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Agencies and Labour Regulations in Building Sites (13th–19th Centuries). Introduction

Since 2000, the important changes that have affected labour relations have prompted a major renewal of historical studies on labourers' conditions and on professional mobility. Research on urban economies and societies has already shown how professional paths were characterised by discontinuity due to geographical and professional fluctuations. For several reasons, the history of construction is a privileged research field for studies on professional mobility. In urban economies, construction sites employed a significant number of skilled and unskilled workers, who were often migrants. Furthermore, labour demand underwent continuous changes depending on the seasonality of some work and on progress made on construction sites. The regulation of labour and of workers' mobility therefore constituted an urgent question in this sector.

This issue focuses specifically on the nature of regulatory authorities, their overlapping jurisdiction, and the extent of their powers. Public institutions, intermediary bodies and private actors intervened on labour markets in various ways, sometimes in cooperation, sometimes in competition, and sometimes in open conflict. They were all involved, in different ways, with the regulation of work and the supervision of the labour force. Public authorities, urban or state, partook in the regulation of construction work in several respects, as legislators or contractors, sometimes focused on setting wages, sometimes to standardize hiring or dismissals, and sometimes to control workers' occupational and geographical mobility. In addition to public authorities, intermediate bodies (trade communities, corporations, brotherhoods, unions, etc.), which enjoyed significant self-regulatory power, played an important role in regulating access to master's degrees, training and apprenticeships, and hiring procedures. Whether or not they belonged to the elite of trade associations, building contractors had every interest in equipping themselves with workforce regulation instruments to meet the need to mobilize and lay off a significant amount of labour depending on progress made on construction sites.

The contributions put forward in this issue show how the regulation of work on construction sites was established through the connection between the various authorities and actors involved, whether they were state or urban institutions, bodies or trade associations, free or supervised labour, or contractors and counter-workers, who were competing or negotiating in the field.

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The Role of Masters of Works on Building Sites in Normandy at the End of the Middle Ages

In general, building work was the responsibility of those that texts call 'maîtres des œuvres' (literally, masters of works). There were almost always two of them: a mason and a carpenter. The mason has often been considered as an architect, but he did not always produce drawings. The carpenter was also a very important figure, especially for the construction of houses made of wood and plaster, or to rent scaffolding, and certain machines like cranes. They were both responsible for variable districts corresponding to a specific administrative zone, a '*bailliage*' or '*vicomté*' for masters of works of the king, a city, just one building such as a cathedral or abbey, sometimes a church for a certain period of time, generally for the repair or transformation of existing buildings and, much more rarely, for entirely new constructions. At the beginning of the period,

some of them acted as masters of works for several employers at the same time. The two men, the mason and the carpenter, were equal and received the same wages and the same kinds of gifts.

They did not act out of their own initiative but obeyed their superiors, royal or municipal officers, people in charge of religious establishments, or captains of castles. Nevertheless, their work consisted in drawing the attention of those in charge to works they deemed necessary or urgent. They were not only responsible for masonry and carpentry work. Masons also dealt with plaster work, while carpenters also oversaw wood carving as well as plumbing and glassmaking work. As such, they were generally assisted by workmen belonging to the relevant trade of work. These men organized building sites from the decision to undertake the work up to the point of checking for conformity with the estimate or the plans upon completion. They received stone or wood and oversaw the workers to ensure they followed the orders.

Masters of works were also consulted as experts to estimate the value of a building to be sold or demolished, or to regulate various conflicts in corporate associations or between neighbours. They frequently acted as the heads of a project and worked for other building owners besides their principal employer. They were always dependent on those who chose them and usually had a minimal capacity to take the initiative. They enjoyed significant prestige during the 14th and 15th centuries but this was reduced somewhat at the turn of the 16th century, especially for carpenters, who became less and less important.

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Labour Relations in Royal Portuguese Building Sites. The 15th and Early 16th century

This paper aims to study the different types of labour contracts and building commands practised in the major Portuguese royal shipyards in the 15th and 16th centuries. The three main types of such labour contracts and related payments were: the daily work of journeymen; the long-term contract and its annual remuneration; and, lastly, contracts for a specific project at a predetermined price (*à forfait*, in French). Some concrete examples will be studied, namely the construction sites of the Monastery of Batalha and of the Monastery of Jerónimos, other building activities in the Royal Palaces of Paços de Sintra and of Paço da Alcáçova in Lisbon, as well as the construction of the New Customs building (Alfândega Nova) in Funchal (Madeira Island). The study aims to characterise each of these types of contracts, the men involved and the specific ways in which they were implemented, as well as their interactions, in the knowledge that these different types of labour contracts could coexist simultaneously on the same construction yard and sometimes with the same craftsmen. This paper also aims to ascertain the motivations and logic behind the selection of each one of these types of labour contract, within the general direction and organisation of the construction site. Documentation related to these constructions, namely accounting rolls and registers from the construction site management, will be analysed and complemented by the existing studies on these buildings.

