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RESEARCH ARTICLE

The Boulevard Lefebvre Disaster: A Crisis in Construction

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On 15 January 1964, a twelve-storey housing block collapsed while under construction on boulevard Lefebvre in Paris, killing twenty workers and injuring eighteen. Ten days later, the funeral for the dead workers became a national event. Crowds flocked to the streets of Paris and work on building sites stopped in solidarity with the victims. This landmark accident marked a significant shift in attitudes towards building site safety. Within a year of boulevard Lefebvre, the French government introduced the first major building safety laws in half a century.

Accidents on building sites were frequent in France during the 1960s, resulting in 1,000 deaths annually, but boulevard Lefebvre was a seismic moment that made visible the human cost of construction work. An accident on the scale of boulevard Lefebvre revealed anxieties about architecture, technology and urban development that transcended the single event. Based on eyewitness accounts and findings from the accident investigation, this article pieces together for the first time the events surrounding the accident and the responses to it.

The boulevard Lefebvre disaster marked a crisis point in French industry and society as it became the focal point of debates within three different organisations: the construction professions, the mainstream media and the trade unions. The investigation and subsequent criminal trial in 1967 raised the question of the responsibility of architects in the realisation of projects. Faced with a crisis of reputation, the architectural and construction professions attempted to distance themselves from the debates about the safety of building sites. Branches of the French media and trade unions, meanwhile, used the boulevard Lefebvre disaster to push their respective political and social agendas. During the 1960s, the popular press used reports about building site accidents to dramatise the rapid changes to the built environment. Accidents resonated with fears about new forms of high-rise architecture in Paris and about the urbanisation of the suburbs. For building workers' unions, construction accidents provided a reference point in their campaigns against the politics of capitalist production. Accidents became events that could make visible the building industry's structures of employment and processes of production. Interpreted by different parties for differing reasons, the boulevard Lefebvre disaster became the centre of debates about the human implications of modernising Paris.

The boulevard Lefebvre disaster

On 15 January 1964, work was progressing on the construction of five buildings in boulevard Lefebvre in the fifteenth arrondissement of Paris. A number of contracting firms were on site, employing workers of several nationalities. The project was being undertaken for the Office Public d'Habitations à Loyer Modéré de la Ville de Paris (OPHLMVP, or City of Paris Social Housing Office) (CMP 1964: 4). The buildings, designed to provide 899 low-rent apartments, were being erected using the 'self-lift' technique pioneered in France during the 1950s. Construction involved lifting full-height sections of a prefabricated steel-frame structure and hoisting pre-poured concrete slabs that formed the floor elements (Fayeton et al 1959; Anon 1962; Diamant 1964). On that winter's day, the final section of the metal structure of the tower nearest the main road had just been put in place. Fifteen workers were on the ground preparing concrete blocks for installation when, at 4.05 pm, the entire building suddenly collapsed. Most workers on the ground managed to avoid injury, but many others, working higher up in the structure, were caught in the destruction. The twelve-storey building was reduced to a heap of bent steel and broken concrete blocks (Figaro 1964a: 18). [**Fig. 1**]

Up to 400 men were involved in the rescue operation. Construction workers, including Algerian and Moroccan men who were observing the Ramadan fast, helped search for their buried colleagues (Humanité 1964e). Some workers were miraculously freed from the rubble, but rescuers would soon only find the severed remains of dead bodies (Humanité 1964c: 10; Monde 1964b: 6). Newspapers published heartbreaking tales of the rescue of workers imprisoned under the rubble, such as a 25-year-old Algerian, Abbou, who was stuck under a girder. His colleagues bravely tried to keep up his morale before he succumbed to his injuries. When survivors came together for a roll call, it became clear how deadly the accident had been:

> On a bank overlooking the ruins, the survivors had grouped together. Pale, their clothes torn, they

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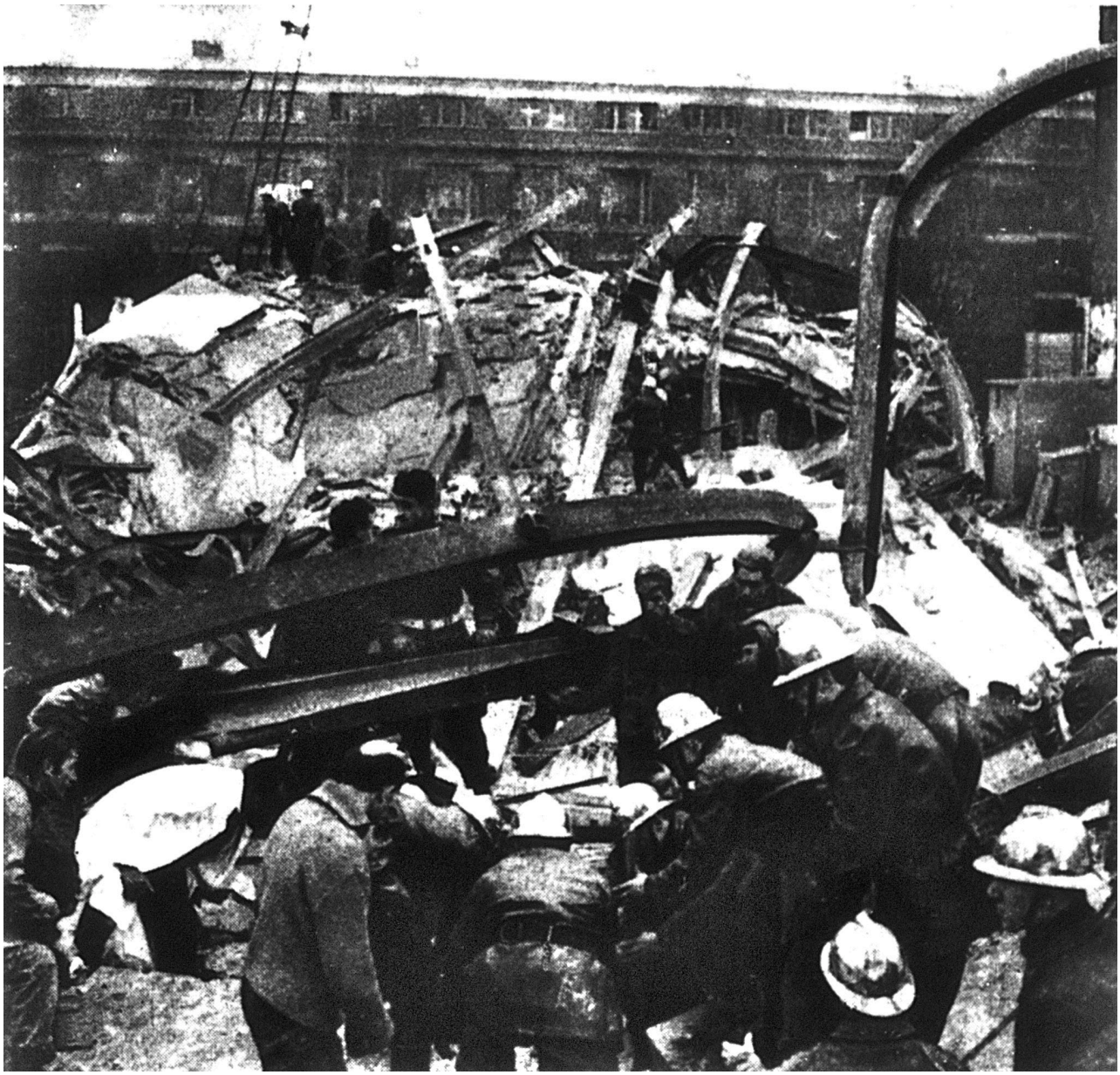

Fig. 1: Firemen try to free workers buried under piles of concrete and metal girders. Photo: Claude-Michel Masson, published in *Le Figaro* (16 January 1964), p. 18. Reproduced with permission of the photographer.

