Small but significant. Tracing the emergence and evolution of the demolition profession in Brussels (1860-1970)

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Small but significant. Tracing the emergence and evolution of the demolition profession in Brussels (1860–1970)

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Abstract: This paper examines the significance of the demolition profession in the construction industry, specifically its unique role in the development of salvage practices. Focused on the case of Brussels spanning the years 1860 to 1970, our research explores the emergence of demolition contractors, their professional backgrounds, careers, and pricing strategies. Our findings reveal that the demolition profession developed as a niche sector within the construction industry, emerging in response to the growing demand for demolition services. Despite its modest size, the demolition sector played a central role in enabling salvage practices, driven by a financial reliance on the trade in second-hand materials. However, this financial dependence rendered the demolition profession more precarious and volatile compared to other construction jobs. A significant transformation took place with the evolution of pricing strategies after the Second World War, diminishing the importance of second-hand materials for demolition contractors' incomes and thereby opening the door for an increase in demolition waste. Consequently, a study of the demolition profession offers insight not only into the motivations behind salvage practices but also into the challenges associated with demolition waste management, especially in the post-war era.

Introduction

Cities are in constant evolution: structures are erected, maintained, transformed and eventually demolished, enabling the entire process to recommence. The city of Brussels has witnessed such a continuous interplay between construction and demolition throughout its history. Yet, the emergence of a unique professional identity—that of "demolition contractors"— in the late nineteenth century can be marked as a pivotal moment. In 1887, for the first time, a select group of companies presented themselves as demolition contractors in the Brussels trade almanacs, marking the beginning of the development of a distinct professional identity within the city's construction landscape (CAB Almanach 1887).

Various studies conducted within the field of construction history have shed light on the practices associated with demolition, spanning from the Roman period to the twentieth century (Barker 2019; Bernardi and Esposito 2012; Jannière 2018). These investigations have highlighted the presence of diverse techniques and tools employed in demolition while showing that its full scope is far from confined to a singular location or a specific point in time. Instead, demolition constitutes a process that unfolds across multiple sites and lengthier timelines, as it not only encompasses the dismantling of structures but also the process of moving materials and debris. This, in turn, facilitates the construction of new projects on the cleared site and enables the reuse of salvaged materials, underscoring the relationship between demolition and construction. In this interplay, demolition and construction can be seen as opposing, yet similar processes: whereas demolition primarily aims to remove objects from the site and produces materials and debris in this process, construction on the other hand aims to add objects to the site and mainly consumes materials while doing so. Demolition can therefore be conceptualized as a form of construction in reverse—a process commonly referred to as "deconstruction" (Bernardi and Esposito 2012; Ghyoot et al. 2018; Thomsen, Schultmann, and Niklaus 2011).

In light of this similar, but reverse, dynamic, one might reflect on the possibility of professionals undertaking both demolition and construction. The emergence of a specialized demolition profession at the end of the nineteenth century, as is evidenced in the trade almanacs, gives rise to questions regarding its necessity and role within the Brussels construction sector. What factors motivated professionals to specialize in demolition and what skills and equipment did they bring to the table?

To address these questions, two primary sources with extensive publication histories were consulted to investigate the emergence of demolition as a specialized profession and explore its evolution over more than a century (1860–1970). The professional backgrounds and careers of those involved in demolition were investigated by tracing their professions within the *Almanachs du Commerce et de l'Industrie.* Entries were collected at intervals of five years, covering 57 different demolition contractors. Additionally, the demand and cost of demolition services were evaluated by examining the announcements and results of public tenders for demolition projects recorded in the periodical *Chronique des Travaux Publics*. This analysis spanned intervals of 10 years, offering insights from 159 demolition projects. This approach enabled a quantitative and qualitative examination of the demolition profession, contributing to a better understanding of the significance of the demolition profession within the broader construction industry.

1. Demolition, a new profession?

The Brussels *Almanachs du Commerce et de l'Industrie,* aimed at presenting the array of goods and services available within the urban agglomeration, featured demolition contractors or *entrepreneurs de démolitions* from 1887 onwards (CAB Almanach 1887). The emergence of demolition contractors suggests a response to specific needs for specialized demolition services. This response can be attributed to a shift in demand for demolition services and framed within broader sub-sector developments in the construction industry in the second half of the nineteenth century.