The initial objective was to establish whether there was any regulation of work and production in Portuguese royal construction yards, and, if so, to identify such regulations and define the authority or institution from which they derived. On the other hand, it is also important to establish whether another type of regulation concerning construction activity, namely of municipal origin, could be applied to the most important royal construction sites. This paper will seek to explain why the answer to both these questions should be negative.

As a matter of fact, it seems that a set of well-established labour contracting practices can be found in major royal construction yards, which were followed in general terms but were quite adaptable and flexible in the face of different conjunctures and concrete situations, despite following some general lines that can be identified. However, as they were building enterprises directly connected with and dependent on the King, they could implement different practices and decisions from those applied more generally, and they could therefore apply unique or exceptional labour and manage practices, when needed.

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The By-Laws of the *Mostassafaria*. Regulating the Market to Regulate Labour?

The *Mostassaf* is a municipal agent that manages market regulations. Heir to the Arab-Muslim urban organisation, he is a classical figure of Catalan, Balearic and Aragonese areas in the late Middle Ages. He is also known in Castilla by the name of the *amotacen* or, in Portugal, as the *almotacé*. This function is instituted by royal privilege, and nominated every year by the local authorities. This municipal agent intervenes in all sectors of local economic activity, regulating and acting directly for immediate sentences. He has control of weights and measures, production, sales conditions, product quality, the management of the sanitary conditions of the market area, consumer protection, and

fraud. The Catalan regulation books of the *Mostassafaria* are held in the archives of the Crown of Aragon (Girona, Palma, Barcelona, and Valencia). These records can be profitably supplemented with municipal ordinances, especially in the case of Girona, which are complementary to the action of the *Mostassaf* and applied by him. These archives allow us to propose a new way of understanding the regulatory frameworks of work in their daily application. Does the *Mostassaf*, by intervening in the field of product quality or sales methods, exist above the standards of the guilds, or does he constrain them? As a result, the application of quality, sales and production standard regulations in the markets can be seen as a means of control by municipal authorities over builders' working conditions and construction methods, which are theoretically beyond their control. Finally, do the guilds have a way of intervening in the definition and application of the regulations of the *Mostassafaria*?

Concerning construction activity, the *Mostassaf* allows us to understand that there are three levels of control. The first one, which we can consider as being at a *macro* level, is the guild which exerts control over the workers, combining with the municipal regulations. The second one, at a *meso* level, is the local authorities' ruling, which completes and makes concrete the guild regulation. Finally, at a *micro* level the activity is ruled over by the action of the *Mostassaf*. He undertakes the final moral and juridical capping of the building activity.

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Building Industry Guilds and their Internal Rules in Northern Italy (13th – 14th centuries)

In Northern Italy during the 13th and 14th centuries there were different kinds of building industry guilds. Some of them developed out of brotherhoods, with a specific focus on labourers' welfare. They were frequently known by the names of *paratico* or *fraglia*, which referred to guild ranking during a town parade and to the form of liaison between the members of a guild. Other guilds referred to themselves as *societas*, *ars* or *ministerium*, meaning a more specific focus on handiwork. Usually, building industry workers were included in one or more guilds, like the *magistri* of *manaria* or the *marangoni* (carpenters) and the masons *magistri*.

Regardless of their name or focus, construction guilds had three main objectives. First, they guaranteed fair competition between *magistri*. Specifically, such organizations sought to balance the economic power of the most well-known artisans to guarantee the provisioning of construction materials, contracts, and fair pay to every member. In addition, they tried to address quarrels between masters, workers, and apprentices. Guilds also managed the right number of workers for urban building sites. The second objective of the guilds was to give clients guarantees about construction material quality, building quality, and remuneration for workers. Guilds also played an important role in regulating the relationship between their members and foreign workers. Usually, foreign workers were forbidden from working in town and with local guild members. Moreover, working outside of the town entailed the loss of their privileges as guild members. Finally, guilds guaranteed the correct application of public *Statuta*. In this role, they acted like a link with public bodies, particularly in connection with economic, fiscal, and demographic policies.

