The futures that never were
Railway Infrastructure and Housing in Mid-Nineteenth-Century London and Paris

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The rise of the telegraph, and later telephony, developments in postal services and urban transport, the planning and construction of sewers as well as the provision of public utilities such as gas, water and electricity have been central to studying the development of networks of infrastructure in nineteenth- and early-twentieth-century cities.[1] London and Paris are typical of developments that sought to sanitize the city, control their growth, and use new technologies in ways that oscillated between the aims of municipal authorities and the drive and interests of private entrepreneurs. Modernising the two cities involved a 'marriage of technology and myth-making' as much as introducing regulation, whether in the form of directing public behaviour on streets and markets, encouraging co-ordination in the provision of public utilities that were built by

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1   Thomas P. Hughes: *Networks of power: electrification in Western society, 1880–1930*. Baltimore: Johns Hopkins University Press, 1983; Joel A. Tarr and Gabriel Dupuy (eds.): *Technology and the Rise of the Networked City in Europe and America*. Philadelphia: Temple University Press, 1988; François Caron *et al*.: *Paris et ses Réseaux: Naissance d'un Mode de Vie Urbain XIXe-XXe Siècles*. Paris: Bibliothèque Historique de la Ville de Paris, 1990; Simon Guy, Simon Marvin and Timothy Moss (eds.): *Urban infrastructure in transition: networks, buildings, plans*. London: Earthscan Publications, 2001; Paul Dobraszczyk: *Into the Belly of the Beast: Exploring London's Victorian Sewers*. Reading: Spire Books, 2009.

private companies, or developing the regulatory frameworks to govern infrastructure effectively.[2]

During this period, London and Paris – and indeed a number of European and North American cities – became places where the pace of change seemed to accelerate and technological innovation thrived, as explored in the "urban histories of technology" by Dierig, Lachmund, Mendelsohn and others, as well as in Hård and Misa's "histories of urban technologies".[3] Along with important developments in transport, including railways, tramways, bicycles and, by the end of the nineteenth century, the motorcar, people continued to walk "negotiating their way amidst horses, animals, carts and other vehicles in generally overcrowded streets and thoroughfares."[4] Moreover, the upgrade, maintenance, reuse or closure of existing infrastructure – concerning transport and communications, for instance – as well as the building of new networks for new technologies have been part of the process of modernising cities, often related to ideas around improvement and progress. As

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2   This happened in a wide range of contexts; on food markets see, for example, Chris Otter: "Cleansing and Clarifying: Technology and Perception in Nineteenth-Century London." *Journal of British Studies* 43, 1, 2004, pp. 40–64; on water see, for example, the work of Matthew Gandy: "The Paris sewers and the rationalization of urban space." *Transactions of the Institute of British Geographers* 24, 1999, pp. 23–44; *Concrete and Clay: Reworking Nature in New York City*. Cambridge, MA. and London, The MIT Press, 2002; and, more recently: *The Fabric of Space. Water, Modernity and the Urban Imagination*. Cambridge, MA. and London: The MIT Press, 2014; on traffic see Carlos López Galviz: "Mobilities at a standstill: regulating circulation in London c.1863-1870." *Journal of Historical Geography* 42, 2013, pp. 62–76, and James Winter: *London's Teeming Streets 1830–1914*. Routledge: London and New York, 1993. On the marriage of myth and technology in London, New York and Toronto see Richard Dennis: *Cities in Modernity. Representations and Productions of Metropolitan Space, 1840–1930*. Cambridge *et al.*: Cambridge University Press, 2008, p. 4; see also Chapter 2.

3   Sven Dierig, Jens Lachmund and Andrew Mendelsohn: "Toward an urban history of science." *Osiris* 18, 2003, pp. 1–19; see also Andrew J. Mendelsohn: "The Microscopist of Modern Life." *Osiris* 18, 2003, pp. 150–170. Mikael Hård and Thomas J Misa (eds.): *Urban Machinery Inside Modern European Cities*. Cambridge, MA and London: The MIT Press, 2008.

4   Mustafa Dikeç and Carlos López Galviz: "'The Modern Atlas': compressed air and cities *c*.1850–1930." *Journal of Historical Geography* 53, 2016, p. 13. See also Winter, *London's Teeming Streets*.

Graham and Marvin have suggested: "Networked infrastructure […] provides the technological links that make the very notion of a modern city possible."[5] Arguably, technologies undergird the transformation of cities, but so do cities structure the conditions under which technological innovation and development are shaped.