1.1. A growing demand for demolition services

In the second half of the nineteenth century, the rapidly industrializing urban landscape presented significant challenges to the city, such as chronic traffic congestion and recurring epidemics. In the prevailing hygienist discourse, the public authorities attributed many of these issues to substandard living conditions, notably present in the densely packed working-class neighborhoods and the aging building stock. Urban transformation was deemed necessary, particularly as it presented an opportunity to redefine the identity of the capital of the young Belgian state. While demolition had primarily been carried out incrementally in response to individual building and infrastructure transformations, large-scale interventions were now considered essential to improve the city's overall fabric. The 1867 amendments to the expropriation law of 1858 broadened its scope and made it legally possible to erase entire neighborhoods from the urban landscape. This paved the way for extensive rehabilitation and beautification operations, leading to a continuous stream of demolition works in Brussels (De Beule et al. 2017; Demey 1990; Wagenaar 1998).

Consequently, a diverse array of public institutions required demolition services in Brussels. The Brussels municipalities, the Belgian state, and temporary entities such as the *Office National pour l'achèvement de la Jonction Nord-Midi (ONJ)* became prominent commissioners of demolitions. Their projects included large-scale undertakings such as the covering of the Senne river (1866–1871), the establishment of the North-South railway junction (1902–1952), and the transformation of the North Quarter commencing in the 1960s (Fig. 1) (Demey 1990). As the twentieth century advanced, public housing associations also started to play an important role in driving the demand for demolition services. Notable in this respect are the slum clearance laws of 1931 and 1953, which granted housing associations the authority to expropriate and led to extensive demolitions in working-class districts such as the Marolles (Heyns 2006). However, the full extent of the demand for demolition services becomes evident when examining public tenders in the Brussels agglomeration, as featured in the periodical *Chronique des Travaux Publics*: varied projects of different public institutions included multiple buildings or

Figure 1. In 1912, public works were underway, particularly for the construction of the North-South railway junction. This required the erasure of entire city blocks, leading to a multitude of simultaneous demolitions (KIK-IRPA, Brussels).

constituted cohesive, larger undertakings (La Chronique des Travaux Publics 1885–1965).

Therefore, the emergence and development of a demolition specialization since 1887 can be attributed to the abrupt surge in demand from public authorities and the expanded scale of demolition projects following the approval of the expropriation law of 1867—a trend that endured throughout much of the twentieth century.

1.2. A gradual response

While the demand for demolition services might have undergone a sudden and abrupt increase, the emergence of a demolition specialization itself was not an isolated or instantaneous event. The two-decade gap between the increased demand for demolition in the 1860s and the formalization of the demolition profession in the 1880s reflects a more gradual development. However, it is important to acknowledge that the specific date of 1887 may not be entirely precise, as not all enterprises were consistently registered in the almanacs, especially newly established ones. It is noteworthy that several professionals competing for demolition projects had already identified themselves as "demolishers" or "demolition contractors" in prior correspondence on demolition, as evidenced in records from the Brussels city archives between 1864 and 1885. These professionals, initially listed under different professions in the trade almanacs, were already participating in demolition works before later specializing in the field (CAB TP: 352–369). This distinction underscores the difference between the practice of demolition activities and the formal emergence of a distinct professional category. Therefore, the inclusion of demolition contractors in the trade almanacs should not be misconstrued as the origin of a particular form of demolition work.

Instead, the emergence of a demolition specialization appears more closely related to the expansion of the scale and number of demolition activities, rather than a fundamental shift in their nature. Despite the growing demand for demolition services from the 1860s onwards, demolition remained a niche sector within the construction industry. Over the period from 1890 to 1969, the number of demolition companies fluctuated between five and 20 per year (Fig. 2). Comparing these numbers with those of other subsectors within the construction industry in Brussels reveals its modest size. For instance, in 1965, there were 774 contractors and 741 plumbers operating in the urban region (Degraeve 2021). The smaller number of demolition companies may be attributed in part to the relatively lower demand for demolition services compared to other construction services like plumbing or house renovations. However, a significant contributing factor is that demolition projects were often still handled by other building professionals. Specialized demolition contractors were typically only sought for larger-scale demolitions or extensive renovations (La Chronique des Travaux Publics 1885–1965).

