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EXTRAIT



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LABOUR IN EUROPE, 14th-18th CENTURIES

I

During the later Middle Ages western Europe became a more unified technological space, as it became possible to transfer technical knowledge more speedily and systematically. Of the three sources of technical diffusion habitually cited, namely technical handbooks, patents, and migration by trained craftsmen, only the last is likely to have had a significant practical impact in an age that knew neither mass schooling nor the harnessing of science to industry, and in which most technical knowledge was tacit and embodied in its practitioners. However, to understand the mechanisms and consequences of pre-industrial craftsman migration we must rid ourselves of the persistent image of the artisan born and raised in his town and ensconced in his archaic guild association, for whom the world beyond the town walls was an unknown and fearsome threat and who would only move under the pressures of war, plague or economic catastrophe. Although the image finds some resonance in the sources, which pay far more attention to crisis-driven migration than to every-day craft mobility or to its technological consequences, it contrasts sharply with the conclusions of twenty years of migration studies, summed up in a recent study of pre-modern artisan narratives as the fact that «travel [was] so important a subject in artisan autobiography that one can properly refer to it as a literature of displacement»¹.

One reason for the persistent image of craft traditionalism is the fact that transitory movement was far more frequent than permanent migration, in other words that gross migration was far greater than net, and that temporary migration is more likely to escape the fiscal and other statistical sources used to reconstruct

¹ J. S. Amelang, *The Flight of Icarus. Artisan Autobiography in Early Modern Europe*, Stanford, 1998, p. 124.

pre-modern social structure¹. Another reason is that discussions of itinerant journeymen have focused disproportionately on inter-urban journeyman associations – often viewed as a chapter in the history of industrial relations and as a stage in the rise of worker associations and trade unionism – even though formal organisations were rather unusual². Large-scale journeymen organisations were essentially restricted to the German-speaking territories, where journeyman tramping was known formally as «Gesellenwanderung» or «Wanderzwang». Their best known European counterparts, the French «compagnonnages», created a considerable political and literary stir, but they were not in fact numerically very significant. In 1768 a «father» (*père*) of the «compagnons» joiners «du devoir» estimated that the group had about 1,000 members «throughout the cities of France»³ – suggesting that a total of less than 5 per cent of the approximately 700,000 French journeymen may have been associated «compagnons». In England, independent organisations of journeymen arose only after the national dominance of the London livery companies began to wane during the late seventeenth and early eighteenth centuries. Although little is known about the size of these tramping groups, they are unlikely to have included a significant proportion of England's manufacturing workforce⁴. Elsewhere in pre-modern Europe formal organisations were even less developed or did not exist at all.

From the fourteenth century onwards, «un-organised» or informal tramping was numerically much more significant⁵. One category of craftsman in particular, the journeyman (Fr. «compagnon», Ger. «Gesell», Ital. «lavorante»), adopted migration as a way of life. By the eighteenth century, up to half of all skilled

¹ See L. P. Moch, *Moving Europeans. Migration in Western Europe since 1650*, Bloomington-Indianapolis, 1992.

² The seminal work on the topic is C. Lis and H. Soly, «An irresistible phalanx»: *journeymen associations in western Europe, 1300-1800* (in C. Lis, J. Lucassen and H. Soly (ed.), *Before the Unions. Wage Earners and Collective Action in Europe, 1300-1850*, Cambridge, 1994, p. 11-52).

³ C. M. Truait, *The Rites of Labor. Brotherhoods of Compagnonnage in Old and New Régime France*, Ithaca-London, 1994, p. 115. Numbers could be higher in the towns where the «compagnonnages» had originally emerged; in Nantes, which had counted among the ten or so towns where «compagnonnages» were first reported in the first half of the seventeenth century, the «compagnon» joiners and tailors accounted for 25-33 per cent of the local journeymen (*ibid.*, p. 114).

⁴ See R. A. Leeson, *Travelling Brothers. The Six Centuries' Road from Craft Fellowship to Trade Unionism*, London, 1979; below, n. 8 for the estimated number of French *compagnons*.

⁵ The term tramping came into use in late eighteenth-century England to denote the general phenomenon of journeyman itinerancy.

workers in some trades were «structural» or continuous migrants. In eighteenth-century France, fewer than a fifth of the journeymen employed in the building, furnishing, clothing, and food supply trades appear to have been born in the towns in which they worked. In Vienna in 1742, less than a quarter of the more than 4,000 master artisans (many of whom would have become so after moving to the city) had been born in the city; the rest, together with the tramping journeymen, came from «the entirety of German-speaking Europe», whose core area measured 700 km across from the Upper Rhine to the Danube. Of the 5,033 journeyman-binders who arrived in Frankfurt between 1712 and 1800, 30 per cent came from over 100 km away, and 4 per cent had traveled over 300 km. According to a census of the same city in 1762, 85 per cent of the journeymen were foreigners, 68 per cent came from further than 300 km, and 9 per cent had traveled from as far as France, England, Denmark and Hungary. During the 1790s the poor-house in the small administrative town of Coburg gave succor to over 2,000 journeymen a year⁶. In the late eighteenth century there were an estimated 240,000 traveling journeymen in the German territories, about 1 per cent of the total population. Numbers of mobile journeymen in France are harder to estimate – many of them were not formally organised or counted – but applying a similar ratio would give about 280,000 journeymen trampers in 1789, possibly a conservative estimate in view of the fact that the overall number of skilled journeymen was then 600,000-800,000⁷. Although these figures include a considerable margin of error and may measure the phenomenon at its high point, they also convey how entirely ordinary journeyman «tramping» must have been for pre-modern Europeans⁸.