> responded to the site manager: *Baanco?…* Silence, *— Absent*; *Boussi Allah?… — Absent*; *Sissi?… — Absent*; *Guillou?… — Absent*; *Frasseti?… — Absent*. Sixteen times, the same word rang out. (Figaro 1964a: 18)[1]

Rescuers used sound detection equipment to help search through the rubble for survivors. However, there was confusion over the exact number of workers who had been on the site prior to the building's collapse (RTF 1964b). [**Fig. 2**] Just hours before the accident, the site manager had hired extra men whose identities were not known to the rescuers. The newspaper *L'Humanité* asked: 'How is it that they don't know the exact number of victims?', and noted the casual employment procedure on the building site, where labourers would start work without being asked for their names or addresses (Humanité 1964b: 10). The workers hired on the day of the disaster had not been declared to the social security authorities before the accident (Humanité 1964c: 10). *Le Monde*, meanwhile, reported that the identity of the newly hired workers was unknown because the employment register had been buried in the rubble (Monde 1964a: 1). The morning after the accident, only one of the construction firms working on the site was able to give the precise number of men it employed (RTF 1964a). Chances of survival diminished by the hour, and the rescue became a recovery operation.

On 25 January, around 5,000 people followed the funeral cortege for the dead workers of boulevard Lefebvre. Work on building sites across France stopped in solidarity with the victims (RTF 1964c). In the aftermath of the disaster, several investigations were launched to find the causes of the accident. The families of the dead workers had to wait until November 1967 for a criminal trial that would establish responsibility for the accident (ORTF 1967). The following account of the investigation and trial is derived largely from the detailed daily court

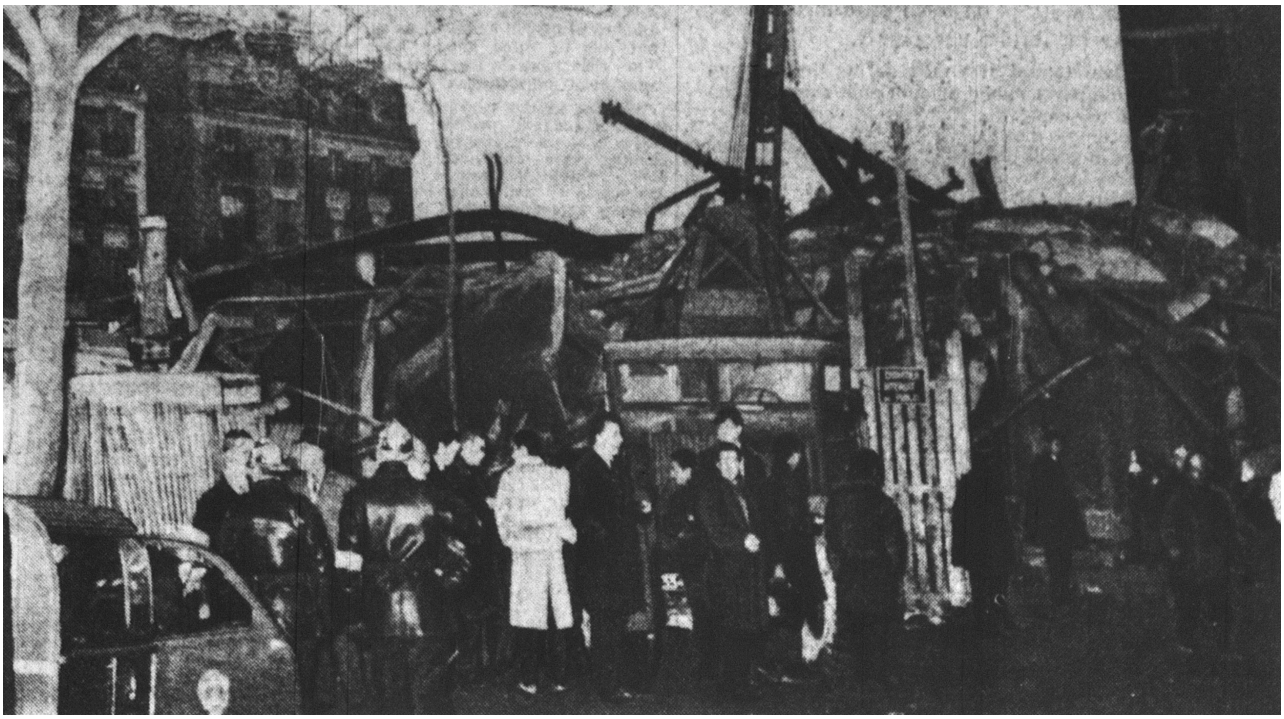

Fig. 2: Rescuers and investigators at the site of the collapsed building on boulevard Lefebvre. Photographer unknown. Reproduced in *Daily Telegraph* (16 January 1964), p. 1.

reports published by *Le Monde*, a commercially and politically independent newspaper of record that was widely respected for its accurate reporting and depth of analysis.

The land where the boulevard Lefebvre estate was being constructed, though riddled with the remains of quarries, had been prepared with special foundations by a mining contractor, and the investigation deemed the foundations to be sound and not responsible for the building's collapse. The main construction had been delayed for a number of years when the original contractor had gone bankrupt. The new contractors were Lefaure and Quillery, affiliated under the name of Consortium d'Entreprises et de Travaux (CET). CET had been one of the original developers of the self-lift construction technique, and the company had been created for the sole means of rolling out the process. Another firm, Schmid-Bruneton-Morin (SBM), had also worked on the metal framework for the original self-lift technique and worked as a partner of CET at boulevard Lefebvre. After the initial setbacks, construction work began on 1 April 1963. More problems soon arose, however, as progress was delayed due to difficulties in delivering materials. Having to adhere to a strict price cap imposed by the OPHLMVP, CET and SBM began facing cash-flow problems. This financial hiccup forced the company directors to insist that the project be completed on budget and on time. To ensure that this target was met, SBM trusted the assembly of the metal frame to André Morand, a site manager renowned for being a 'driver'.

At the trial, the contractors, the architects and the supervising engineer faced the charge of manslaughter and involuntarily causing injury. The judge divided accountability between the parties accused. Most received suspended prison sentences and hefty fines. The cause of the accident was judged to be a lack of coordination between the parties on site. The investigation found that the self-lift technique required close, specialist supervision by experienced technicians. Contractors on the boulevard Lefebvre site, however, lacked regular supervision, and management was unsatisfactory. During the trial it emerged that the director of CET, Jean Michon, had never before been in charge of a project of this type. Michon had also hired a contractor with even less knowledge of the self-lift procedure. Henri Labro, the assistant director of CET, had been appointed chief site supervisor at boulevard Lefebvre, and he did have experience with the self-lift process. The judge blamed Michon for giving Labro too many responsibilities, however, as Labro was also supervising several other construction sites at the same time. On the day of the boulevard Lefebvre accident, Labro had not been on site for five days, and on the day of the disaster he was in Thionville.