The emphasis of demolition contractors on large-scale projects can be understood within the broader context of sub-sector developments in the construction industry. In the trade almanacs, the category of demolition contractor initially emerged as a subset of (general) contractors or *entrepreneurs-constructeurs* (CAB Almanach 1887–1969). In this context, demolition contractors can be viewed as specialized contractors, concentrating solely on the demolition aspect of the job. The profession of general contracting evolved

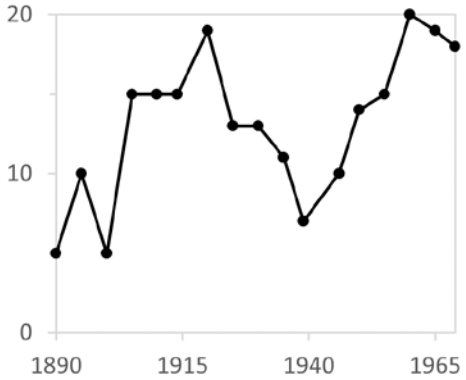

Figure 2. Number of demolition contractors mentioned in the Almanachs du Commerce et de l'Industrie.

in the nineteenth century to meet the increasing demand for the streamlined coordination of extensive construction projects (Dobbels 2022). Similarly, the emergence of demolition contractors during the late nineteenth century can be interpreted as a response to the growing need for effective management of large-scale demolition projects. Moreover, with the expansion of construction projects within the existing built fabric, it became more rational to segregate the demolition and construction phases. Substantial time intervals between demolition and construction emerged, with the commissioner for demolition often differing from the one for construction, especially in the context of rehabilitation projects (La Chronique des Travaux Publics 1885–1965).

Therefore, the emergence of a demolition specialization appears to be more related to the expanding capacity to carry out demolition work on a larger and more organized scale, adapting to the accelerated pace of urban development, rather than signifying a fundamental alteration in the demolition work itself.

2. Profiling the demolition profession in Brussels

As large-scale demolitions became more common, it introduced distinctive features within the construction industry with the emergence of a specialized demolition sector. What specific services, skills and equipment did demolition contractors bring to this new sector?

2.1. Backgrounds and skillsets

An examination of the professionals involved in demolition projects in the decades between the rise of large-scale demolition and the emergence of the demolition contractor in the 1887 almanacs sheds light on their backgrounds and skillsets (Fig. 3) (CAB TP: 352–369). About 30 percent was embedded in the construction industry: these demolishers were listed in the almanacs as contractors (*entrepreneurs*), metalworkers or locksmiths (*serruriers*), mechanics (*mécaniciens*), and carpenters or joiners (*menuisiers*). Another 30 percent of the demolishers can be linked to the sales sector, operating as second-hand sellers of clothing, furniture and other old objects (*fripiers*), sellers of old metals (*marchands des vieux métaux*), or other objects (*boutiquiers*). An additional 20 percent were engaged in occupations related to both construction and sales, such as transportation or the production and sale of furniture.

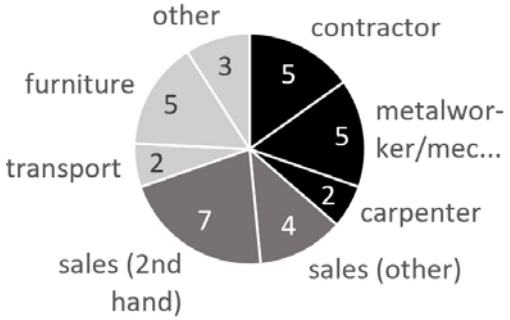

Figure 3. Listed profession of demolition-tenderers between 1864 and 1885 in the Almanachs du Commerce et de l'Industrie.

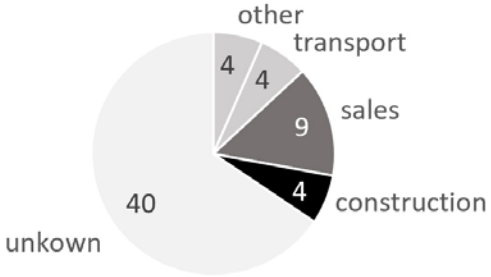

Figure 4. Former profession of specialized demolition contractors between 1890 and 1969 in the Almanachs du Commerce et de l'Industrie.

The nearly equal distribution between demolishers with backgrounds in construction and sales may be surprising, as salespersons may not typically be linked to (reverse) construction expertise. Seeking an explanation, the strong involvement of salespersons cannot be attributed to the absence of a distinct category for demolition contractor prior to 1887, as the trend persists later on: when examining the previous occupations of individuals who ultimately specialized in demolition from 1890 to 1969, the share of former sales professionals is also prominent (Fig. 4). The alignment between demolition and sales is, however, sensible when considering the specific characteristics of the demolition profession. Prior research has shown that demolishers in the nineteenth and twentieth century indeed often sold reclaimed materials (Wouters and Dobbels 2021; Ghyoot et al. 2018; Reyniers, Van de Voorde, and Wouters 2022; Byles 2005). The link with material sales is further underscored by the business cards of demolishers, which delineated their roles as second-hand traders of diverse machinery, materials, and metals (Fig. 5).