It is therefore clear that while poor documentation and historiographical prejudice have cast journeyman mobility in the shadows⁹, markets in itinerant skilled labour were a fundamental

⁶ M. Sonenscher, *Work and Wages. Natural Law, Politics and the Eighteenth-Century French Trades*, Cambridge, 1989, p. 295; J. Ehmer, *Worlds of mobility: migration patterns of Viennese artisans in the 18th century*, in G. Crossick (ed.), *The Artisan and the European Town, 1500-1900*, Aldershot-Brookfield, 1997, p. 172-99; p. 179-80; U.-C. Pallach, *Fonctions de la mobilité artisanale et ouvrière – compagnons, ouvriers et manufacturiers en France et aux Allénagnes (XVII-XIX siècles)*, in *Francia*, 11, 1983, p. 365-406; p. 370, 378; F. Lerner, *Eine Statistik der Handwerksellen zu Frankfurt a. M. vom Jahre 1762*, in *Vierteiljahrsschrift für Sozial- und Wirtschaftsgeschichte* 22, 1929, p. 174-193.

⁷ U.-C. Pallach, *Fonctions...*, p. 380, 382.

⁸ The period from the mid-eighteenth century to the July monarchy has been called «the golden age of the *compagnonnages*»: M. Sonenscher, *Mythical work: workshop production and the compagnonnages of eighteenth-century France*, in P. Joyce (ed.), *The Historical Meanings of Work*, Cambridge, 1987, p. 32.

⁹ Itinerant craftsmen are largely ignored in recent surveys of pre-modern

feature of pre-modern European crafts. This paper compares the structure, functions and effects of these labour markets in order to distinguish between the general practice of itinerancy, which was shaped by fundamental technological and organisational constraints, and the specific arrangements it gave rise to that responded to contingent institutional circumstances and market structures. The paper is organised as follows. Section 2 discusses why formal journeymen organisations arose in the first place and why they persisted. Section 3 situates journeyman mobility in the context of pre-modern labour markets and discusses why formal journeymen associations were so unusual, and Section 4 examines some of the technological consequences of journeyman mobility, including the long-term persistence of industrial clusters.

II

The earliest references to the journeyman as a new category of skilled wage labourer who had concluded a craft apprenticeship appear in the most developed European towns in the late thirteenth and early fourteenth centuries. The journeyman was a by-product of the rapid increase in specialisation undergone by craft-based urban manufacture during the long thirteenth-century economic expansion, and of the growing volatility in product demand associated with still fragile distribution systems. Craft masters learned to respond to market volatility by supplementing a core of sedentary, sometimes married journeymen employed throughout the year with younger, unmarried workers hired on short-term contracts.¹¹ Although in principle the journeyman occupied a temporary position preceding entry into a mastership, in practice the proportion of journeymen who became masters was probably in long-term decline. 'There grew up in every industrial centre of

European migration. See J.-P. Poussou, *Les mouvements migratoires en France et à partir de la fin du XI^e siècle au début du XIX^e siècle : approches pour une synthèse*, in *Annales de démographie historique*, 1970, p. 11-78; J. Lucassen, *Migrant Labour in Europe 1600-1900. The Drift to the North Sea Coast*, London, 1987; L. P. Moch, *Moving Europeans...* cit. n. 2; I. D. Whyte, *Migration and Society in Britain 1550-1830*, Houndmills-London, 2000. See S. A. Epstein, *Wage Labour and Guilds in Medieval Europe*, Chapel Hill-London, 1991, p. 222 and C. Lis and H. Soly, 'An irresistible phalanx...' cit. n. 3, p. 16 on the lack of research on journeyman tramping.

¹¹ This distinction may underlie the evolution of the term 'yeoman' from its meaning of 'journeyman' during the late Middle Ages to its later sense of 'small, subordinate master'; see G. Unwin, *The Guilds and Companies of London*, 4th ed., London, 1963, p. 224-231; R. A. Leeson, *Travelling Brothers...* cit. n. 5, p. 45-58. Evidence of tramping journeymen is faint (*ibid.*, p. 27, 66).

Western Europe from the middle of the fourteenth century onward, a body of workmen ... who had no prospect before them but that of remaining journeymen all their lives', an experience that gave them an increasingly distinctive identity from that of their employers¹².

To allocate skilled labour efficiently between firms and across regions, craft masters required mechanisms to search for and screen job applicants, and journeymen required information about conditions in the labour market. Both requirements were easily met in small-scale urban labour markets with low rates of in- and out-migration; but as commodity markets increased in size and demand and supply shocks intensified, there arose a need for more sophisticated and flexible arrangements to pool information and ease the search for work outside local labour markets. Inter-urban journeyman networks that linked dispersed skilled labour across one or more regions helped pool information about local labour markets, and overcame problems of asymmetric information between local employers and mobile workers. In principle therefore they could provide an effective solution to the problem of journeyman unemployment¹³.

Informal, sometimes kin-based networks of skilled laborers had existed since the thirteenth century at least in the highly specialized and seasonal building, shipping and mining industries¹⁴. More

¹² G. Unwin, *Industrial Organization in the Sixteenth and Seventeenth Centuries*, with a new introduction by T. S. Ashton, reprint of 2nd edn., London, 1963, p. 48. The term journey refers to 'working by day' as in the French *ournée*, rather than to an itinerant lifestyle as suggested by C. M. Truant, *The Rites of Labor...* cit. n. 4, p. 57. For the first specific references to journeymen in the guild statutes of Paris (late thirteenth or early fourteenth century) and Florence (early fourteenth century), see S. A. Epstein, *Wage Labour...* cit. n. 10, p. 209, 215. See G. Unwin, *Industrial Organization...* p. 48-52 for English and French travelling journeymen in the late fourteenth and fifteenth centuries, and below for journeymen in the German-speaking territories before the Black Death. According to R. A. Goldthwaite, 'the category of journeyman was unknown in [building] guilds in many Italian cities, including Florence and Venice', but this may have been a consequence of the building industry's relative lack of specialisation (*The Building of Renaissance Florence. An Economic and Social History*, Baltimore-London, 1980, p. 260-262); journeymen in the Italian cloth industry are discussed below. Although earlier references to salaried craft workers do exist (e.g. S. A. Epstein, *Wage Labour...* p. 83-85), they are defined as *laboratores* or 'ouvriers', a generic term for worker that does not necessarily entail prior apprenticeship.