When Morand, the site manager and chief metal fitter, began work, he had failed to report that the ground-floor level of the metal structure had not been secured with temporary metal bracings, which were required for ensuring the stability of the metal frame. Labro also did not report this fundamental error, as he assumed everyone was aware of the problem. While Morand was judged to be in part responsible for the accident, he was in fact allocated less blame than a number of other men with responsibilities for the project. Philippe Schmid (director of SBM), Jean-Claude Enault (draughtsman and project designer for SBM) and Gérard Léopoldès (project manager for CET) had not even noticed the problem. Morand told the court he had felt abandoned by his managers, adding that his only instruction was to build as quickly as possible. [**Fig. 3**]

Fig. 3: Close to the collapsed tower stands the incomplete structure of another building on the boulevard Lefebvre estate, which was also being constructed using the 'self-lift' technique. Photo: Coll. Pavillon de l'Arsenal, cliché DUVP 16000, 14 May 1964.

As if things could get any worse, ice delayed construction in November 1963, halting the production of the concrete floor elements, which were poured on site on the ground floor of the future building. Morand wanted to postpone the lifting of the metal structure, but Léopoldès, who was responsible for the concrete production, ordered that work on the metal frame continue. As a result, assembly of the metal structure proceeded faster than the production of concrete flooring, which was required to strengthen the frame. Consequently, the metal fitters found they were lacking supplies of the temporary metal bracing that needed to be attached to the framework before the installation of the concrete elements. Bowing to the pressure to keep working, Morand removed metal bracing from the first section of the structure in order to use it further along the building. This was the fatal error, as the building was not rigid enough. As the final section of the metal frame was raised into place on 15 January 1964, the whole building wobbled before collapsing in a deadly heap.

At the end of the trial, the state prosecutor urged the judge to sentence the defendants hierarchically, according to their role in the affair. André Morand, who had directly caused the collapse, received an eight-month suspended prison sentence and was fined 2,000 francs. Jean Michon and Philippe Schmid were each fined 20,000 francs, while Henri Labro was given an eight-month suspended prison sentence and fined 10,000 francs. Gérard Léopoldès received an eight-month suspended prison sentence and a 3,000-franc fine for his share in the responsibility, and Jean-Claude Enault was given a two-month suspended prison sentence and a 2,000-franc fine. The architects brought to trial had strongly protested their innocence, but the court declared that the architects had overall responsibility to coordinate the different contractors. Indeed, contracts drawn up in 1959 by the OPHLMVP stated that the architects would be in charge of the coordination and supervision of all the organisations contracted to work on the project. The architect-in-chief, Georges Tourry, received a four-month suspended prison sentence and a 10,000-franc fine, while the assistant architects, Jean-Pierre and Jacques Moinault, each received two-month suspended prison sentences and 5,000-franc fines (Théolleyre 1967a-g; Monde 1968: 8).[2]

Neither of the official investigations questioned the safety of the construction technique used for the boulevard Lefebvre buildings. The original planning application for boulevard Lefebvre had successfully passed through fifteen stages of approval. André Watelet, director of the OPHLMVP, declared that his organisation had found no reason not to accept the proposed self-lift technique for construction of the housing development. In the previous ten years the Ministry of Construction had approved the use of the self-lift technique for the Habitations à Loyer Modéré (HLM) buildings at Paris' Porte des Lilas and Porte de Ménilmontant (CMP 1964: 4). Such was the success of the first scheme that this construction technique was popularly known as 'Porte des Lilas' in the building trade (Anon 1962: 145).

The role of the architect

The architect-in-chief of the housing development on boulevard Lefebvre, Georges Tourry (1904–1991), had trained as an engineer and architect. He gained prominence after leading the reconstruction of Lorient in Brittany from August 1943, and later worked on numerous housing developments, hospitals, universities and administrative buildings in the Paris region (Texier 2003: 67). By 1964, Tourry was the chief architect for French civic buildings and the national palaces, and had taught at the prestigious Ecole Polytechnique and Ecole des Ponts et Chaussées engineering schools. Apart from the boulevard Lefebvre development, Tourry had designed other *grands ensembles* for the OPHLMVP, notably the 400 flats on rue Claude-Decaen, which André Watelet declared in a speech to the Paris city council to be 'one of our most beautiful realisations'. Watelet also noted that 'most young architects today have been [Tourry's] students; he is one of our greatest architects' (CMP 1964: 4). [**Fig. 4**]

The architectural historian Simon Texier notes that despite Tourry's fairly prolific output, he is almost invisible in the architectural journals of the 1960s. Texier suggests Tourry wanted to be anonymous, or at least in the background, and regrets that architectural history has