The material trading background of demolition contractors suggests the existence of transferable skills between second-hand merchants and demolishers. Demolishing a building necessitated a certain level of construction knowledge to

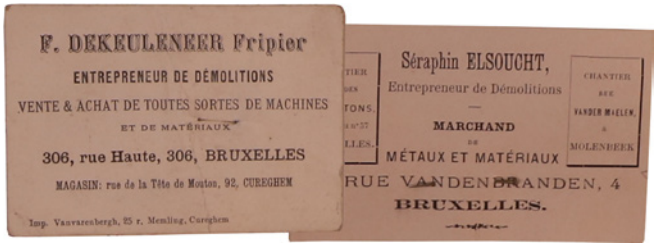

Figure 5. Business cards of F. Dekeuleneer and Séraphin Elsoucht in 1884 (City Archive Brussels).

apply appropriate and safe dismantling techniques and assess material qualities. It is known that second-hand traders often possessed such specialized skills, such as carpentry and metalworking, acquired to repair the items they resold (Billen et al. 1994). On the other hand, to efficiently carry out tasks related to the transportation, cleaning, repairing, storing and reselling of materials, demolishers required specific infrastructure and equipment. Their previous professional experience offered valuable advantages in this regard. A demolition contractor with a background as (second-hand) trader possessed skills and equipment for collecting and selling materials, and perhaps even a solid customer base. Additionally, a demolition contractor with a history in transportation had access to vehicles designed for transporting substantial quantities of materials. Therefore, the diverse backgrounds of demolishers highlight that skills and equipment for material salvage were at least as crucial in the demolition profession as sole construction knowledge.

2.2. Pricing of demolition

The significance of material salvage within the demolition profession becomes especially pronounced when examining the pricing strategies employed by demolition contractors participating in public tenders. An article from the Belgian newspaper *Le Soir* in 1931, reveals that demolition contractors based their prices through balancing estimates of demolition costs and the value of materials (Le Soir 1931). Depending on the type and degree of deterioration of the materials that were set free by demolition, the anticipated material value could exceed the costs for demolition labor, transportation, cleaning and repair of the materials. The article presented three possible scenarios: (1) the demolisher paid the client; (2) the demolisher carried out his services without charge, receiving the construction materials in return; or (3) the client paid the demolition contractor for their services, which exceeded the material value.

The results of the public tenders in the *Chronique des Travaux Publics* reveal that in practice, the first scenario, wherein the contractor paid the client for the building materials, was notably prevalent before the Second World War. It was common practice that upon commissioning a demolition project, the demolisher acquired ownership of the materials without receiving direct payment for their services. This pricing approach for demolition ensured that commissioners were not burdened with additional financial costs; instead, it could be financially advantageous to demolish, enabling them to benefit from the property transfer of the materials. In effect, public tenders for demolition were often framed as "the sale of buildings for demolition" *("vente, à charge de démolition, de maisons/bâtiments/...")*. In this format, the demolition contractor offering the highest bid would be awarded the contract (La Chronique des Travaux Publics 1885–1965).

2.3. Bridging the gap between construction and material trading

Engaging in material trade distinguishes the demolition profession from other construction professions. Professionals dedicated to the erection and maintenance phase of buildings typically purchased their materials from material traders, obviating or minimizing the need for extensive material

storage facilities. In contrast, demolishers were engaged in both the demolition of structures and the sale of materials, necessitating large storage spaces and proficiency in material repair.

This reliance on material trade had some important consequences. First, as the sale of materials constituted a substantial, if not the primary, source of income for many demolition contractors, it must have significantly shaped their approach to the demolition process. They employed techniques aimed at preserving valuable materials, continuing the traditional demolition methods that had been in use for centuries (Fig. 6). Second, since the earnings from demolition works did not come directly from the services itself, which involved employing demolition workers and managing material storage, but from the resale of materials afterwards, it introduced challenges and vulnerabilities. Consequently, the demolition profession was also a precarious one, as it was strongly dependent on the demand for second-hand materials, the availability of storage space in the city, and various other factors that could affect the material market.

Figure 6. Demolishers using tools like ladders, shovels, pick axes, and wheel carts during demolition works in 1911 (KIK-IRPA, Brussels).