My aim in this article is to explore what we can learn from the plans for new urban transport infrastructure, specifically that of railways, and the provision of affordable housing for the working and poorer classes in mid-nineteenth-century London and Paris. The article looks at what the plans tell us about the histories of infrastructure, on the one hand, and the histories of London and Paris, on the other. Perhaps unsurprisingly, these are areas that urban historians and historians of infrastructure alike have tended to treat separately. The article provides, in this sense, useful insights into the specifically urban dimensions of the history of infrastructure in a manner that resonates with Gullberg and Kaijser's approach to "landscapes of buildings" and "landscapes of networks", and which also recovers some of the thinking of Robert Park, Ernst Burgess, and the Chicago School, for whom the "greater mobility" and the "greater concentration" associated with cities like Chicago at the turn of the twentieth century were central to understanding "the ecological organization of the city", a concept whose influence has been felt across a range of fields ever since.[6]

More specifically, the article highlights the significance of studying the "imagined past futures" of London and Paris as illustrated by the work of two key figures: Charles Pearson, who advocated housing artisans and the respectable working classes in connection to the plans of the first section of the Metropolitan Railway in London; and Fl. de Kérizouet, whose plans provided an alternative to the transformation inflicted upon Paris by Baron Haussmann's extensive programme of

5   Stephen Graham and Simon Marvin: *Splintering Urbanism: networked infrastructures, technological mobilities and the urban condition*. London and New York: Routledge, 2001, p. 13.

6   Anders Gullberg and Arne Kaijser: "City-Building Regimes in Post-War Stockholm." *Journal of Urban Technology* 11: 2, 2004, pp.13–39; Robert E. Park and Ernst W. Burgess and Roderick D. McKenzie: *The City*. Chicago and London: The University of Chicago Press, 1984 [1925].

public works. Their plans envisioned the future of London and Paris in a way that was more inclusive and consequent with the reality that a significant part of the population of the two cities experienced, notably the working class and the poor. They are part of the ways in which the future of the two cities was envisioned in the mid-nineteenth century: to a degree, they constitute a "horizon of expectation" in the sense that historian Reinhart Koselleck gave to the term, though here it is a horizon that hinges on visions of the future which are characteristically urban.[7]

By the mid-nineteenth century, railways had created a similar spatial pattern of development in London and Paris. Their termini had reached the edges of the city centre on the banks of both the River Seine and the River Thames. Despite several plans to bring them to a central station – to places such as the Place de la Concorde or, even, to St Paul's cathedral – railways remained sited in the near periphery, by or next to main roads and canals.[8] This raised a number of questions in terms of, for example, the differentiation between the traffic of goods and people and which traffic flows should cross and which ones should bypass the central districts. Conversely, the constant growth of London and Paris throughout the nineteenth century prompted debates around the role that railways did and might play in that expansion and, more tellingly, the extent to which connectivity between the suburbs and outlying districts and between these and the city centre should be used to facilitate a more cohesive pattern of housing development, that of the working and poorer classes in particular. Proposals abounded, as did the committees and commissions that were set up to as-

7   Reinhart Koselleck: *Futures Past On the Semantics of Historical Time*. Translated and with an Introduction by Keith Tribe. New York: Columbia University Press, 2004 [1979]. For a fuller treatment of the notion of past futures in connection to railways in London and Paris see Carlos López Galviz, "Past futures: Innovation and the Railways of Nineteenth-Century London and Paris." In *Handbook of Research on Emerging Innovations in Rail Transportation Engineering*, edited by B. Umesh Rai. IGI Global: Pennsylvania, 2016, pp. 1–22.

8   Two key works here are John R. Kellett: *Railways and Victorian Cities*. London: Routledge, 1979; and Karen Bowie and Simon Texier (eds.): *Paris et ses Chemins de Fer*. Paris: Action Artistique de la Ville de Paris, 2003.

sess them. A good number of these proposals seemed more articulate than what was built, which raises an important question: why were they ignored and with what consequences?