¹³ The 'sorting' function of journeymen associations has been emphasised particularly by English scholarship; see E. Hobsbawm, *The tramping artisan*, in *Id., Labouring Men. Studies in the History of Labour*, London, 1964, p. 34-63 and R. A. Leeson, *Travelling Brothers...* cit. n. 5. For a theoretical discussion of these issues, see D. A. Wildasin, *Labor-market integration, investment in risky human capital, and fiscal competition*, in *American Economic Review*, 90, 2000, p. 73-95.

¹⁴ B. Knochenhauer, *Die Wanderungen der deutschen Bergleute*, in *Zeitschrift*

formal arrangements probably developed first in the building and woolen industries, which concentrated large numbers of workers in one place. Building journeymen in some early fourteenth-century French towns had their own leaders and «ordinances»; in England in the same years the masons had their own «lodges» and attended regional and possibly even national gatherings.¹⁵ In northern Italy, the religious movement of the «Umiliati», which combined the skills-enhancing features of guilds and the security-enhancing features of journeymen's associations, was linked during the thirteenth and early fourteenth centuries with highly mobile, technically skilled woolen weavers.¹⁶ These instances were still highly unusual, however, not least because the number of young, as yet unattached journeymen was as yet small. Journeymen weavers in German and Swiss towns seem to have been the only ones to develop tramping systematically before the Black Death. Thus, in 1336 the journeymen weavers of Zürich asked to set up their own independent organisation along the lines of those existing in the Rhineland, which they had presumably observed in the course of their travels, while a few years later, in 1343, the council of Speyer complained about the damage caused by a large outflow from the town of foreign workers «from many lands».¹⁷

The first indisputable evidence of organised tramping in German-speaking central Europe comes from the 1370s, at a time of unusual social and political instability and of increased imbalances in skilled labour markets. Although the geographical scope of these early journeyman organisations was mainly regional, German-speaking workers (sometimes including craft masters) were

¹⁵ Für die Geschichte des Berg-, Hütten- und Salinenwesens, 76, 1928, p. 259-289; K.-H. Ludwig and R. Vergani, *Mobilität und Migrationen der Bergleute vom 13. bis zum 17. Jahrhundert. Mobilität e migrazioni dei minatori (XIII-XVII secolo)*, in S. Cavaciocchi (ed.), *Le migrazioni in Europa. Sec. XIII-XVIII*, Florence, 1994, p. 593-622; B. Geremek, *Les migrations de compagnons au bas Moyen Âge*, in *Studia historiae oeconomicae*, 5, 1970, p. 61-79; I. Friel, *The Good Ship. Ships, Shipbuilding and Technology in England 1200-1520*, Baltimore, MD, 1995, p. 43.

¹⁶ E. Coornaert, *Les corporations en France avant 1789*, 7th ed., Paris, 1941, p. 238; R. A. Leeson, *Travelling Brothers...* cit. n. 5, p. 36-37, 57-58.

¹⁷ See S. A. Epstein, *Wage Labour...* cit. n. 10, p. 92-98. See also L. Zannoni, *Gli Umiliati nei loro rapporti con l'eresia, l'industria della lana ed i Comuni nei secoli XII e XIII sulla scorta di documenti inediti*, Milan, 1911; F. Andrews, *The Early Humiliati*, Cambridge, 1999. There was a broader long-standing association between religious institutions and artisan mobility through the ancient practice of pilgrimage (R. A. Leeson, *Travelling Brothers...* p. 33-34).

¹⁸ W. Reininghaus, *Die Migration der Handwerksgelesen in der Zeit der Entstehung ihrer Gilden (14./15. Jahrhundert)*, in *Vierteljahrschrift für Sozial- und Wirtschaftsgeschichte*, 68, 1981, p. 1-21; K. Wesoly, *Lehrlinge und Handwerksgelesen am Mittelrhein. Ihre soziale Lage und ihre Organisation vom 14. bis ins 17. Jahrhundert*, Frankfurt a. M., 1985, p. 263-267.

sufficiently organised to engage in large-scale migrations as far as Riga, Reval and Bergen in the North and Venice, Florence and Rome (where German bakers were particularly successful) to the South.¹⁸ Outside Germany, journeyman tramping is recorded during the fifteenth century as far west as the Burgundian lands and northern France – most notably in a «league of 42 cities» organised in 1453 by the journeymen fullers of Brussels that included Lille, Lyon, Saint-Omer and Paris – and as far east as Bohemia; but the references are thinly scattered and ephemeral, and there is little evidence that tramping was adopting recognisable patterns. The claim for example that the «tour de France» – a regular tramping schedule including Bordeaux, Paris, Lyon, Montpellier, Nantes, Tours and Angers – dates from that time has no foundation.¹⁹ In fact, the impermanence of tramping outside late medieval Germany is reflected in the decline of «foreign» tramping by German workers during the sixteenth century.²⁰ In England also, separate journeyman organisations made an appearance in the fifteenth century but soon disappeared.

On the other hand, during the late fourteenth and fifteenth century «un-organised» tramping by individuals became accepted as a normal way of life. Individual journeymen were employed on presentation of their indentures or certificates of service; if incoming journeymen could not find work locally, they were offered small cash allowances and temporary lodgings to help them on their way.²¹ In Germany, France and Flanders, this practice gradually took on more elaborate guises, including secret hand shakes and specialised hostels or inns («auberges», «Herbergen») for putting up

¹⁸ K. Wesoly, *Lehrlinge und Handwerksgelesen...* p. 263-305; K. Schulz, *Handwerksgelesen und Lohnarbeiter. Untersuchungen zur oberrheinischen und oberdeutschen Stadtgeschichte des 14. bis 17. Jahrhunderts*, Sigmaringen, 1985; Id., *Deutsche Handwerkergruppen in Italien, besonders in Rom (14.-16. Jahrhundert)*, in S. Cavaciocchi (ed.), *Le migrazioni...* cit. n. 14, p. 569-576.