3. Navigating the precarious nature of the demolition profession

The challenges of the profession, including the heavy reliance on material sales, pushed demolition contractors to devise various ways to deal with uncertainties and vulnerabilities. One of the strategies for dealing with the precarious nature of the profession was to engage in demolition only temporarily or as a side job.

3.1. Seizing opportunities

It becomes evident that not everyone engaged in demolition work considered it their primary occupation, when comparing the number of listed demolition contractors with the number of competitors bidding for public tenders on demolition projects. The analysis of the trade almanacs from 1885 to 1965, with five-year intervals, revealed only 57 different listed demolition contractors (CAB Almanach 1885–1965). Yet, screening the tenders issued in the *Chronique des Travaux Publics* between 1885 and 1965 with 10-year intervals, revealed over 300 different competitors (La Chronique des Travaux Publics 1885–1965). While the discrepancy in these numbers can be partly attributed to contractors from outside Brussels submitting offers, it is notable that 60 percent of the competitors were based in Brussels. The limited overlap with listed demolition contractors suggests that most of them were not exclusively dedicated to demolition but had other primary professions. For these professionals, demolition was as a secondary or temporary venture, as a means to seize opportunities and to diversify services. Many construction professionals like general contractors often already possessed the necessary equipment and vehicles for demolition and material transport.

As they only temporarily engaged in demolition, there was no imperative for extensive storage facilities and sales strategies. It is plausible that they could utilize the materials within their own business or share them within their existing networks. Moreover, their limited focus on demolition made their income less vulnerable to the fluctuations in the supply and demand of second-hand materials. Therefore, engaging temporarily or as a secondary occupation in demolition seemed to be an important strategy in dealing with the challenging nature of the demolition profession.

3.2. Shifting careers

In addition to professionals from outside the field who engaged in temporary demolition work to seize job opportunities and diversify their services, it appears that many of the demolition contractors who made it their main occupation were also not committed to the profession for life. In fact, many embraced it as their primary occupation for only a limited period, leveraging their versatile skills to transition to different professions throughout their careers. This trend becomes evident when analyzing the fluctuation in the number of listed demolition companies in Brussels over time (Fig. 7).

The fluctuations broadly mirror the overall trends in the construction industry—expansion until the early twentieth century, followed by a decrease during the Great Depression and the banking crisis in the 1930s (Buyst 1990)—yet there are some conspicuous intermittent surges in the number of demolition companies. While the limited number of such companies calls for prudent interpretations, the fluctuations seem to be sensitive to specific contexts, indicating that there is no exact correlation between the demand for demolition and for construction. An evident example is illustrated by the most obvious peak, occurring in 1920: following the temporary suspension of construction activities, demolition activities may have peaked due to the clearance of war-damaged infrastructure and buildings. During this period, it could have been advantageous to (temporarily) shift focus and engage in demolition as a professional pursuit.

A comparison of the evolution of the number of demolition contractors relative to the total number of contractors unveils distinct trends, though the challenge lies in their disproportionate ratio, necessitating careful interpretation (Fig. 7). In the 1930s, the number of demolition contractors significantly decreased, leaving only a few, in contrast to the trend in the total number of contractors. While a decrease in the number of companies might be associated with their increased scale and market concentration (Degraeve 2021), it could also suggest challenges, leading several demolition

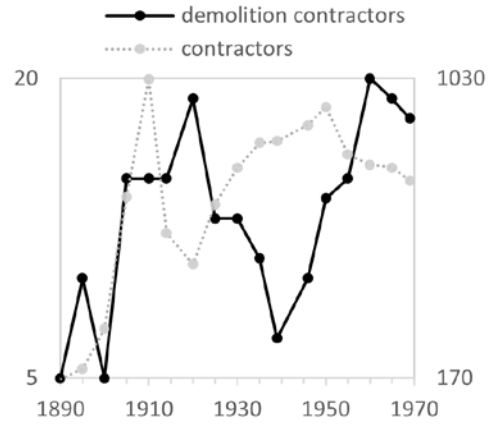

Figure 7. Number of demolition contractors compared to the total number of contractors in Brussels in the Almanachs du Commerce et de l'Industrie.

contractors to exit the profession. A reversal occurred after the Second World War, potentially influenced by changes in the demolition business model, a topic that will be explored in more detail later. Additionally, large-scale projects, such as the preparations for Expo 58, involving substantial demolition work, may have contributed to this turnaround (Dobbels 2022).