We rely on the extant archives to provide a context to the more familiar histories of, for example, the opening of new railway lines, or, the reluctance of authorities to direct housing speculation, even when the grim reality that tens of thousands experienced in the two cities was well known through a multiplicity of reports from personal accounts, but also by newspapers, medical officers, official committees and a range of missions.[9] By highlighting the connections between railway infrastructure and affordable homes in the plans of Fl de Kérizouet and Charles Pearson, the article reminds us of routes that London and Paris might have followed but which, in the end, were not taken: futures that never were. This is important in at least two respects. First, it shows the role that railways played in the different futures that were envisioned in the two cities, and in response to specific concerns such as tax collection, connectivity to the central market, the river docks, and legislation over land ownership. Secondly, it allows us to reflect upon the more recent housing crises that Londoners and Parisians face since at least the mid 2000s, which have seen the emergence of the aptly called '*ministère de la crise du logemont*' in Paris, branching out to Brussels and other European cities, as well as the continued shortage of affordable housing in London, which stood at a deficit of 63,000 units in 2014.[10] This was a deficit and shortcoming that Pearson and de Kérizouet recognised in the mid-nineteenth century. A close reading of their plans will reveal

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9   The literature on this subject is extensive. Two titles worth mentioning are Louis Chevalier: *Labouring Classes and Dangerous Classes in Paris during the first half of the nineteenth century.* Translated by Frank Jellinek. London: Routledge & Kegan Paul, 1973 [1958]; and Gareth Stedman Jones: *Outcast London - A Study in the Relationship Between Classes in Victorian Society.* Harmondsworth *et al.*: Penguin Books, 1984, originally published by Oxford University Press in 1971.

10 See, for example, the blog posting "En direct du ministère de la Crise du logement." *Libération*, 17 April 2008 (http://ministeredelacrise.blogs.liberation.fr/2008/04/17/debout-les-loca/, last accessed 9 May 2015); and Andy Dangerfield: "London's housing crisis: Five controversial solutions." *BBC News London*, 22 July 2014 (http://www.bbc.co.uk/news/uk-england-london-28377740, last accessed 9 May 2015).

how their visions of infrastructure and housing in mid-nineteenth-century London and Paris contrasted with the failure to make the provision of affordable housing a central aspect of the future of the two cities, a reality that is still with us today.

Paris

Railways were secondary or, at best, tangential to the transformation that Paris experienced during the second half of the nineteenth century. This is not to suggest that railways played no part in the rebuilding of entire districts such as the Quartier de l'Europe or Montparnasse, but rather to highlight the fact that it was the wide boulevards with handsome buildings and open vistas to monuments, the sewers, and parks that would turn Paris into a model of urban development as soon as visitors started to report on the first streets being opened across what before had been 'insalubrious' districts. There were several reasons for this emphasis on boulevards instead of new railway lines, and key among them was the financing of the loans that were used to transform the city, based as it was upon a thriving housing market. This approach concentrated wealth, both spatially in the development of fashionable districts, mostly to the west, and financially in the hands of housing speculators and large agencies such as the Crédit Immobilier.[11] The transformation also displaced around 350,000 people, with little or no compensation, the majority consisting of the poor, who were forced out of the centre into the outskirts where they would reproduce a similar pattern of habitation as before.[12]

Haussmann, and Napoléon III, saw the railway termini as the new gateways of traffic, something to ensure good connections to and from. However, they didn't see railways as an agent of change in the way that several commentators, archi-

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11 See, for example, David Pinkney: *Napoleon III and the rebuilding of Paris*. Princeton, N.J.: Princeton University Press, 1958; François Loyer: *Paris XIXe siècle: l'immeuble et la rue*. Paris: Fernand Hazan, 1987; Louis Girard: *La Deuxième République et le Second Empire 1848 –1870. Nouvelle Histoire de Paris*. Paris: Diffusion Hachette, 1981.

12 See, for example, David Harvey: *Paris: Capital of Modernity*. New York and London: Routledge, 2003; Bernard Marchand: *Paris, histoire d'une ville XIXe – XXe siècles*. Paris: Éditions du Seil, 1993.

tects and engineers thought they could be used.[13] I will focus on the striking work of the Ponts et Chaussées engineer Fl De Kérizouet, whose plans from the mid 1840s proposed an entire reorganisation of modes of transport, tax collection and new housing. A brief discussion of his work will show what was missed from alternative visions in a city where boulevards, not railways, were the instruments of modernisation and change.