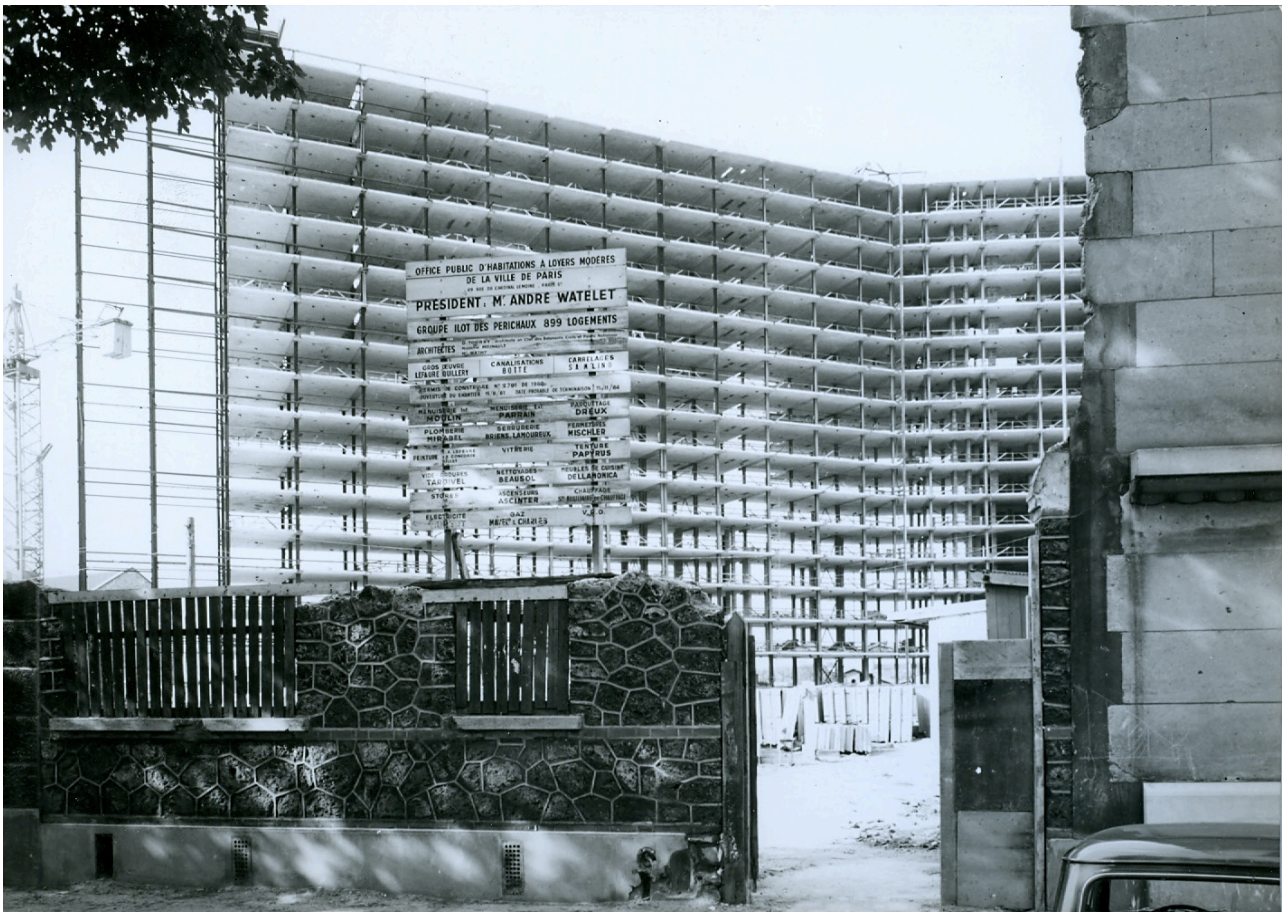

Fig. 4: The boulevard Lefebvre development of 899 apartments was being built on behalf of the Office Public d'Habitations à Loyers Modérés de la Ville de Paris. The panel lists the planning permission order and contractors involved in the project, including the architect-in-chief Georges Tourry. In the background stands one of the abandoned buildings adjacent to the site of the collapse. Photo: Coll. Pavillon de l'Arsenal, cliché DUVP 15999, 14 May 1964.

ignored this 'familiarly unknown' figure (Texier 2003: 67). It is possible that Tourry's near total disappearance from the architectural canon could be linked to his shaming at the boulevard Lefebvre trial in 1968. After this affair, Tourry received no discredit from the architectural establishment, but when he reached retirement age he seems to have vanished into obscurity.

In a parliamentary question written on 18 January 1964, Bernard Rocher, a Gaullist member of the National Assembly, demanded that the Minister of Construction ensure that the results of any investigation into the boulevard Lefebvre accident be made public, regardless of the 'personality of those to blame' (AN 1964a: 95). Rocher was aware that the status of Tourry within the architectural profession meant that his involvement in the disaster might be brushed over. The condemnation of Tourry in the boulevard Lefebvre trial threatened to give a heavy bruising to the traditionally respected position of architects. Responding to the judgement of Tourry, Marcel Roubault, who was an expert witness at the trial, tried to topple the status of the architect from its high pedestal. In a letter to *Le Monde*, Roubault attacked the guilty parties for each having shifted the blame for the accident on to someone else. Roubault believed that the architect of a building should be present at important phases of construction to help with decision making, even if he was 'the most eminent' of figures. To illustrate his point, Roubault gave the analogy of a ship's captain who has supreme responsibility for his boat (Roubault 1968: 10).

Construction firms also put architects under the firing line. In the immediate aftermath of boulevard Lefebvre, the general secretary of CET, M. Guinoiseau, blamed the architect for the accident, declaring to *France-Soir*, 'The architect is responsible. He is the project manager. We are not liable for anything. For the part that concerns us, our responsibility only relates to our client's project owner, in this case the OPHLMVP. If the project owner has something to reproach us for, then it should say so.' Guinoiseau also asserted that the architect was 'responsible for the execution' of the project, but he could not quite bring himself to declare that the architect's responsibility covered the construction process, materials and equipment. (France-Soir 1964b: 7). CET would later be judged partly responsible for the accident, so Guinoiseau's initial comments are an indication that the firm wanted to protect its own interests by shifting the blame elsewhere.

In light of the row around the role of the architect in a construction accident, the architectural profession confronted the crisis by defending itself from these criticisms. Urbain Cassan, the aptly named president of the Conseil

Supérieur de l'Ordre des Architectes (French architects' professional body) responded to Roubault's comments in *Le Monde*. Cassan declared it was unfair to compare architects with the captain of a ship. Clearly distressed that Tourry and his assistant architects had been judged partly responsible for the boulevard Lefebvre accident, Cassan accused the courts of not understanding the different roles on a building site, writing, 'The courts themselves sometimes get carried away with too simple reasoning that leads them to condemn everyone, so as not to forget anyone.' Cassan believed the courts still understood construction in terms of practices from the previous century. On sites today, he claimed, one person did not hold overall responsibility, but instead architects worked with the project owner and the contractor. Architects could not be responsible for the constructor's actions, he argued, especially with the proliferation of new construction techniques. To implement Roubault's suggestion that architects take full responsibility for construction projects, Cassan stated, fundamental changes to the law would need to be made. Furthermore, if architects were to be put in charge of every aspect of the production of buildings, a huge new administration system would need to be established, radically altering the profession. Cassan concluded that architects already faced enough pressure defending their current role from the growing activities of non-architect building developers (Cassan 1968: 21).

The condemnation of the architects, however legally sound, brought to light some of the gaping deficiencies in French architectural training. In his defence at the trial, one of the project architects, Jean-Pierre Moinault, said that his architectural education at the Ecole des Beaux Arts had not trained him to deal with modern construction procedures. Despite being contractually obliged to supervise construction at boulevard Lefebvre, Moinault said he had felt that he did not have the authority to question the decisions made by the contractors working on the metallic structure (Théolleyre 1967b: 10). The architects' lawyer, meanwhile, pointed out in the trial that the official accident reports stated that the architects had no direct role in the disaster. The report confirmed that the architects would have been in no position to oversee the self-lift process. Crucially, the lawyer reiterated that architectural education had remained traditional despite the proliferation of new construction techniques (Théolleyre 1967g: 8). This contention about the role of the architect in construction projects anticipated the total upheaval of architectural education in France that would occur in the wake of the events of May 1968, and the mounting pressure that the Ordre des Architectes would face from disgruntled students and architects.

If Georges Tourry was a respected figure in the architecture world, the contractors of boulevard Lefebvre were also big players in the construction industry. As president of the Chambre Syndical des Entrepreneurs de Maçonnerie (the building contractor employers' federation) and founding partner of the construction firm CET, Robert Quillery was one of the most powerful businessmen in the Paris region (CMP 1964: 4). In the wake of the boulevard Lefebvre disaster, the construction industry did all it could to ensure its own image was not damaged by the high-profile accident. Despite the widespread attention given to the accident by the mainstream press, trade publications made no mention of boulevard Lefebvre in the months following the disaster. Senior representatives of the construction trades attempted to protect the industry from the onslaught of criticism. In February 1964, *Bâtir* printed a photograph of an overloaded crane in an article about an increase in crane accidents, but the journal declared that it would not publish details of the culprit responsible for the dangerous crane, stating, 'We took this photo at the site of a contractor who is an old and faithful friend of our journal … and are only looking at its technical interest' (Anon 1964: 23). *Bâtir* was the review of the Fédération Nationale du Bâtiment, the employers' association of the French building industry, and had strong business links with the Institut Technique et des Laboratoires du Bâtiment et des Travaux Publics, which developed new construction processes. Representing an important national and global industry, French trade publications had no space for negative publicity, and rarely raised the question of the safety of construction sites. The construction industry's efforts to hush up the boulevard Lefebvre disaster proved to be remarkably effective, and this prominent accident has almost completely disappeared from history.