3.3. Social mobility through demolition?

As many individuals entering the demolition field had prior experience in sales and transportation, one might expect a two-directional relationship in which demolition contractors reverted to their previous professions—using skills they still possessed and practiced—if the demolition business proved to be too unstable. Yet surprisingly, among the former demolition contractors whose subsequent occupations were traceable in the trade almanacs, a minority opted to return to sales, while a shift back to transportation was nearly non-existent. Instead, a substantial number of former demolition contractors transitioned into various construction-related occupations when shifting their career path (Fig. 8).

Second-hand traders and transporters were associated with low social status and financial income, despite their essential roles in the late nineteenth- and early twentieth-century urban economy (Billen et al. 1994). An illustrative example is the case of *Monsieur* Van Humbeek. He had received a fine by the local authorities concerning a demolition project, yet his profession as a second-hand salesman was cited as a reason to doubt his ability to pay the penalty (CAB TP 364). Another example highlighting social status differences within the construction industry can be found in the city of Brussels 1909 minimum wage regulations. Transporters were entitled to a minimum wage of 40 centimes per hour and demolishers received 45 centimes per hour, whereas other construction occupations like masons, carpenters, plumbers, and roofers all earned 50 centimes per hour (CAB AA 1910: 7695).

While it is important to approach the shift in careers of demolition contractors with caution, given the limited available data, it still prompts a compelling question: did the demolition profession serve as a steppingstone for individuals from less socially esteemed backgrounds to attain other positions within the construction industry? Despite the limited knowledge on demolisher's careers, this potential upward

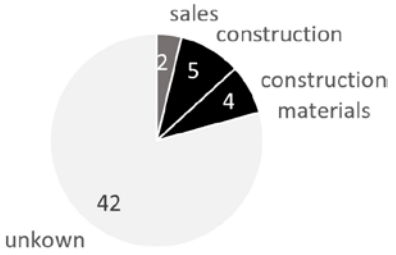

Figure 8. Profession of former demolition contractors between 1890 and 1969 in the Almanachs du Commerce et de l'Industrie.

mobility may intriguingly suggest that participating in large-scale demolition projects enabled demolition contractors to develop new, valued skills within the construction industry.

3.4. Demolition as a lifelong commitment

Even though demolition proved to be an open and volatile profession, for a select group of companies, demolition was more than a transient occupation; it became a lifelong commitment. This trend is visible in both the trade almanacs and the results of the public tenders. Among the over 300 competitors for demolition tenders documented in the *Chronique des Travaux Publics*, 20 entrepreneurs consistently engaged in this field for over two decades or more. The vast majority of these steadfast contributors, comprising 18 out of the 20 companies, was based in Brussels (La Chronique des Travaux Publics 1885–1965). A similar yet stronger trend emerges when examining the trade almanacs between 1885 and 1965. 19 out of 57 listed demolition contractors sustained their active roles for over two decades, some even extending their company across generations. An exceptional example is a company that continuously featured in the trade almanacs for an astounding 75 years, serving as a testament to the resilience and durability of their enterprise (CAB Almanach 1885–1965).

A closer examination of these 19 professionals who were based in the city emphasizes the importance of effective and strategic business management to successfully navigate the uncertainties and vulnerabilities of the profession. Advertisements in the trade almanacs by these demolition contractors reveal that they engaged in the sale of materials themselves, managing the material trade directly rather than relying on prices offered by other traders. Moreover, these

Figure 9. Advertisements of Louis Peppe (1910), Léopold Vanhaelen (1925), Huyghe et Fils (1946) and Norbert Coessens (1960) in the Almanachs du Commerce et de l'Industrie.

advertisements were not solely focused on selling materials but also addressed the purchase of materials *("vente et achat"*) (Fig. 9). Therefore, the advertisements indicate that for these demolition contractors, material trading was not merely a necessary consequence or a convenient way to dispose of excess materials that resulted from their demolition activities. Instead, the purchase of salvaged materials that originated from demolition works by others confirms that material trade formed an integral component of their profession. They had access to the necessary large sites and facilities for material storage and trading, and they sometimes shared such sites during specific periods. As such, around 1930, four long-standing demolition contractors shared a site in rue Ropsy-Chaudron numbers 59 to 81 (Almanach 1890–1969). These businesses, devoted to demolition, played a pivotal role within the broader construction industry, acting as vital nodes within networks of consumption, production, and disposal, ultimately facilitating the reuse of second-hand materials.