¹⁹ B. Geremek, *Salariati e artigiani nella Parigi medievale. Secoli XIII-XV*, Italian tr. by G. Pinto, Florence, 1975, p. 118; Id., *Les migrations...* cit. n. 14; P. Labal, *Notes sur les compagnons migrants et les sociétés de compagnons à Dijon à la fin du XV^e et au début du XVI^e siècle*, in *Annales de Bourgogne*, 22, 1950, p. 186-193; R. Sprandel, *Die Ausbreitung des deutschen Handwerks im mittelalterlichen Frankreich*, in *Vierteljahrschrift für Sozial- und Wirtschaftsgeschichte*, 51, 1964, p. 66-100. For the fifteenth-century origins of the tour de France, see E. Coornaert, *Les corporations...* cit. n. 15, p. 238-239 (unreferenced). For the tour's trajectory, see E. Levasseur, *Histoire des classes ouvrières et de l'industrie en France avant 1789*, 2nd ed., Paris, 1900-1901, II, p. 816 n. 1.

²⁰ K. Schulz, *Die Handwerksgelesen*, in P. Moraw (ed.), *Unterwegssein im Spätmittelalter*, Berlin, 1985, p. 84-89, 91.

²¹ P. Labal, *Notes...* cit. n. 19, p. 191; R. A. Leeson, *Travelling Brothers...* cit. n. 5, p. 56-57, 66-68, 72-74, 126.

itinerant journeymen, and a whole range of ritualised practices demarcating one 'brotherhood' from the next²². Although from the second half of the sixteenth century the tramping circuit became a compulsory feature of apprenticeship in German-speaking lands, not all German craft guilds participated, and not every craft was organised as a guild²³. Organised French 'compagnonnages' and a regular 'tour de France' first appeared during the late sixteenth or early seventeenth centuries²⁴. By contrast, journeyman organisations were weak or non-existent in late medieval and early modern Castile, northern and southern Italy, Holland, Scandinavia, and Ireland, despite the presence in many of these regions of vibrant guild cultures and thus, presumably, also of active markets for skilled labour. It follows that a strong tradition of craft guilds (on which skills training relied) was a necessary but not sufficient condition for journeyman associations to emerge²⁵.

These regional and chronological differences appear to have been a function of the political and economic costs of organisation. On the one hand, regional differences in the jurisdictional authority of craft guilds affected how easily journeymen could evade control by master craftsmen and enforce their own rules of engagement; on the other, regional markets for skilled labour gave rise to different types of co-ordination problems. Political constraints arose first of all from the craft guilds themselves, which acted frequently in alliance with the public authorities to integrate or repress the journeymen organisations, which they suspected not always unreasonably of dangerously union-like activities. The London crafts ('liveries') pursued the first tactic, and by the mid-sixteenth century had successfully incorporated the formerly hostile journeymen (known originally as 'yeomen') into the lower stratum of the craft hierarchy. In France, the Burgundian lands and German-speaking Europe, craft guilds established countervailing alliances between towns that organised co-ordinated lockouts and

resorted to state-backed repression against journeyman associations. The first guild coalition was set up in 1383 to counter the perceived threat of journeyman associations by nine Rhenish towns under Frankfurt's leadership²⁶. In seventeenth- and eighteenth-century France, the religious and political authorities considered the *compagnonnages* 'a perversion of legitimate corporate institutions' and the *compagnons* consequently stayed secretive and numerically restricted²⁷.

Political repression by the craft guilds and the authorities was effective because it forced journeymen into secrecy, and organisational secrecy can only work with small groups which interact frequently and in which the capacity to free-ride can be closely monitored. In a secret organisation the costs of membership – which arise from the need for constant vigilance and suspicion – soon surpass its benefits; to increase membership without collapsing, the organisation will need to make participation more attractive, which in turn will make secrecy increasingly hard to enforce. Like craft guilds, journeymen associations faced the difficulty of rule enforcement against the threat of defection and free riding, and, like craft guilds, they were compelled to offer members a variety of 'non-collective social benefits' to attract and retain them²⁸.

Association benefits – which included a network of resting houses where incoming journeymen could lodge and make themselves known to the local workforce; community chests that doled out petty cash to members to help them on their way; protection from bad masters and the blacklisting or punishment of 'unfair' competitors and rule-breaking fellow members; and the standard religious and social activities that helped bond a disparate group of men together – were impossible to hide and opened the way to repression²⁹. This dilemma had two, not incompatible

²⁶ K. Schulz, *Deutsche Handwerkergruppen...* cit. n. 18, p. 575-576; C. Lis and H. Soly, 'An irresistible phalanx...' cit. n. 3, p. 22-35.

²⁷ C. M. Truant, *The Rites of Labor...* cit. n. 4, p. 6, 69 (between 1635 and 1655 the theological faculty at the Sorbonne pronounced against journeymen shoemakers, tailors, saddlers, hatters and cutlers), 110-111.

²⁸ For the enforcement of journeymen rules, see H. Hauser, *Les compagnonnages...* cit. n. 24, p. 77-85; C. M. Truant, *The Rites of Labor...* p. 71-72, 144-147. For the concept of 'non-collective social benefits', see M. Olson, *The Logic of Collective Action*, Cambridge, MA, 1965, p. 72-75; as applied by craft guilds, see S. R. Epstein, *Craft guilds...* cit. n. 25, p. 687.

²⁹ K. Schulz, *Gesellenstübchen und Gesellenherbergen im 14./15. und 16. Jahrhundert*, in H. C. Peyer and E. Müller-Luchner (ed.), *Gastfreundschaft, Taverne und Gasthaus im Mittelalter*, Munich/Vienna, 1983, p. 221-242; C. M. Truant, *Solidarity and symbolism among journeymen artisans. The case of compagnonnage*, in *Comparative Studies in Society and History*, 21, 1979, p. 214-226.