Accidents and the dramatisation of urban modernity

The boulevard Lefebvre disaster was a highly mediatised event which received blanket coverage in the French press and significant reporting on the television and radio news. The French popular press dramatised the boulevard Lefebvre disaster from the beginning. One headline on the evening of the accident read, 'We thought it was a bomb' (France-Soir 1964a: 4), while another newspaper described the immediate aftermath of the disaster as 'a Dantesque evening' (PL 1964b: 2). The following day, *France-Soir* emphasised the horror of the event by printing a front-page photograph of a lifeless hand emerging from the rubble. The image of the hand, along with photographs of weeping relatives watching the rescue attempt, became symbols of the human devastation caused by the disaster. In an attempt to grab the attention of readers, several newspapers grossly exaggerated the weight of the collapsed building, claiming the structure weighed 100,000 tonnes (for example, Humanité 1964a: 1). Later reports, however, gave a more realistic weight of between 3,000 and 5,000 tonnes. Despite the freezing conditions, the rescue operation drew large crowds, even four days after the accident when curious onlookers squeezed behind barriers to watch the developments (PL 1964e: 4). Fuelling the apparent public interest in the disaster, the press scrambled to report any scoop connected to the event, including the attempted suicide of the site manager (Thoraval 1964: 16).

Soon after the accident, branches of the media began scaremongering about the safety of HLM housing.[3] A reporter on Radio-Luxembourg declared on the evening of the disaster, 'Tonight, there will be more than 100,000

people in HLM housing blocks who will be scared!' (as reported in CMP 1964: 6). The right-wing Paris daily *Le Parisien libéré* also gave the impression that inhabitants of high-rise apartments were panicking about the safety of their buildings following the boulevard Lefebvre collapse, suggesting there was 'anguish in many buildings' (PL 1964c: 1). Around 5,000 apartments had already been built using the self-lift technique in France, including the Porte des Lilas development in Paris (Figaro 1964b: 5). In an article speculating about the causes of the accident, *Le Parisien libéré* wrote that tenants were now frightened and demanded explanations. The same paper acknowledged that the OPHLMVP was carrying out safety checks on its buildings, but its commentator believed this was not enough, adding, 'Public opinion wants to know; it wants to be reassured, very quickly' (PL 1964d: 14). Furious about this scaremongering, André Watelet responded to these accusations by reassuring HLM tenants in a radio address (CMP 1964: 6). *L'Humanité*, the official newspaper of the French Communist Party, claimed the attacks on the safety of HLM housing by other newspapers would only benefit right-wing politicians. The paper believed the Gaullist government would take any opportunity to scrap the financing of social housing (Humanité 1964f: 10).

Building work was the most visible of urban industries as construction projects proliferated in Paris and the suburbs during the 1960s, and building site accidents provided one of the most recurrent dramas of urban change.[4] Reports about accidents of all kinds dominated the popular press during the 1960s. On an almost daily basis, *France-Soir* and *Le Parisien libéré*, the two best-selling newspapers in Paris, printed dramatic headlines to announce accidents associated with modern life. These newspapers had a grim fascination with disasters and human tragedies such as car crashes. Deaths on French roads rocketed as car ownership increased and new motorways were built. While the popular press recorded a multitude of work accidents, articles about building site accidents were particularly frequent. The best-selling dailies seized the opportunity to report building accidents because they could offer spectacular images to grab the attention of readers. Like car crashes, construction accidents became a narrative device to dramatise the progression of urban modernity. The editorial stance of the popular press suggested that everyday life was punctuated by danger and uncertainty.

Articles about the safety of high-rise housing in the popular press continued a long-standing discourse that played on fears about new forms of urban living. Since the late 1950s Paris newspapers had been preoccupied with the development of suburban housing estates, publishing scores of reports that developed a growing anxiety about both built and social structures in the modern city. A typical criticism of modern architecture and urbanism during the 1960s was that it removed the sociability of traditional urban districts. Referring to the construction of large housing blocks, a right-leaning local paper declared, 'Man hates the impersonal, and these rabbit hutches that are sometimes built for him are an aberration' (Paris Tel 1964: 6–7).[5]

Newspapers often tried to associate accidents with new architectural typologies and innovative construction techniques. Stories about accidents served as evidence for the potential dangers of the new city: workers and passers-by caught up in accidents were described as victims of modernity. The construction of large housing towers certainly did result in numerous deaths and injuries, and crane collapses were also regular dramatic events, which newspapers used to express the unpredictable dangers of modern life (see, for example, PL 1963a: 2; PL 1964f: 12; PL 1965d: 9; PL 1966b: 2). Beyond high-rise housing blocks, other recent architectural typologies — recent for Paris, at least — led to accidents during their construction. Serious accidents occurred during the construction of a modern gymnasium in Massy, an office block on rue de la Ville-l'Evêque in central Paris, and on the site of the new Faculty of Science at Jussieu (PL 1963c: 12; PL 1965a: 1; PL 1965b: 1). The popular press also made a direct connection between the development of new transport infrastructure and the frequent accidents that resulted from its construction. The building of bridges, roads and underground car parks proved to be dangerous activities (PL 1963d: 1; PL 1964g: 14; PL 1963b: 13; PL 1966a: 18). The new challenges brought by construction of the deep-level underground regional railway, meanwhile, resulted in numerous accidents (PL 1964h: 9; PL 1965e: 14). Just as accidents cast a doubtful shadow on the 'progress' and 'prestige' of rapid urban modernisation, opening ceremonies of state-of-the-art facilities often neglected to acknowledge the victims of the construction project (Michel 1988: 290; Daeninckx 2003: 82).

Newspaper representations suggested that new forms of the built environment were crushing helpless humans both physically and socially, as individuals interacted with construction sites, and as local areas were redeveloped. For the popular press, one of the most dramatic predications of urban modernity in post-war Paris was the loss of familiar places. The press framed accidents within a narrative of concerns about losing Parisian urban heritage. Nostalgia for old districts threatened by demolition went hand-in-hand with fears that new architecture would bring a new way of life. In 1966, shortly before the demolition of Gare Montparnasse, a magazine noted that the station was a 'symbol of an era that is disappearing' (Paris Sud 1966: 1–2). Workers demolishing vestiges of Paris's industrial past occasionally found themselves caught in accidents (PL 1964a: 5). Three workers were seriously injured as a floor collapsed during the demolition of Gare Montparnasse in 1967 (PL 1967: 7). Associating accidents with demolition work, the popular press suggested that the old city was resisting, and even taking revenge for urban change.

With the exception of boulevard Lefebvre, mainstream newspaper articles rarely raised the question of safety at work. Trade unions were frustrated that the right-wing popular press preferred to focus on the tragedy of accidents rather than campaigning for improved working conditions. The unions attacked the complacency of newspaper reports about accidents. An article in *Lettre fédérale*, the journal of the Fédération Nationale des Travailleurs

du Bâtiment (FNTB, the Communist-affiliated National Union of Building Workers), complained that while the press was obsessed with reporting about the victims of natural disasters, it did not worry enough about people dying at work in France (FNTB 1964a: 3). The bulletin of the public works union, *L'Ouvrier des Travaux Publics*, bitterly commented,

> If the 'popular press' talks from time to time about the consequences of capitalist exploitation, it does well to avoid linking it to the causes. You will read 'So-and-so, unskilled labourer, died by suffocation under tonnes of earth', but you won't read that his boss pushed production, that the excavation was insufficiently timbered, etc... (SGOTP 1962b: 2).