4. From material to labor-centric approaches

Although material trade has traditionally been central to the demolition profession, there has been a marked shift during the twentieth century that has compromised this material-oriented approach. Data from the *Chronique des Travaux Publics* reveals this change, particularly in the pricing of demolition work during the 1930s. While before this period, demolition contractors had to pay their commissioners to be allowed to demolish a building, soon it became increasingly common for demolition contractors to request compensation for their services, suggesting that the value of materials alone could no longer cover the expenses associated with demolition labor. In 1935, 20 percent of public tenders involved contractors seeking payment for their services. This percentage surged to 80 percent in 1946, likely influenced by the post-war context, where many projects involved the demolition of bomb shelters or war-damaged buildings with limited materials for resale. By 1955, approximately half of the contract awardees were requesting payment for their work, and by 1965, all contractors sought compensation for their services (Fig. 10). This change in pricing could have been related to the type of buildings demolished, albeit only partially. For example, in 1935, contractors paid their commissioners for demolishing smaller residential structures, and in 1965, these same types of buildings were subject to compensation. Additionally, various installations and equipment, rich in valuable metals, which were financially compensated by contractors in 1955 no longer garnered payment by 1965 (La Chronique des Travaux Publics 1885–1965).

This transition may indicate changing characteristics within the demolition profession. Initially, material value played a crucial role in competing with other demolition contractors and securing demolition projects. However, from the 1930s onward, this reliance on material value no longer appeared to be an absolute necessity. Clearly, this shift must have had an impact on the nature of demolition work. This is particularly noticeable in the post-war context, where labor costs escalated, and many construction companies struggled to find an available workforce (Versichelen 1970). In such a stringent context, one can imagine that the emphasis shifted from guaranteeing the highest income through material recovery to minimizing labor costs. That this transition fueled mechanization and the utilization of more destructive

Figure 10. Percentage of public tenders in which contractors offered money to be granted the contract in the Chronique des Travaux Publics.

techniques within the demolition sector, often prioritizing speed over the reclamation of construction materials, is reflected in the trade almanacs, by contractors D. Laurent and L. Mathieu, who specialized in dynamite usage around 1955–1960 (CAB Almanach 1955, 1960).

This shift had significant consequences for how demolition materials and waste were managed. In the first half of the twentieth century, the financial structure of the demolition industry was a natural incentive for demolition contractors to recover materials to the greatest extent possible. This focus on material recovery indirectly protected valuable building materials from wastage. However, as the business model of demolition contractors evolved and material sales became less central to their income, this protective aspect began to diminish, which, in turn, had implications for the volume of construction waste generated. This shifting emphasis on labor cost rather than material value introduced new dynamics that significantly reshaped the demolition industry.

Conclusion

The late 1860s witnessed a rising demand for demolition services, which motivated a group of entrepreneurs to step into the demolition profession. These entrepreneurs primarily originated from the construction, sales and transportation sectors. They brought with them a blend of skills, equipment, and networks, which they engaged not only for safe and efficient demolition but also for material salvage and resale. Trading materials became a fundamental component of the demolition contractors' business model, often constituting their primary source of income. Consequently, material trade significantly influenced their approach to demolition, including the development of necessary infrastructure, networks and techniques for effective dismantling.

However, the reliance on material trade presented challenges and vulnerabilities. The demolition profession emerged as a precarious occupation, as it was strongly dependent on the supply and demand for second-hand materials. While some companies managed to solidify their position in the demolition sector, even passing down their infrastructure and networks through generations, many others engaged in demolition sporadically, seizing opportunities and leveraging their flexibility to respond to periods of heightened demand. These companies avoided the pitfalls associated with an overreliance on the second-hand market or constraints related to storage space within the city.

Nonetheless, the companies that made demolition their lifelong commitment played a pivotal role in the broader construction industry. They served as vital nodes within networks of consumption, production, and disposal, facilitating the reuse of second-hand materials. However, the era after the Second World War brought about transformative shifts in the demolition sector, compelling companies to adapt their strategies. The focus began to shift from material reclamation to a more labor-centric approach, aimed at controlling labor costs. This transition had far-reaching implications for the character and evolution of the demolition profession. The inherent safeguard for materials began to erode, paving the way for ever-increasing waste streams.

While certain aspects of the shift towards more destructive demolition practices such as advancements in demolition techniques and machinery have received attention, predominantly within the American context (Byles 2005; Russello Ammon 2016), our research highlights that other aspects, such as the changing relationships between material value and labor cost and the business model of demolition contractors, present a compelling and underexplored area for further investigation. The remarkable expertise of demolition contractors in facilitating material reuse, coupled with subsequent changes in their operational methodologies, underscores the necessity of positioning these key actors at the center of future research focusing on both reuse practices and the management of demolition waste. Indeed, by considering the perspective of demolition contractors, we not only enrich our understanding of the evolution of the demolition profession but also explore its multifaceted impacts on material utilization and waste management in the construction industry.