²² J. R. Farr, *Artisans in Europe, 1300-1914*, Cambridge, 2000, p. 250-256, and M. Prak (ed.), *Central Europe: The circulation of skilled labour*, in S. R. Epstein, forthcoming 2004.

²³ *Ibid.*; H. Hauser, *Les compagnonnages d'arts et métiers à Dijon aux XVII^e et XVIII^e siècles*, Dijon, 1907 (repr. Marseille, 1979), p. 73 (Troyes, 1583).

²⁴ The link between craft guilds and journeymen associations is noted by C. Lis and H. Soly, 'An irresistible phalanx...' cit. n. 3, p. 24-25. For the argument that the craft guilds' main purpose was to uphold the apprenticeship-based system of skills training, see S. R. Epstein, *Craft guilds, apprenticeship and technological change in pre-modern Europe*, in *Journal of Economic History*, 53, 1998, p. 684-713.

solutions: journeymen could either keep the size of their group small and thus secret, or evade political control by encompassing a territory that lacked a uniform political authority. French and for a time Flemish journeymen associations on the whole followed the first path. In France, the first concrete evidence of organised «compagnonnages» is roughly concurrent with the appearance in the early seventeenth century of a systematic «tour» of the country – yet the overall number of «compagnons» remained small. German-speaking Europe, which encompassed a politically fragmented area extending from the Low Countries to Hungary, from Austria to Switzerland and Alsace, took the second path, and its journeymen organisations were consequently far larger.³⁰

III

Judicial and political persecution cannot explain the lack of tramping associations elsewhere in western Europe, however, for the simple reason that there is no evidence that significant persecution occurred. Structural differences between regional and national labour markets may provide a better explanation. In some cases the absence of tramping associations may have been due to a genuine lack of demand. In early modern Castile and much of Scandinavia, for example, a weak industrial base and large distances between towns that raised transport, information and co-ordination costs, would have limited any returns from scale by comparison with the set-up and administration costs of a journeyman association. The late development and strict subordination of craft guilds to urban and state authority in these countries also made it harder to set up independent organisations.³¹ Although itinerant

³⁰ For the hypothesis that German journeymen's success was caused by political fragmentation, see G. Unwin, *Industrial Organization*... cit. n. 12, p. 49, 51; R. A. Leeson, *Travelling Brothers*... cit. n. 5, p. 162-163. On geographical scale and numbers in German-speaking lands, see R. S. Elkar, *Schola Migrationis. Überlegungen und Thesen zur neuzeitlichen Geschichte der Gesellenwanderungen aus der Perspektive quantitativer Untersuchungen*, in K. Roth (ed.) *Handwerk im Mittel – und Südosteuropa*, Munich, 1987, p. 87-108; H. Bräuer, *Wandernde Handwerksgelegen um die Mitte des 17. Jahrhunderts in Chemnitz*, in *Beiträge zur Heimatgeschichte von Karl-Marx-Stadt*, 24, 1980, p. 77-89; above, n. 4. For the development of *compagnonnages* in seventeenth-century France, see C. M. Truant, *The Rites of Labor*... cit. n. 4, p. 111.

³¹ For an overview of urban networks and craft structures in early modern Castile and Sweden, see P. Iradiel Murugarren, *Evolución de la industria textil castellana en los siglos XIII-XVI. Factores de desarrollo, organización y costes de la producción en Cuenca*, Salamanca, 1974, p. 86-90; D. Menjot, *Les métiers en Castille au bas Moyen Âge: approche des «véhicules socio-économiques»*, in P. Lambrechts and J.-P. Sosson (ed.), *Les métiers au Moyen Âge. Aspects*

journeymen probably existed in these countries, the lack of industrial specialisation in relation to the countries' size did not make systematic, formal arrangements between journeymen worthwhile.³²

For the most part the absence of journeymen associations was due to the existence of other, more cost-effective solutions to the process of matching supply and demand of skilled labour. Pre-modern European societies devised three solutions to asymmetric information in skilled labour markets based on informal or tacit rules of engagement. The first solution was based on networks of circular and chain migration linking individual rural communities (situated in the Alps, the Pyrenees, the French central highlands, the region of Liège, north-western Germany and the West Country) that specialised in a single activity with particular urban markets and their hinterlands. These kinds of migrants usually moved in groups, in most cases information and support was based on ties of community and kin, and training occurred on-the-job and informally rather than through apprenticeship in a craft. More formal structures might arise where a number of communities were involved, like the *Sociétés Chincón* and *Navalcarneros* from the Auvergne, sort of peddlers' guild-cum-commercial companies that specialised in trade with the Madrid region and required a three to seven-year apprenticeship in Spain. However, most circular and chain migration was employed in the agricultural and service sectors rather than industry; the building trade was the main exception.³³

A second kind of skilled labour market that dispensed with formal arrangements developed where there were high levels of urban concentration. Early modern England offers an extreme example of this pattern, as a result of the high concentration of industrial demand in London. According to one estimate, late sixteenth – and seventeenth-century London was a «vocational training centre for a national economy», with approximately two-thirds of the English male labour force being at one time or another apprenticed in the city.³⁴ By implication, the metropolis acted as a

économiques et sociaux, Louvain-la-Neuve, 1994, p. 205-228; P. Sánchez León, *Town and country in Castile, 1400-1650*, in S. R. Epstein (ed.), *Town and Country in Europe, 1300-1800*, Cambridge, 2001, p. 272-291; R. Sandberg, *Town and country in Sweden, 1450-1650*, *ibid.*, p. 30-53.

³² There is nevertheless no evidence of specialised journeymen in the fifteenth-century Castilian woollen industry; see P. Iradiel Murugarren, *Evolución*... p. 153-165.

³³ J.-P. Poussou, *Les mouvements migratoires*... cit. n. 10, p. 62-75; L. P. Moch, *Moving Europeans*... cit. n. 2, p. 49-50, 54, 84-85.