At the heart of this commentary lay anger with the industrialist owners of media organisations that produced the majority of news reports about accidents. *Le Parisien libéré*, established by Emilien Amaury in 1944, was financed by Dassault, the aviation manufacturer. The Communist trade unions attacked what they saw to be a conspiracy of capitalist interests that controlled the mainstream news and prevented a debate about the relationships between increasing production and rising accident rates (SGOTP 1962a: 2). The Catholic workers' union, l'Action Catholique Ouvrière, also believed workers had become 'slaves' in a construction industry that was insecure, not only because of poor safety records, but also because workers were continually hired and fired (Croix 1964: 2). Unions from across the political spectrum believed the sacrifice made by construction workers in building modern France was not recognised widely enough.

The human dimension of construction

Construction workers' unions had campaigned for improved safety conditions on building sites for decades, but the boulevard Lefebvre disaster fuelled their cause. Just days after the accident, the FNTB summed up the long-standing dangers of construction work: 'On 1 January, one construction worker in five is certain to be the victim of an accident at work before 31 December. One in around fifty will be the victim of a serious accident. One in around two thousand will be killed' (FNTB 1964a: 3). Unions frequently pointed out that the construction industry was the largest employer in France but also the most dangerous trade in the country. Across all industries in France during the mid-1960s there were around 1,200,000 stoppages a year due to work accidents. Accidents at work resulted in 3,500 deaths annually, while around 100,000 workers were permanently incapacitated (PL 1966c: 5). Statistics for the years between 1962 and 1964 published by the social security authority show that the accident rate in the construction industries was double that of all the other industries in France (Berlin 1967: 3).

The CGT trade unions, which shared close links with the French Communist Party, asserted that the major cause of accidents at work was the continuing quest for financial profit. On the day the first findings of the investigation into the boulevard Lefebvre disaster were released, the main headline in *L'Humanité* made clear what the paper believed to have caused the accident: 'It's the capitalist system that killed' (Humanité 1964g: 1). The accompanying story argued that the building and public works industries were based on a 'system of gross exploitation of workers' (Kroes 1964: 10). In a speech at the workers' funeral, a trade-union representative, Joseph Mounier, declared, 'The boulevard Lefebvre tragedy cruelly reminds us that output and profit comes before the safety of construction workers' (USBS 1968a: 1).

An examination of the trade press from the 1960s reveals countless examples of how the construction industry was pushing for greater production. An obsession with speed haunted the industry, which boasted that the new construction techniques saved costs principally because they required low-skilled labourers to assemble parts rather than skilled masons (see, for example, ITBTP 1964: 3–7; 9–14; 21). Boulevard Lefebvre made it clear to the unions that the unrelenting quest for financial profit could not continue to go unchecked. Unions thus attempted to use the public visibility of construction accidents to expose the more hidden aspects of exploitation on building sites, and ultimately to destabilise the foundations of capitalist production. In the days following boulevard Lefebvre, the FNTB reiterated the message it had been promoting for years in newsletters distributed on building sites:

> Without a doubt, the fundamental cause of so many accidents at work lies in the social regime in which we live in France: the capitalist system, where the means of production is the priority for the bosses and where profit overrides the life and health of workers, even though they are the creators of all wealth (FNTB 1964a: 4).

Regional branches of the FNTB produced pamphlets filled with examples of how the search for profit directly led to increased accidents (for example, USBS 1967: 4). Unions attacked large firms for ignoring the safety of workers despite their financial means. Suspicious of the construction industry's attempts to hush up the problem of accidents in the aftermath of boulevard Lefebvre, the FNTB was concerned that managers wanted to pretend the disaster had not occurred. A report declared: 'Our vigilance must continue so that the affair is not buried, and so that those responsible are punished, as they deserve, and that the families of the victims receive compensation' (FNTB 1964b: 3). Beyond the non-existent coverage of boulevard Lefebvre in the trade press, one of the firms involved in the accident initially denied any responsibility. When asked by a journalist whether he thought all the standards had been respected on the boulevard Lefebvre site, M. Guinoiseau of CET declared, 'There are enough safety rules and checks in France with regard to construction, which are impossible to contravene' (France-Soir 1964b: 7).

When employers in the construction industries did address the question of safety they suggested that the lack of training among foreign labourers was one of the principle causes of accidents. The Fédération Parisienne

du Bâtiment (FPB, or Paris Building Employers' Federation) implied that workers who did not speak French were more likely to be involved in accidents, claiming, 'Ignorance of our language makes understanding orders or safety instructions very difficult (which leads to work accidents) and doesn't allow worthwhile training on the job' (FPB 1969: 57). The venomously anti-union construction firm Bouygues only made building site safety an official company priority in March 1966, when it created a safety commission. According to Bouygues, the most common causes of accidents were a lack of qualified labourers, workers who did not listen to the management, misbehaviour and bad luck. The company clearly believed that workers caused most accidents because it introduced a three-strike warning system. After each accident, workers would be assessed and if necessary given a formal warning. Three such warnings over an eighteen-month period would result in dismissal (Entreprise Francis Bouygues 1966: 50–52).

The Communist member of the National Assembly Jean Lolive, who was originally a cement worker by trade, noted that high levels of accidents on building sites usually correlated with poor general working conditions. In a parliamentary speech, Lolive described the typical conditions of facilities provided for building workers:

> If changing rooms, dining rooms and canteens exist on building sites, they are just huts with no comfort [...]. Sinks, showers and lavatories are almost unknown on building sites [...]. Such a situation creates a permanent condition of general fatigue. At the same time, the management demands an ever-higher output, without any concern for safety. (AN 1964d: 5706)

Sanitary conditions on building sites were often poor. Changing rooms frequently doubled up as dining rooms, and a union representative reported that just one tap served workers on a large building site (USBS 1963b: 5). Builders sometimes even lacked suitable work clothes, such as overalls and boots (FPB 1966: 60). One young worker described life on building sites as 'bestial' (FPB 1966: 59). Pamphlets distributed to construction workers abounded with examples of employers who treated workers badly and ignored safety measures. Each month, unions listed dozens of complaints about dangerous construction sites that lacked the most basic equipment. The plasterers' union noted that firms paying the lowest wages often ran the most dangerous sites (SMPS 1964: 2). According to Lolive, better safety conditions could only be put in place if they were preceded by an improvement in the everyday conditions of building sites. For the FNTB, beyond poor general working conditions and insufficient training, another cause of accidents was fatigue caused by long working hours. The union continually campaigned for a minimum guaranteed monthly income and capped working hours.

