts should not be taken as evidence for either the end of geography or the triumph of hierarchy.

First, although some historic districts are struggling, others are flourishing. Within Italy, the districts have radiated outwards from their original heartland in the center and northeast to cover much of the northwest “industrial triangle” and even parts of the *mezzogiorno*, especially along the Adriatic coast.<sup>27</sup>

<sup>27</sup> Among numerous studies, see Signorini (2000), Viesti (2000a, 2000b).

And new districts and clusters are constantly being discovered, including in many

developing economies.<sup>28</sup>

<sup>28</sup> For a state-of-the-art overview of emerging clusters in developing economies, see Schmitz (2004), as well as the special issues of *World Development* edited by Humphrey (1995) and Schmitz and Nadvi (1999).

Much of China's recent explosive growth, for example, has been driven by the proliferation of local industrial clusters or "specialized towns", concentrated in the Pearl River and Yangtze delta regions (Bellandi and di Tommaso 2005; Bellandi and Biggeri 2005; Enright *et al.* 2005; Barboza 2004).

Second, a central motivation behind much inward investment by multinational firms in the districts is to tap into the latter's specialized local knowledge and capabilities. In some cases, such as the mechanical engineering cluster of Jæren in southern Norway, foreign acquisitions of key local companies have disrupted the informal collaborative ties among specialists that underpinned these districts' innovative capabilities and historic success in world markets (Asheim and Herstad 2003*a*, 2003*b*). In others, however, like the sport shoe district of Montebelluna in northeast Italy (Belussi 2003), the biomedical equipment district of Mirandola in Emilia (Biggiero and Samara 2003) or the Finnish pulp and paper machinery district of Varkaus (Lovio 2003), foreign multinational corporations (MNCs) which purchased key local firms have increased the latter's competences and role both in production and R&D, while also stimulating a parallel movement towards enhanced internationalization and competitiveness among indigenously owned companies and their suppliers.

Third, as these contrasting outcomes suggest, it is far from clear that (MNCs) themselves have worked out fully effective mechanisms for promoting global cooperation and cross-fertilization of knowledge among subsidiaries embedded in local innovation clusters. Recent empirical studies of British and American multinationals and their suppliers support the view that these organizations are also beset by opportunistic behavior at all levels, which they struggle to control through various combinations of hierarchical and non-hierarchical governance mechanisms (Kristensen and Zeitlin 2005; Whitford and Zeitlin 2004; Herrigel 2004; Sabel 2004*a*).

So what is the upshot of these reflections? Successful industrial districts today are becoming more conscious and more organized, as dei Ottati (1996, 2003) observes in the case of Prato. They are also becoming less self-contained and more integrated into global supply chains and knowledge exchange networks: "windows on the

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world" rather than "worlds in a bottle", as Charles Sabel (2004*b*) puts it. Crucial to both processes are the "new pragmatic disciplines" of "learning by monitoring" which facilitate cooperation in design and production across organizational and geographical boundaries by making tacit knowledge explicit: benchmarking, simultaneous engineering, procedural quality assurance standards, just-in-time logistics, "root cause" error detection and correction analysis, and so forth. It should come as no surprise, therefore, that collective benchmarking and training in quality assurance standards and related techniques have been among the most widely demanded services in Italian industrial districts over the past decade. By increasing transparency and reducing informational asymmetries among transacting partners, the use of these mutual monitoring and evaluation techniques can also contribute to resolving the governance problems of the new-style district. A similar processual approach can likewise be applied to defining the new "public goods" or infrastructural services required to support the district's development. In each case, however, there is wide agreement among

external analysts and local actors alike on the need for a public deliberative forum to facilitate collective information exchange and joint problem-solving.<sup>29</sup>

<sup>29</sup> On the “new pragmatic disciplines” of “learning by monitoring” and the restructuring of Italian industrial districts, see Sabel (2002, 2004a, 2004b, 2004c) and Helper *et al.* (2000).

## 10.7 Conclusions

What, finally, of the relationship between historians and contemporary social scientists with which this chapter began? Do the contemporary transformations under-way within the districts open up an unbridgeable gap with historical analyses of their operations in earlier periods? Are we simply faced with a case of “that was then, this is now”? Or do current changes in the organization of the districts instead suggest new questions about their past around which a mutually productive research agenda can be constructed?

As a scholar whose work has straddled this disciplinary divide, my own intellectual predilections point naturally in the latter direction. So let us conclude by highlighting three major questions such an interdisciplinary research agenda might address, each of which is already of active concern to historians.

The first of these concerns the relationship between the districts and the wider world. Arguably, the self-contained character of the districts has been overstated even for earlier periods. We know, for example, from the work of Becattini (1999, 2003) and others that Anglo-Florentine buyers played an important part in stimulating awareness of foreign markets and consumer tastes among Tuscan artisans and district firms during the nineteenth and early twentieth centuries. Long-distance

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collection of specialized raw materials such as rags for Prato's regenerated wool mills and steel scrap for Brescia's electric arc furnaces are likewise reputed to have served both districts as a rich source of foreign commercial and technological intelligence (Avigdor 1961; Istituto Regionale di Ricerca della Lombardia 1985; Balconi 1991). It would also no doubt prove illuminating to investigate more closely the experience of multinational subsidiaries in the districts, as well as local firms' own attempts at internationalization.<sup>30</sup>

<sup>30</sup> For a recent survey of Italy's district-based “pocket multinationals”, see Colli (2002b). For a broader discussion of the role of global buyers in the development of local industrial clusters, see Schmitz and Knorringa (2000).

A second issue concerns the changing morphology of the districts and the relationship between different sizes and types of firms within them. Italian historians, as mentioned earlier, now place increasing emphasis on the role of large firms as sources of technical skills and entrepreneurial experience for the districts, and comparisons could be explored with similar cases in other countries. It would also be worthwhile to analyze more systematically the shifting and often non-linear evolution of firm size and structure within particular districts, as Jean-Claude Dumas (2002) has done in a fascinating essay on *la draperie elbeuvienne* between 1870 and 1975.<sup>31</sup>

<sup>31</sup> See also his comparative analysis of the evolution of nineteenth-century French woolen districts in Dumas (2004).

A final issue concerns governance and coordination mechanisms within the districts, which are by no means fully understood. Beyond the role of intermediate institutions, which is attracting increasing attention from historians in Italy and elsewhere, researchers might consider the contribution of product

standards and accounting techniques in the coordination of economic activity within and across districts. Here there are already some remarkable surprises. Thus Gerald Berk and Marc Schneiberg have discovered that American trade associations in localized specialty industries like printing developed uniform cost accounting standards during the first third of the twentieth century, which served as open benchmarking systems fueling collaborative learning, productivity growth, and technological innovation within a decentralized framework. So successful was this approach that it had begun to spread outwards to historically more concentrated industries like iron and steel before the outbreak of World War II (Berk 1996, 1997, forthcoming; Berk and Schneiberg 2005).

As this final example suggests, when historians return to the past with new questions inspired by current developments, they often (re)discover important phenomena which were well known to contemporaries, but forgotten or obscured by succeeding generations. The results may serve not only to challenge false or misleading genealogies of current practice (like the frequently repeated accounts of benchmarking which present it as a managerial invention of the 1980s), but also to stimulate new thinking about future possibilities.

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