³⁴ S. Rappaport, *Worlds Within Worlds. Structures of Life in Sixteenth-*

huge centralised clearing-house thus avoiding the need for more formally structured arrangements³⁵. English journeymen organisations were virtually unknown before the early eighteenth century; 'fraternities' of journeymen in the saddlers' and tailors' trades in the fifteenth century and early modern journeymen organisations of woollen workers and masons in the West Country seem to have been largely *ad hoc* and informal³⁶. However, when London began to lose its industrial dominance after the 1660s in response to the growth of industrial centres in the Midlands and the North in woollens, coal and metal mining, and salt and glass-making, the capital's migration field also narrowed significantly; apprentices drawn from the Midlands were replaced by apprentices from London itself and from the city's immediate hinterland in the Home Counties. As the country re-oriented industrially towards the north during the early eighteenth century, England developed its first inter-regional tramping system³⁷.

National metropolises elsewhere performed similar training functions to London's, particularly where craft guilds had not developed consistently across an entire country. The role of capital cities as clearing houses for skilled labour depended however on their relative size and on the degree of national integration, and few pre-modern cities could rival London's primacy. In France, an edict by Henry III in 1581 stated that the majority of artisans in the kingdom worked outside the control of the guilds, but described them nonetheless as 'compagnons', trained craftsmen, suggesting that they had learned their trades under the auspices of a formal

craft. By contrast with London, during the seventeenth century Paris was just one among several stages in the inter-regional tramping system – the *tour de France* – that emerged in the early 1600s; lesser regional centres like Lyon, Dijon, Bordeaux, Marseille and Toulouse also played an important role in the training process. Also by contrast with London, French 'compagnonnages' appear to have been geographically in retreat during the eighteenth century, being mostly restricted to the poorer provinces south of a line from Saint-Malo to Geneva, at the same time that Paris's relative importance was increasing in line with its rapid demographic growth and economic integration further north³⁸. Growing market integration similarly extended the migration field of seventeenth- and eighteenth-century Amsterdam, which attracted tens of thousands of (mostly unskilled) immigrants from northern Germany³⁹, and of eighteenth-century Imperial Vienna⁴⁰.

Finally, a third kind of skilled labour market which did not give rise to supra-urban journeymen organisations developed in strongly integrated and highly urbanised regions in which distances between towns were short, information flowed freely, and there were strong 'spillovers' in technical knowledge between neighbouring industrial centres⁴¹. The two regions with the strongest characteristics of this kind were north-central Italy – Europe's most advanced industrial region between the late thirteenth and the late sixteenth century⁴² – and the Low Countries, including, from the late sixteenth century, the province of Holland.

Research on the north Italian woollen, cotton fustian and silk industries shows how itinerant craftsmen could create shared pools of technical skills and knowledge and generate external economies. Confirming the fact that 'normal' itinerancy by skilled labourers was largely invisible, most of our knowledge about migrant cloth-workers comes from attempts to protect local technology by

Century London, Cambridge, 1989, p. 76, 79; see also E. A. Wrigley, *A simple model of London's importance in changing English society and economy, 1650-1750*, in *Id., People, Cities and Wealth: The Transformation of Traditional Society*, Oxford, 1987, p. 133-155.

³⁵ See H. A. Turner, *Trade Union Growth, Structure and Policy: A Comparative Study of the Cotton Unions*, London, 1962, p. 51.

³⁶ G. Rosser, *Workers' associations in English towns*, in P. Lambrecht and J.-P. Sosson (ed.), *Les métiers au Moyen Âge...* cit. n. 32, p. 293; C. R. Dobson, *Masters and Journeymen. A Prehistory of Industrial Relations 1717-1800*, London, 1980, p. 47.

³⁷ P. Clark, *Migration in England during the late seventeenth and early eighteenth centuries, in Past and Present*, 83, 1979, p. 57-90; J. Wareing, *Changes in the geographical distribution of the recruitment of apprentices to the London Companies 1486-1750*, in *Journal of Historical Geography*, 6, 1980, p. 241-249; D. F. McKenzie, *Apprenticeship in the Stationers' Company 1555-1640*, in *The Library*, 5th series, 13, 1958, p. 292-299; E. Hobsbawm, *The tramping artisan...* cit. n. 13. The earliest early modern tramping systems seem to have emerged in the West Country, which was also the region least touched by London's migration field.

³⁸ C. M. Tuant, *The Rites of Labor...* cit. n. 4, p. 110. Paris grew from c. 220,000 inhabitants in 1600 to c. 510,000 in 1700.

³⁹ J. de Vries, *The population and economy of the preindustrial Netherlands*, in *Journal of Interdisciplinary History*, 15, 1985, p. 661-682; J. Lucassen, *Migrant Labour* cit. n. 10.

⁴⁰ J. Elmer, *Worlds of mobility...* cit. n. 7, p. 179-180.

⁴¹ The intensity of urban interaction as measured in terms of 'urban potential' is reported for pre-modern Europe by J. de Vries, *European Urbanization 1500-1800*, London, 1984. For a recent overview of the economic literature on urbanisation and endogenous growth, see D. Black and V. Henderson, *A theory of urban growth*, in *Journal of Political Economy*, 107, 1999, p. 252-84.

⁴² P. Malanima, *La fine del primato. Crisi e riconversione nell'Italia del Seicento*, Milan, 1998.

inhibiting their movements, or from rivals' attempts to poach them. A highly unusual reference in Padua in 1308 to «itinerant workers [in the woollen industry] who work for wages by the day, and who stay a few days in one place before moving on to another» is more likely to have referred to casual labourers than to craft journeymen as defined here⁴¹; but a recent study of the silk industry demonstrates how both journeymen and masters were involved in the creation of a powerful north Italian industry that dominated the European market up to the seventeenth century. Craft statutes and urban legislation mention seasonal tramping by both kinds of worker, although it seems unlikely that many established masters would have needed to do so on a significant scale (any masters who regularly absented themselves were probably no longer in a position to maintain their own shop, and were thus journeymen *de facto* if not *de iure*). Moreover, deliberate technological transfers were frequently organised by industrial entrepreneurs who engaged groups of masters and journeymen, together with their families, to transfer en masse to an emerging centre of silk production⁴².