The lack of qualified workers was certainly a problem in the industry. Skill levels were particularly low among the large contingent of foreign workers on building sites who often received no training from employers. With the exception of the carpentry firm, contractors on the boulevard Lefebvre site used a large number of unqualified labourers (CMP 1964: 3). Reflecting the general tendencies of the industry in the Paris region during the 1960s, many of the workers at boulevard Lefebvre were Algerian, Italian, Moroccan, Polish, Portuguese or Tunisian nationals (Humanité 1964b: 10). Workers' unions regularly raised the question of immigration in debates about the consequences of cheap labour in the construction industry, assigning blame on the 'exploitative tactics' of capitalist production and the establishment of European free trade (FNTB 1964b: 4).[6]

While the popular press was eager to blame the prefabricated building process for the boulevard Lefebvre disaster, trade unions were careful not to criticise construction techniques. Construction workers' unions rarely condemned technological developments but rather they encouraged any advances that might reduce hard work for labourers. The unions did attack, however, what they saw to be the use of mechanisation to exploit workers and to increase profit for employers. Jean Eloi, head of the FNTB, explained how the union distinguished between socialist and capitalist attitudes to technology:

> In a Socialist regime, the worker does not need to fear the development of the most advanced technology, as he knows that it will result in quicker production and productivity and that his needs and hopes will be better satisfied. [...] In a capitalist regime [...] the goal of production is not to satisfy human need but to seek the highest profit. [...] From experience, the worker knows that it is not hours that are being reduced from building sites, but workers. (Eloi 1963a: 7)

According to the FNTB, safety on construction sites was poor because workers now had to follow the rate of machines (Eloi 1963b: 22).

Towards new safety regulations

Construction workers' unions had been campaigning for improved safety legislation for decades, and were angry that the public authorities had to wait for a disaster on the scale of boulevard Lefebvre before finally taking their demands seriously. The union wanted to improve the powers of the hygiene and safety committees of l'Organisme Professionnel de Prévention du Bâtiment et des Travaux Publics (OPPBTP, or Professional Organisation for Safety in the Building and Public Works Trades) by increasing the number of staff in each works committee. The union also pushed for the provision of better safety training for workers by means of lectures and by the publication of safety information in other languages, including Italian, Spanish, Portuguese and Arabic (AN 1964b: 503–504).

The OPPBTP had been created in 1947 to improve building site safety under the aegis of l'Institut National de Sécurité (INS, or National Institute for Safety) (INS 1966a: 1). Hygiene and safety committees were compulsory in

commercial companies, offices, and associations with 500 or more employees, or in industrial companies with fifty or more employees (INS 1966a: 9). These committees had to meet at least once every quarter or after each serious accident, and were required to submit statistics of accidents and work-related illness to the governmental work inspector (INS 1966a: 15–20). Most construction firms, however, were small outfits with far fewer than fifty employees.

Even prior to boulevard Lefebvre, the FNTB believed safety would only improve if workers did not rely solely on existing organisations such as the OPPBTP, but actively participated in safety provision. The union urged workers to take affirmative action by forming their own safety committees as a means of forcing employers to uphold legislated safety standards (Eloi 1963b: 22). For the union, calling workers to impose safety rules was a powerful way to combat images repeatedly printed in the popular press of workers helplessly crushed in accidents. A series of articles in *L'Humanité* similarly encouraged workers to get involved in planning safety procedures. This newspaper investigation revealed that there were only seven safety inspectors in the Paris region for 110,000 public-works employees, meaning that construction sites were often only visited once a year (Humanité 1964d: 10).

Throughout 1964 momentum gathered in the unions' campaigns for improved safety on building sites. The FNTB had proposed an outline for new safety measures as early as 19 February 1964. In October 1964, the FNTB organised a conference in Vichy to discuss accident prevention. Apart from the boulevard Lefebvre disaster, 1964 also saw unrelenting numbers of accidents across the building industry, including a cement-works accident in Champagnole that killed five workers and a rescuer in July (FNTB 1964b: 3). The FNTB believed their conference had hastened the passing of new safety legislation (Briquet 1966: 8). Two parliamentary commissions for work safety and industrial hygiene examined proposals for new safety legislation in March and May 1964, before submitting draft statutes to the Council of State (AN 1964d: 5706). During the months following the accident, Communist and Socialist politicians alike pressured the government into implementing the most comprehensive safety and industrial hygiene legislation in half a century. A governmental sub-committee had been working on revisions for some years before the boulevard Lefebvre accident, but the final laws were rushed through the National Assembly symbolically in time for the first anniversary of boulevard Lefebvre (AN 1964c: 751).

The 8 January 1965 decree: Its implementation and impact

New safety legislation for the construction industries, known as the 8 January 1965 decree, came into force on 1 April 1965 (Décret no. 65–48). The 1965 laws, which replaced a decree dated 9 August 1925, made significant changes to the earlier legislation, notably in its designation of the scope of employment it covered. While the 1925 laws only specified being relevant 'on building and public works sites', the new laws covered all work associated with building, including foundations, construction, fittings, demolition, maintenance, repairs and cleaning. The new laws also took into account the increasing mechanisation of the industry (de Rochefort 1965: 5; de Rochefort 1966: 1286).

The 1965 laws brought in a number of new rules concerning work on building sites. Particular attention was placed on the provision of safety equipment, and the use of safety helmets became compulsory on all construction sites (article 100). Articles 138 and 140 of the legislation required the use of belts and harnesses for work at height. Some of the new regulations corresponded to the most common categories of accidents, such as falls and crane collapses. Article 5 ordered the installation of safety barriers for all work areas above three metres in height, and nets to break falls above six metres. Scaffolding at all heights would now have to be fitted with barriers. Article 165 called for the installation of secured gangplanks and platforms for work carried out on the exterior of buildings. Article 16 also clarified that the head of the construction firm held ultimate responsibility for building site safety. As the legislation did not apply retrospectively, however, it could not prevent the condemnation of the architects of boulevard Lefebvre. Article 23, meanwhile, declared that construction firms could be obliged to bring in independent safety inspectors to verify the supervision of building sites (Circulaire du 29 mars 1965: 151–166).

After the 8 January law came into force, the OPPBTP and INS produced numerous publications designed to educate workers about safety. Pamphlets included safety guidelines for lorry drivers and operators of diggers, rollers and cranes (OPPBTP 1966). Booklets set out rules for workers working on tall buildings (Pouyès 1967) and cranes (Girard 1967) and digging foundation trenches (Comité national de l'OPPBTP 1969). This material was available in a range of literacy levels, from simple illustrated instruction guides for machine operators, to manuals for site managers. Beyond publishing pamphlets about accident prevention, general work hygiene and the risks of travelling to work, the INS produced safety posters, slides and information films to educate workers (INS 1966b: 9).

A year on from the 1965 law, Hubert de Rochefort, assistant general secretary of the OPPBTP, presented his findings on what had changed in the industry. A number of the new rules received criticism, such as the order to provide safety barriers only if workers were placed three metres above the ground, even though a fall from 2.7 metres could be serious. The impact of the new laws was visible on building sites with a noticeable increase in the use of safety equipment by workers. The 1965 decree called for the use of safety belts and harnesses, goggles, waterproof clothing, protective gloves and overalls with cement-proof coating. The review committee noted in particular a significant increase in the use of safety helmets. The use of safety equipment was, however, only superficial evidence of the existence of new safety laws, as it seems numerous construction managers did not know

how to apply the new legislation, notably with regard to the creation of a register of safety concerns (de Rochefort 1966: 1287–1289). Following the 1965 laws, unions expressed frustration that employers were not respecting the new legislation (for example, Dobiloa 1965: 2). Building apprentices interviewed in 1966 said that while they were taught the legislation, safety rules were rarely implemented in practice (FPB 1966: 58–59).