Through a series of pamphlets published since 1845, de Kérizouet outlined his vision of future Paris, eliciting the interest of the municipal and departmental authorities. To de Kérizouet, the question of the city space and its circulatory system was fundamentally a question of its administration. In his plans, railway infrastructure was part of a larger vision that included dock warehouses, new tax collection points along the city walls, connectivity to the central market at Les Halles, and new housing in the outskirts.[14] In his 1847 pamphlet, *Rues de Fer ou Examen de la question suivante: Supprimer les Octrois de Paris, sans surtaxer l'impôt et sans réduire les recettes municipales*, de Kérizouet would enquire further into the social consequences of his project, extending his analysis of transport and urban economics. According to de Kérizouet, by the mid 1840s, 29,000 vehicles carried 201,000 travellers within Paris per day (a total of 73,380,000 per annum) while 32,000 carts carried nearly 5 million tonnes of goods per year. The direct consequence of this vast traffic was not only severe street congestion in certain areas but an increase in the rate of mortality due to accidents especially in the immediate vicinity of the central market at Les Halles.[15]

De Kérizouet also looked at the extent to which the city traffic affected the final cost of prime goods such as coal, finding that the public in general and the poorer classes in particular endured a sharp increase in the price of essentials due to the

13 See Carlos López Galviz:"Metropolitan Railways: Urban Form and the Public Benefit in London and Paris c.1850 –1880." *The London Journal* 38: 3, 2013, pp. 184–202.

14 Fl. de Kérizouet: *Projet d'établissement d'un chemin de fer dans l'intérieur de la ville de Paris*. Paris, 1845.

15 Fl. de Kérizouet: *Rues de Fer ou Examen de la question suivante: Supprimer les Octrois de Paris, sans surtaxer l'impôt et sans réduire les recettes municipales*. Paris, 1847, p. 1.

cumbersome nature of existing transport arrangements. He suggested that this might be improved if docks were strategically located following the model he had identified in Britain; in London, but also in Liverpool. Furthermore, he described a series of "obstacles to the economy of transport", addressing a number of difficulties concerning operations, but also information that was key to devising the right solutions. The obstacles included: the inconsistency in the arrival times of railways; the difficulty in obtaining consolidated information per kilometre from main line companies, concerning times, quantities, the distribution of merchandise and its respective care in handling delicate products (*soins convenables*); "the disparity of useful effect" which employing horses produced in terms of "the seasons and the difficulties in traction"; "the disparity of delays by the inspections at the barriers"; and "the impossibility of the porter (*camionneur*) to increase his personnel and equipment" whenever extra labour was required.[16]

De Kérizouet's concern with systematic information was in line with his aim to rationalise the way in which the city wall tax, namely the *octroi*, was collected. This related to the times and costs involved in handling goods, themselves dependent on canal traffic, and the means to attain a more even distribution of tax-collection points around the city. A detailed estimate of costs enabled him to demonstrate that the present organisation had a direct effect on the final price of products. The distribution of goods was determined by a series of posts, crossings and other points that differed in use and function.[17] This showed that urban routes were "half as expensive as" that of Paris to Rouen, and "almost as expensive as" that of Paris to Orléans, due to a combination of tolls and other transportation costs. The parallel drawn by de Kérizouet between regional and urban transport was based upon the times, route lengths, and transport costs, all of which contributed to the final price paid by customers.

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16 de Kérizouet, *Rues de Fer*, p. 4.

17 'The cost of distribution of merchandise per tonne in Paris', gave the following estimates: 'from La Villete, 2 fr.; for crossing bridges, 2,25 fr.; from the Gare de Batignolles, 5 fr.; from the Gare d'Ivry, 5 fr.' de Kérizouet, *Rues de Fer*, p. 5.

The separate operation of the *maisons de roulage* (haulage houses) and of railway stations also represented an important problem since each worked responding to different interests, their location bearing no correspondence to one another. In line with this analysis, de Kérizouet noted that from a commercial point of view, only the Gare de Strasbourg was well located. The city of Paris, de Kérizouet remarked, "could centralise this large movement of distribution" in a way that was consequent with the tax wall and the railway termini "appropriating in that way a new return, equivalent to the product of its octrois." Such a vision prompted a general reorganisation of the city space and its tax collection practices. New means of transport, of locomotion in particular, would facilitate that very conjunction between form and function: "the urban population which can engender opposing interests will enjoy sooner or later, within large cities, the benefit of new modes of transport."[18]

An important part of the spatial and fiscal re-organisation inherent in de Kérizouet's project was based upon his reading of the port of London, with its Blackwall railway and its '*Tamise de fer*', which might in turn serve as a model for Paris. De Kérizouet used the term Tamise de fer (or, 'iron Thames', which alluded to the river resembling a railway) on several ocassions, including a later address to the council members in 1848. The Blackwall reference was to the London and Blackwall railway, the only line with a terminus in the City of London, and whose traffic was mostly that connected to the river docks, especially from the East India Company. The East India Co had a dockyard in Blackwall since 1614.[19]

If de Kérizouet's project was a direct response to the needs implicit in the transport of goods, evident by the connection between the city centre, the market, the various railway termini, canals, and the proposed docks, he also stressed the importance of passenger traffic, in particular that of the working

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18   *Ibid.*, p. 5-7.