Although Italian cities initially tried to protect their technological leadership by imposing draconian penalties on native craftsmen who transferred their secrets abroad, they persistently undermined these laws by competing for each other's craftsmen; even bilateral agreements to stop skilled artisans from moving between two cities were restricted to debtors and were hard to enforce⁴³. From the early to mid-fifteenth century, as investment and the need for skilled labour in the silk industry rose sharply, infant industry protection declined. The Venetian silk industry had allowed its journeymen and masters to travel abroad subject to minor restrictions already from the late fourteenth century; from 1416, Florentine silk-makers authorised their workers to migrate without hindrance to Lucca and Venice; in 1452, the Genoese government declared that unemployed native workers could move freely to Venice, Lucca, Florence and the Genoese colony of Caffa on the Black Sea; and by the early sixteenth century Lucca officially allowed its workers to work in Florence, Genoa, Bologna, Milan, Venice and Naples, which had turned into the technological leaders in the Italian and western European silk industry.

⁴¹ G. Pinto, *Le città italiane e i lavoratori della lana nel basso Medioevo: alcune considerazioni*, in S. Cavaciocchi (ed.), *Le migrazioni...* cit. n. 14, p. 819-824, p. 821.

⁴² L. Molà, *The Silk Industry of Renaissance Venice*, Baltimore, 1999, p. 37-42. Migrants sometimes specifically included craftsmen, who were highly unlikely to be guild masters.

⁴³ The following paragraph is based on L. Molà, *Silk Industry...*, p. 29-51.

The cities' inability to co-ordinate their industrial policy gave rise to a new equilibrium based on a shared technological platform and distinct urban specialities (Genoa for velvets, Florence and Milan for silk interwoven with silver and gold thread, Bologna for veils). The formal abandonment of local protectionism followed the recognition that worker migration no longer threatened industrial leadership and that the inter-regional labour market acted counter-cyclically to mitigate the industrial booms and slacks in individual towns⁴⁶. Equally competitive markets for skilled labour and similar technological equilibria underlay Italy's medium-high quality wool and cotton fustian industries, which extended from the Lombard plain (including the Venetian territories) in the north to Tuscany and Umbria in the centre. Although these industries were established much earlier than the silk industry and their most important technological advances are therefore harder to follow, migrant skilled labour was plausibly the root cause of the development in early thirteenth-century Lombardy of a market in standardised linen and cotton warp yarn within the fustian industry, which «implied as a necessary corollary the standardization of looms and loom reeds and of linear measurements for certain types of cotton cloth», and of the diffusion in the same years of cheap standardised woollens, of mixed woollen and linen or cotton cloth, and of better quality «imitation» cloths known by their city of origin⁴⁷.

IV

Journeymen associations were first established during the late Middle Ages to overcome asymmetries of information in the labour market, at a time of growing political and economic instability and rising demand for a dwindling supply of skilled workers. Most such groups were associated with tramping, although some – like the journeymen printers in Lyon and London – were purely local

⁴⁶ It must however be noted that the leading industrial cities, each of which headed a territorial state, maintained monopolistic policies towards their subject territories. They also attempted to restrict technological diffusion towards cities «that did not yet have a strong tradition in the silk industry», although they appear to have been most successful outside Italy (L. Molà, *Silk Industry...* p. 48).

⁴⁷ M. Fennell Mazzaoui, *The Italian Cotton Industry in the Later Middle Ages 1100-1600*, Cambridge, 1981, p. 73-86; Ead., *Artisan migration and technology in the Italian textile industry in the late Middle Ages (1100-1500)*, in R. Comba, G. Piccini and G. Pinto (ed.), *Strutture familiari e migrazioni nell'Italia medievale*, Naples, 1984, p. 519-534; G. Pinto, *Le città italiane...* cit. n. 43.

organisations. They developed most successfully where political or jurisdictional fragmentation made it harder for craft guilds and the secular and ecclesiastical authorities to control them. None the less, unorganised, 'informal' journeyman tramping was far more common, to the extent that by the sixteenth century it had become an integral part of urban life and no longer excited much comment. There were three reasons why journeymen associations were hard to establish. The first was the sheer difficulty of holding together an organisation whose members were by definition hard to monitor and were therefore particularly exposed to the standard temptations of free-riding. This problem was compounded by the second cause of weakness, political repression. The third and most important factor was that in metropolitan areas or within densely clustered urban networks where the demand for skilled labour was highest, labour markets were highly concentrated and information costs were low, and therefore institutionalised solutions to asymmetric information were unnecessary; not even the benefits of collective bargaining as journeymen 'unions' could counter-balance the problems of collective action.

Organised or not, highly mobile journeymen were a significant source of technological diffusion. Whereas master craftsmen were more likely to migrate permanently under the effect of 'push' factors (although 'betterment' migration was not unknown), journeymen migrated for the most part voluntarily, with a major objective of gaining valuable technical experience and learning something about the world and in the expectation at some point of returning 'home'. Whereas forced migration helped transfer technology across linguistic and national, although probably not religious boundaries, journeymen's travels occurred mostly within institutional and culturally more homogeneous areas: the French Huguenot migrations extended to Switzerland, Germany, the Low Countries and England, but the 'German' tramping system stopped at the western frontier region of Alsace. Journeyman migrations must therefore have been instrumental in shaping regional technological 'pools'.⁴⁵