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Bibliography

Barker, Simon. 2019. "The demolition, salvage and recycling industry in Imperial Rome." *Ædificare* 4, no. 2: 37–88.

Bernardi, Philippe, and Daniela Esposito. 2012. "For a history of deconstruction". In *Proceedings of the fourth international congress on construction history*: 453–60. Paris: Picard.

Billen, Claire et al. 1994. *Je jette, tu récupères*. Brussels: La Fonderie.

Buyst, Erik. 1990. "Een economisch-historische benadering van de Belgische bouwsector". In *De beschikbare ruimte. Reflecties over bouwen*: 163–78. Tielt : Lannoo.

Byles, Jeff. 2005. *Rubble. Unearthing the history of demolition.* New York: Harmony Books.

De Beule, Michel, Benoît Périlleux, Marguerite Silvestre, and Etienne Wauty. 2017. "Verguisde krotten. De jacht op arbeidersgangen en arbeidersblokken." In *Brussel geplande geschiedenis. Stedenbouw in de 19e en 20e eeuw :* 88–107. Brussels: Uitgeverij Meert.

Degraeve, Matthijs. 2021. "Building Brussels. Construction entrepreneurs in a transforming urban space 1830–1970." PhD diss., Brussels: Vrije Universiteit Brussel.

Demey, Thierry. 1990. *Bruxelles. Chronique d'une capitale en chantier*. Brussels: Editions C.F.C.

Dobbels, Jelena. 2022. *Building a profession. A history of general contractors in Belgium (1870–1970).* Brussels: VUBPress.

Ghyoot, Michaël, Lionel Devlieger, Lionel Billiet, and André Warnier. 2018. *Déconstruction et réemploi. Comment faire circuler les éléments de construction.* Lausanne: Presses polytechniques universitaires romandes (PPUR).

Heyns, Maureen. 2006. "De krotwoning als 'sociaal probleem nr. 1'. De wet inzake krotopruiming van 1953 en de sanering van de oude stadswijken". In *Wonen in Welvaart. Woningbouw En Wooncultuur in Vlaanderen, 1948–1973*, edited by Karina Van Herck and Tom Avermaete: 147–64. Rotterdam: Uitgeverij 010.

Jannière, Hélène. 2018. "La démolition en chantier: de la colonne Vendôme aux grands ensembles". In *L'art du chantier. Construire et démolir du XVIe au XXIe siècle* : 116–27. Gand: Snoeck.

Reyniers, Lara, Stephanie Van de Voorde, and Ine Wouters. 2022. "Capturing the practice of deconstruction in Brussels (1903–1939): Photographic heritage collections as a starting point for construction history". In *Timber and Construction*: 387–96. Cambridge: Construction History Society.

Russello Ammon, Francesca. 2016. *Bulldozer. Demolition and clearance of the postwar landscape.* New Haven & London: Yale University Press.

Thomsen, André, Frank Schultmann, and Kohler Niklaus. 2011. "Deconstruction, demolition and destruction." *Building Research and Information* 39, no. 4.

Versichelen, Marthe. 1970. *Verlaten beroepen? Oorzaken en achtergronden van het aanhoudend tekort aan arbeidskrachten in de bouwnijverheid.* Gent: RUG.

Wagenaar, Michael Franciscus. 1998. "Breken en bouwen in Brussel". In *Stedenbouw en burgerlijke vrijheid. De contrasterende carrières van zes Europese hoofdsteden*: 54–69. Bussum: Uitgeverij THOTH.

Wouters, Ine, and Jelena Dobbels. 2021. "Salvaging construction materials in Brussels, 1900–1925". In *History of Construction Cultures*: 487–93. Lisbon: CRC Press.

Archival sources

City Archive of Brussels (CAB), Actes Administratifs (AA), 1910, 7695.

CAB, Online Almanachs, 1860–1969, via www.archives.brussels.be/almanachs.

CAB, Travaux Publics (TP), 352–369, Maisons à charge de démolition 1864–1885.

CAB, Travaux Publics (TP), 364, Maisons à charge de démolition, 13 November 1880.

La Chronique des Travaux Publics, Journal published by the Brussels' Imprimerie des Travaux Publics, 1885–1965.

Royal Library Belgium, Belgicapress, Le Soir, 20 January 1931, 6.