This analysis demonstrates that, in Northern Italy, such associations performed an important role as a guarantor between parties, and acted as an intermediate body between communal institutions and citizens (workers or clients). Guild statutes never sought to standardise building constructions

techniques; such *Statuta* were always intended to allow for the freedom to innovate and to experiment with new constructions techniques.

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Labour Reform on the Construction Site in Dublin. Building Workers and Their Employers, 1859–1896

The nineteenth century marked a key turning point for Western Europe, as a predominately agrarian and handicraft economy was transformed by the rise of capitalism and industry. Although these momentous changes brought many positive improvements such as in education, health and sanitary reform, they also presented challenges to the poor and working classes who were subject to long hours, low pay, and little job security. With political power mainly in the hands of the property-owning classes, the period saw an increasing amount of labour movements that fought for better conditions for their workers. The construction industry played a critical role in this regard, with the building worker dominating the labour politics of the time through the vehicle of the trade organization. In Ireland, labour reform played out in the shadow of its much more powerful neighbour and ruler in Britain. Dublin, its capital city, entered a period of comparative decline during the Victorian age. However, its re-emergence as a commercial centre saw considerable amounts of construction from the mid-century onwards, and these building sites were the focus of an increasing number of labour disputes. This paper will explore the theme of agency on the building site by tracing the

development of labour organisation in Dublin between 1859 and 1896. It will begin by discussing the main types of construction labour, and investigate the main grievances that led them to strike. How did firms respond to the demands of their employees and their trade societies, who were increasingly involved in labour disputes? Exploring a range of contemporary secondary sources, this paper will focus in particular on *The Irish Builder*, Ireland's premier trade journal during the nineteenth century. It will investigate the role of *Meade & Son*, one of the city's main building firms, which played a leading role in managing labour disputes in the industry. What were the main changes brought about by reform in construction work and how does this compare with developments in Britain? How, in turn, did these changes affect the day-to-day operation of the building site, from the length of the working day to commuting time and increased pay? In tracing these developments, the paper reveals the impact of labour agitation on the life of the average building worker, within the broader context of the nineteenth-century city.

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The Rise of the Building Contractor in the fifteenth century in the Low Countries. The Case of Godevaert de Bosschere

Studies in the construction industry have traditionally recognised the dissolution of the craft guilds following the French Revolution as a

defining moment in the development of the modern building industry. Liberated from the economic constraints of the guilds, the building sector became increasingly dominated by large-scale building enterprises, general contractors, and competitive bidding. The organisational transformation in the nineteenth century has usually been interpreted as a breach with traditional practice. However its historical roots have long been overlooked in historiography.

In this paper, I will argue that several developments that are considered typical of the nineteenth century can be traced back to the late Middle Ages. After the mid-fourteenth century, various parts of Europe experienced a commercialisation of the building industry, and in this development the Low Countries stand out. It seems that the sheer importance of the market, in which affluent contractors had an important share in the construction of public buildings, was exceptional. Where large public building projects had once usually been brought to fruition under a patron's management, private construction firms now performed a growing portion of the work at the expense of masons' lodges. The veritable building boom that followed the rapid urbanisation of the cities in Flanders, Brabant and Holland from the mid-fourteenth century propelled the development of the market. An elite group of supra-regionally active builders emerged, who competed for contracted work through public tenders. Often, such tenders split up the work by craft, however the entire project could be assigned to a single contractor as well.

Based on extensive archival research, my paper will outline the general traits of the construction market, as well as the circumstances that brought it to fruition. To shed light on the significance, scale and geographical scope of building enterprises, I will present the operations of Godevaert de Bosschere, one of the leading fifteenth-century Brussels stone merchants. He was active simultaneously at the most important sites throughout the Low Countries, and his products and services ranged in scale and complexity from the procurement of building materials to the assembly of the masonry of an entire building.