Contemporaries recognised the link between journeyman tramping and technical progress from the start. The benefits to individuals of being exposed to different manufacturing techniques were clearly stated in the statutes of the fullers and weavers of Arras of 1367 and 1377, for example, which required that apprentices work

outside the town for six months after their two-year long training so as to 'learn the secrets of the trade'. In 1420 the shoemakers of Troyes claimed that before the recent war, 'many *compagnons* and workmen ... of a variety of tongues and nations, came and went from town to town to learn, discover, observe and see what others did'; interrogated in 1481 by the Parisian authorities on his movements across northern France, a sock-maker similarly justified his travels with the desire to improve his skills ('pour mieulx savoir le fait de marchandise').⁴⁶ Henry III's edict of 1581 demanded that the group of Italian silk-workers who wished to settle in Lyon visit other French towns before doing so in order to spread their skills more widely.⁴⁷ By the sixteenth century tramping from town to town had become a compulsory element of apprentices' final training in south-central Germany, while eighteenth-century German camerlists took the technological 'Wanderung' for granted and commented extensively on its advantages and drawbacks (e.g. technical espionage).⁴⁸ Nineteenth-century English journeymen, among whom formalised tramping was a comparatively recent development, also noted the improvements to their skills that came from moving systematically between workshops with different technical practices: 'you saw something new every day'.⁴⁹

Despite this evidence, and in striking contrast with the huge efforts expended by craft guilds and urban authorities to stop master artisans from migrating, the systematic albeit unintentional technological 'espionage' arising from the journeymen's travels rarely provoked widespread complaints.⁵⁰ There appear to have been

⁴⁵ B. Geremek, *Les migrations...* cit. n. 14.

⁴⁶ U.-C. Pallach, *Fonctions...* cit. n. 7, p. 385.

⁴⁷ *Op. cit.*, p. 377, 387, 389-393.

⁴⁸ M. Schulte Beerbühl, *Vom Gesellenverein zur Gewerkschaft. Entwicklung, Struktur und Politik der Londoner Gesellenorganisationen 1550-1825*, Göttingen, 1991, p. 224, citing H. Mayhew, *The Morning Chronicle Survey of Labour and the Poor. The Metropolitan Districts*, Trowbridge, 1982, vol. 6, p. 161.

⁴⁹ The London bladesmiths forbade members to 'teach his journeyman the secrets of his trade, as he would his apprentice' (E. Lipson, *The Economic History of England. I. The Middle Ages*, 8th ed., London, 1945, p. 324). The Württemberg Black Forest worsted guild tried to prevent journeymen from exporting their technical secrets in the late seventeenth century (S. C. Ogilvie, *State Corporatism and Proto-Industry. The Württemberg Black Forest, 1580-1797*, Cambridge, 1997, p. 358). The nervousness felt by many artisans at transferring their technical skills to outsiders is reflected in the standard oath sworn by an early modern London apprentice, which stipulated that he 'his said master faithfully his secrets keep' (S. Rappaport, *Worlds Within Worlds...* cit. n. 34, p. 234); searchers from the guild of gold and silver wire-drawers in seventeenth-century London agreed to keep officers who were also potential competitors out of a member's work room because he feared losing his trade secrets (M. Berlin, 'Broken all in pieces': artisans and the regulation of workmanship in early

⁴⁶ The effects on mobility of confessional boundaries are disputed; see U.-C. Pallach, *Fonctions...* cit. n. 7, p. 374-376.

two reasons for taking a rather relaxed view of the problem. First, the threat of technological transfer could be contained by restricting knowledge of the technical «secrets» to individual journeymen, which was achieved by imposing a virtually universal ban on journeymen training their own apprentices. Second, by making sure that tramping journeymen did not organise to pool their knowledge, craft guilds protected themselves against large-scale migrations of skilled labourers outside their regional «cluster».

Highly mobile skilled labour gave rise to urban clustering and to high levels of industrial density, but also facilitated the exchange of technical information and, more importantly, of skilled labour with the rural hinterland. Such technological and labour market «spillovers» from the urban industrial centres to the hinterlands through which journeymen tramped underpinned the rise between the late thirteenth and the fifteenth centuries of «industrial districts» – highly urbanised regions with a strong proto-industrial base – across much of western Europe, most saliently in northern Italy, Catalonia, the Rhineland, Swabia, Saxony, the northern and southern Low Countries, and north-eastern France⁵⁴. These proto-industrial districts persisted for centuries, in many cases to this day, a fact that will puzzle only those who depict proto-industry as the technological and organisational polar opposite of craft-based production. In practice, despite the towns' notorious hostility towards rural competitors, proto-industries tended to cluster in densely urbanised areas precisely because they could free-ride on the technology and skills provided by towns.

Technological and organisational spillovers also explain why most successful proto-industries became urbanised and organised in craft or quasi-craft guilds; for, in addition to supplying capital, raw materials, commercial and management skills, and coordinated access to international markets, urban craft guilds provided the skilled workforce to help upgrade low quality proto-industries to higher quality industry.

modern London, in G. Crossick (ed.), *The Artisan...* cit. n. 7, p. 82). For controls over the mobility of master craftsmen, see S. R. Epstein, *Craft guilds...* cit. n. 25, p. 702-703.

⁵⁴ S. R. Epstein, *Freedom and Growth. The Rise of States and Markets in Europe, 1300-1750*, London, 2000, ch. 6; D. Ebeling and W. Mager (ed.) *Protoindustrie in der Region. Europäische Gewerbandschaften vom 16. bis zum 19. Jahrhundert*, Bielefeld, 1997; R. Kiessling, *Ländliches Gewerbe im Sog der Proto-Industrialisierung? Ostschwaben als Textilandschaft zwischen Spätmittelalter und Moderne*, in *Jahrbuch für Wirtschaftsgeschichte* 2, 1998, p. 49-78.

Finally, the growing mobility of labour after the Black Death clarifies a well-known feature of the period up to the eighteenth century that is often portrayed critically, which is that technological progress «consisted largely of sequences of micro-inventions and modifications of existing techniques»⁵⁵. Europeans were working through the accumulated bundle of macro-inventions inherited from Antiquity and the Middle Ages, tinkering and tweaking and improving all the while, and their ability to do so was greatly enhanced by the fact that skilled labour found it so easy to move.

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⁵⁵ J. Mokyr, *The Lever of Riches. Technological Creativity and Economic Progress*, Oxford-New York, p. 57.