19   *Ibid.*, p. 5. On the Blackwall railway and dockyard, see, for example, *Survey of London: Volumes 43 and 44, Poplar, Blackwall and Isle of Dogs*, ed. Hermione Hobhouse (London, 1994), available via *British History Online* http://www.british-history.ac.uk/survey-london/vols43-4..

and poorer classes. By establishing a good and reliable transport service, "the radius of living and occupation" (*rayon habitable*) of the population might be extended, influencing existing patterns of residence and work:

> The growing extension of the city of Paris will find in this way a sort of compensation in the establishment of a true omnibus [service], circulating from the centre to the circumference, very cheaply, with a regular speed, and with an unlimited number of places.[20]

Together the extension of the metropolitan area and his proposal for a new and better transport service placed de Kérizouet in a position to criticise the official plans introduced by the Second Republic, after the elections of April 1848, which consisted largely of a plan for the construction of new housing in the central and inner districts, and designed to inject life into the labour market. De Kérizouet considered the measures insufficient, "anti-economic", and subject to the will of speculators. Rather than focusing on one side of the problem, namely housing, measures should incorporate a coherent system of transport in order to respond to the situation more effectively:

> A locomotion system that will permit [us] to imitate London's workers' trains (*billets de matin*) and that will render accessible to the poor and destitute both the market of the Halles Centrales and the promenades at the Bois de Boulogne and Vincennes.

The system, de Kérizouet continued, 'will be, for the material and moral life of the workers, of a more distinct significance (*bien autre importance*) than the extension of the Rue de Rivoli, and will not cost the fifth part of it. The extension of roads will not cease to be an age-old and extravagant work (*oeuvre séculaire et dispendieuse*)', the planning and implemen-

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20   *Ibid.*, p. 8.

tation of which greatly benefited the owners of property in central Paris.[21]

By 1848, de Kérizouet had "distributed five brochures and exhibited a model" before the municipal and departmental councils. The model was destroyed when the Hôtel de Ville was burnt down during the turmoil of the February events.[22] As one of the councillors explained, his ideas required a competent examination without which the project would be dismissed as simply utopian. Moreover, its implementation was subject to the feasibility of the scheme, in turn, determined by the financial and political stability of the country.[23] Regardless of how articulate the relationship between transport issues and the re-organisation of the city appeared to be, de Kérizouet's vision implied transformation on a large scale, with consequences that might have been misrepresented if not generally resisted. His plan was not implemented. His conceptualisation of how the city space and its administration should change, on the other hand, would resonate with the several other voices that participated in the debates around railways, transport and city planning in Paris through to the second half of the nineteenth century, not least the Fourierists and Saint-Simonians such as Victor Considérant, Hippolyte Meynadier, Perreymond and others, writing for the *Revue Générale de l'Architecture et des Travaux Publics*.[24] While it is difficult to establish why de Kérizouet's

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21 Fl. de Kérizouet, *A Messieurs les Membres du Conseil municipal et départemental,* 15 July 1848. The address consists of four unnumbered pages.

22 The first brochure was the *Projet d'établissement*, 1845; second, *Rues de fer ou examen de la question*, 1847; third, *Rues de fer ou Locomotion dans les grandes villes*, in which de Kérizouet explained the way in which 'Paris was endangered by the railway companies, and the means to conjure up this danger'; fourth, *Blocus de Paris par les Compagnies financières*, in particular the case of the Compagnie de l'Ouest and the 'junction lines in the environs'; fifth, *Crise imminente de la propriété parisienne* which was focused on issues of speculation in the 'displacement of land values (*valeurs foncières*) of the Seine department'. See Fl. de Kérizouet 1848.

23 Both the remark about the project being 'utopian' and the possibilities of financing it were part of the communication that precedes de Kérizouet's 1848 address, written by Ardouin, possibly one of the council members.