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Contractors and the Labour Market in the Milanese Building Trade during the Second Half of the Eighteenth Century

This paper is divided into three parts. The first part calls for a reconsideration of the economic significance of the building trade in a less ideological and preconceived manner. It is necessary to move beyond the idea of the building sector as an ‘unproductive’ activity and, above all, the moralistic idea of the wealth made stone due to the decision of capital owners to build palaces or churches instead of investing their money in manufacturing activities. The second part deals with the complex and efficient action of stakeholders in the building sector in Enlightenment Milan: large contractors and master builders. Most of all, it points out the importance, for a successful activity, of controlling the provisioning and storage of building materials and the labour market. At the same time, it highlights the importance of relational networks which linked contractors and master builders, who in many cases were seasonal migrants from the same village. Finally, the third part focuses on the peculiar characteristics of the labour market in the construction sector, highlighting their efficient utilization by entrepreneurs in the sector. Indeed, the labour market in the building trade perfectly fits with the dual labour market theory, which postulates a labour market split into two parts. The first part, the primary sector, is characterised by a small number of skilled workers while the secondary sector includes a large number of unskilled and very mobile workers. Therefore, the problem concerns how to maintain and control a small nucleus of skilled men able to manage and exploit hundreds of unskilled workers. This article questions the practices of notable contractors and master builders faced with the main problem in the building sector: how to quickly hire and fire a low-skilled workforce while at the same time guaranteeing the presence of a small number of skilled workers who oversee and coordinate the work. This paper will discuss how the main contractors in eighteenth-century Milan—starting with the Ticinese Fè,

which, in a few years, constructed the Scala Theatre and the Paderno channel—perfectly achieved this goal thanks to the cooperation of a few master builders from Ticino who, in their turn, were awarded other important contracts. As we shall see, the problem was solved thanks to an organisation that provided for the hierarchical division of profits and charges from the major contractors and master builders down to labour recruitment managers, suppliers of materials and a composite labour force.

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Military Bridges in *A.O.I.* (1935 – 1936). Italian Structural Engineering Amidst War, Autarchy, and Tropical Heat

On 18 September 1935, the modern Decameré-Nefasit carriage road was inaugurated in Eritrea, the first Italian colony.

In fifteen days, Italy would occupy Ethiopia, and the road that had been designed to transport General De Bono's troops from the Port of Massawa to the Abyssinian plateau was officially opened to traffic just in time.

134 km and eight imposing bridges that the propaganda of the regime disguised as a generous endeavor to bring the great work of civilisation overseas were built in just seven months thanks to exhausting schedules and reserved material supplies.

The story began in late 1934 when the Eritrean Government awarded the contract for the construction of the whole section of the new carriage road to the *Società Italiana Costruzioni e Lavori Pubblici* (Italian Company

for Building and Public Works). Hence, a mass recruitment of workers began in Italy.

On 27 February 1935, a group of 5,500 workers left for Eritrea. Two engineers, Guido Sassi and Attilio Arcangeli, both of whom had great expertise in reinforced concrete construction, would be the directors of the contractor's small technical office.

In line with De Bono's plan, they had only one month to propose the route and design a typical bridge the construction of which could commence immediately by untrained workers with the use of 'field' work techniques only.

In their position within the fascist hierarchy, the engineers turned this challenge into an opportunity to undertake a series of scientific and design experiments on the structural behaviour of reinforced concrete. They therefore created a structure that would be suited to the warm African climate and able to resist the high loads of heavy artillery, gradually completed with the invention of handcrafted construction devices to contrast any parasitic effects.

One example was a particular 'handcrafted semi-articulation' device patented by Sassi on 16 March 1935.

Work on the site was very hard: the concrete was cast exclusively overnight, while during the day reinforcements were covered with wet sacks to extract heat.

On 28 October 1935, the last and most imposing structure of the carriage road was completed: the Dogali River Bridge, which troops had already crossed on 2 October when the formwork were still in situ.

At the height of the war, when the army was fully deployed, according to the military plan the road construction works had to be accelerated to support the troops' advances. However, at the same time as the new building sites were opened, the invasion was condemned, and economic sanctions were imposed upon Italy. As a result, a strict policy of autarchy began. Therefore, the logistical difficulties involved in building the Decameré Nefasit Road were superimposed by a restriction on iron use.

Captain Sassi, 'first of all at the Duce's order', set about designing a new autarchic structure that could be made with non-reinforced concrete.

The African adventure, part of an insane utopia, testifies to a creative experimental exercise that, within autarchic building, characterised the

original use of reinforced concrete for war purposes and the colonial declination of the design of structures.

This article presents the results of a survey on Italian structural engineering material history, conducted as part of the European research project ‘SIXXI – 20th-Century Structural Engineering: the Italian Contribution’, led by professors Sergio Poretti and Tullia Iori at the University of Rome ‘Tor Vergata’.

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