In December 1966, J. Briquet, a militant for the FNTB, unleashed an attack on the obligation for construction workers to wear safety helmets. Briquet wrote that while he would never oppose safety measures per se, he believed that employers were placing all their focus on a single relatively easy safety precaution to distract from the fact that other more serious regulations were being avoided. Helmets would do little to save workers buried in a badly timbered trench, he argued, nor would they save the life of a worker falling thirty metres from poorly constructed scaffolding. Briquet acknowledged that safety helmets did have a role to play on building sites, but he criticised the 'harassment' of the rule that forced workers to wear helmets at all times (Briquet 1966: 10). After the endless union campaigns to improve safety, this attack might come as a surprise, but at the heart of Briquet's complaint lay a resistance to the imposition of bureaucratic rules on workers' bodies.

The union justified its opposition to the compulsory use of safety helmets by referring to the 'forefathers' of the French building industry. The CGT regularly used history to represent the organisation and its workers as 'the moral and material guardians of the French nation' (Hecht 1998: 142). Union speeches on any topic would regularly refer to precedents in working-class history and the question of helmets was no different. Typical remarks included the idea that previous generations of builders who made France into a nation of great builders did not wear safety helmets, and yet safety levels were higher in the past (Fau 1989: 104). In 1962, Jean Eloi declared, 'In 1912, there was one death a day in the building industry. Now, there are three' (Eloi 1963b: 22). Recalling the history of French building construction in the debate about safety helmets was also a way of asserting the identity and physical actions of individual workers as being key components in the on-site production process. Wanting to resemble the imagined ideal of medieval masons working freely on their art, workers resisted certain safety rules in order to insist that they were not cogs in an anonymous, mechanised system. Workers who protested against the compulsory use of safety helmets attempted to reclaim their individuality and take responsibility for their own physical actions within the restraints imposed on the building site.[7]

The unions' desire to be free from rules imposed on the body of individual workers resonated with attitudes throughout the construction industry that building work represented freedom and creativity. In surveys conducted in 1966, newly trained and apprentice builders said they particularly enjoyed their job because of the freedom it permitted relative to factory work (FPB 1966: 54; 68). The unions feared that increased legislation and bureaucracy would reduce the strong human element that had been a characteristic of the industry for centuries. Workers feared that regulations would mean an end to the strong bonds of camaraderie that once dominated construction work, as one young worker who desired to be acknowledged remarked: 'I want to be considered a man, and not a machine' (FPB 1966: 55). The Paris construction workers' union was initially cynical about the success of the reforms, declaring that building sites would remain dangerous if employers were not willing to implement safety measures (USBS 1965: 8). Unfortunately, the union was right: during 1965 there were still 894 deaths on building sites (Monde 1967a: 20).

Conclusion

While the reduction of accidents did not occur overnight, the campaigns by construction workers' unions in the 1960s resulted in new legislation that still forms the framework of safety laws today. The 1965 laws implemented a new regime of safety monitoring, which was a significant cultural shift for the construction industry. If firms were initially slow to implement the changes, the shift in attitude towards safety and the eventual decline in construction accidents stems from the campaigns proceeding from the boulevard Lefebvre tragedy.

The boulevard Lefebvre disaster was a critical moment for the architectural and construction industries in France. It questioned the role of architects in large construction projects, and brought to light the insufficiencies of architectural training. The event also gave the trade unions and the media a powerful tool in their ongoing political and social campaigns. The trade unions used the accident to reemphasise how the pursuit of profit made large construction firms forget that building work still relied heavily on humans. The popular press, meanwhile, seized the opportunity to further instil fears among its readers about new, apparently hostile forms of urbanity. The scaremongering of the press, however, did little to halt the construction of high-rise housing in the Paris region in the 1960s. Work on the boulevard Lefebvre site eventually resumed; the estate was completed in 1968 and is still standing. No memorial exists for the victims of the boulevard Lefebvre disaster. [**Fig. 5**]

Notes

[1] Unless otherwise stated, all translations are my own.

[2] There were few other criminal trials related to construction disasters in the 1960s on the scale of the boulevard Lefebvre affair, so it is difficult to assess the severity of the sentences and fines. All of the prison sentences were lower than the maximum two-year sentence determined by law, and in each case they were suspended sentences (Théolleyre 1967f: 12). The fines were comparable with contemporary penalties for fraudulent property developers, however they did not include the 8 million francs of damages demanded by the families of the dead workers (Monde 1967b: 22).

Fig. 5: Four years after the disaster, the boulevard Lefebvre estate was finally completed. The buildings still stand today with no evidence of the events of 1964. Photo: Coll. Pavillon de l'Arsenal, cliché DUVP 19515, 28 March 1968.

[3] Habitations à Loyer Moderé (HLM) was one of a number of categories of publicly financed housing schemes that were launched in the 1950s (Fourcaut 2004; Tellier 2007). These schemes replaced the Habitations à Bon Marché (HBM) programme that had provided social housing in French cities during the first third of the twentieth century, but which had stalled during the Second World War. Of the 410,000 housing units built in France in 1965, some 140,000 were HLMs, of which around 20,000 units were constructed in the Paris region alone (PL 1965c: 3). HLMs were constructed to a higher specification to other public housing schemes such as Logements Economiques et Familiaux (LOGECO) and the Logements Populaires et Familiaux (LOPOFA) programmes. Consequently, HLM rents were higher than other public schemes (Vibert-Guigue 1993: 9, 69). In the 1960s, prospective HLM tenants had to be employed and earning a middle-range income. Some large high-rise suburban housing estates (known as *grands ensembles*) were HLM schemes, such as the '4000' at La Courneuve, but many estates built in the 1950s, such as Sarcelles-Lochères, were LOGECO or LOPOFA housing. HLMs were not confined to the suburbs, and the boulevard Lefebvre estate was located within the administrative limits of the city of Paris.

[4] Investment in the construction of housing and infrastructure was relatively slow in the Paris region in the years following the Second World War, because the national priority centred on the reconstruction of bomb-damaged port towns in the north and west of France, such as Le Havre and Lorient. Decades of neglect in the urban development of the Paris region began to be reversed in the 1960s when projects such as the Réseau Express Régional (RER) railway, and the boulevard périphérique ring road gathered pace. For an overview of major construction projects in the 1960s, see Paskins 2010.

[5] The study of the impact of living in high-rise housing estates has almost become an entire sub-discipline of sociology. The most influential sociological account of life in the Sarcelles-Lochères housing estate in the 1960s is Bernard (2009). For an architectural survey of the development of high-rise buildings at Montparnasse and La Défense, see Lefebvre (2003). For an assessment of the social, political and cultural impact of living in the new town of Evry, see Guyard (2003).

[6] The booming construction industry in France owed much to the emergence of the economic policies of the European Economic Community (EEC), popularly known as the 'common market', of which France was a founding member in 1958. Establishment of the

EEC had a significant impact on the building trades as it removed tariff protection for traditional industries, forcing small companies to compete with large European firms. The growth of European free trade lent to the rise of non-specialist general contracting firms such as Balancy, Bouygues and SPIE Batignolles. Some firms abandoned small-scale local production to become general contractors or subcontractors and often employed large numbers of unskilled migrant workers (Wakeman 1997: 147, 218, 234). Communist unions opposed the common market because it resulted in competition from non-French firms. The Paris builders' union saw the establishment of the EEC as a new form of war against workers as they believed it would push down wages (USBS 1963a: 2).

[7] Gabrielle Hecht has similarly shown how unionised workers in the French atomic industry who campaigned for improved safety did not appreciate the interference of safety inspectors during everyday work (Hecht 1998: 181–182).

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