24 For an illuminating discussion of fouriérists and saint-simonians related to the revue and the connection of their work to Enlightenment ideas see Marc Saboya: *Presse et Architecture au XIXe siècle. César Daly et la Re-*

ideas didn't materialise, it is also worth reminding ourselves of the political situation in France at a time of significant change across Europe, prior to the short-lived Second Republic, itself to be followed by the Second Empire of Napoléon III, in turn the precursor of the modern Paris we know today.

As historian Nicholas Papayanis suggested, de Kérizouet might have been the "first engineer to fully work out a new vision of [Paris] with reference to an underground railroad." That vision, however, was not limited to the spatial organisation of the city whether underground or above. True, it was based on the latent need to improve circulation in the capital, but it also emerged as a response to structural and long-standing features such as the octroi, the interdependence of various modes of transport, the differentiation and specialisation of goods and passenger traffic, and the persistent model of centre and periphery that was accentuated by the city walls and the central market. At the same time, de Kérizouet was able to highlight the significance of contemporary trends such as "the linear expansion of the population along the Seine, toward the west by the well-to-do and toward the east by the poorer classes"[25] as well as plans by the new government to alleviate the acute problems of housing and employment at a time of political turmoil. To contain the further expansion of the city without a consistent spatial, social, economic, and political plan was, consequently, as latent a concern as the connectivity between existing and new transport infrastructure. The possibility of adding an extra layer to the city space, beneath streets and boulevards, was only one of the dimensions of a vision that was both more ambitious and far reaching, and which, nonetheless, would remain unrealised.

London

Railways transformed and, in areas, obliterated London on a scale that to most contemporary commentators seemed un-

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vue Générale de l'Architecture et des Travaux Publics. Paris: Picard Éditeur, 1991, pp. 119–136.

25 Nicholas Papayanis: *Planning Paris before Haussmann*. Baltimore and London: The Johns Hopkins University Press, 2004, pp. 210 and 212.

precedented. There was no Prefect, certainly no Emperor, though the City remained sovereign within the limits of their jurisdiction, playing a role that supported or opposed plans for the metropolis as a whole whenever they were in line (or not) with their own interests. Several debates in Parliament and other circles demonstrated time and again that there was a need for the more orchestrated development of railways to counter the often disjointed planning and building of railway lines spanning across London. Like in Paris, a good number of these debates concentrated on the role that railways might play in directing the city's growth and whether or not doing so would involve a level of centralisation and coordination between the different interests that were involved, both private in the form of railway companies, and public in the form of authorities such as the City, local councils and, since 1855, the Metropolitan Board of Works.

One such debate took place during the hearings of a royal commission on railway termini appointed in 1846. One of the proposals before the commission was as ambitious as it was reformist. The proponent was Charles Pearson; his idea: "a Railway in connexion with a suburban village."[26] The plan consisted of an "Arcade Railway and Central City Terminus", a model of which was at the Court House in Westminster during the examinations of the royal commission. Pearson had contributed to the debates on public health and social reform in London. He was a City solicitor from 1839 until his death in 1862, with interests in metropolitan improvements such as the embankment of the river Thames, the transformation of the Smithfield market from livestock into a meat market, and the formation of the Great Central Gas Consumers Company.[27]

Pearson's scheme combined a paved road, houses, and a railway under arches, between the City terminus at Farringdon and King's Cross, connecting to the proposed extension of the Great Northern railway. The Great Northern would open its

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26   *Royal Commission on Metropolitan Railway Termini*. London, 1846, p. 13.

27   D Heap: "The Solicitor and the Underground." *Law Society's Gazette* 60 (1963), pp. 21–22; see also Michael Robbins. "Pearson, Charles (1793–1862)." In *Oxford Dictionary of National Biography*, 2004, accessed 11 June 2006.

terminus at King's Cross years later, in 1852. Pearson's proposed line ran along a trench on the same level as the basement of houses; it was covered by a continuous line of arches, on top of which there was the pavement of "a spacious and handsome street, 80 feet in width and 8,506 feet in length" (24,38 m by 2,6 km) between two rows of houses. By way of comparison, John Nash's Regent Street, complete in 1824, was 60 feet wide and 30 yards short of one mile. Light and ventilation to the railway was by means of "openings in the carriage-way and foot-path." The City Terminus, in turn, comprised two separate buildings placed on either side of Farringdon Street.[28]

To Pearson, the key lay in connecting railway plans to metropolitan improvements, especially the living conditions of the working and poorer classes. Relieving the streets of their obstructions and releasing the working classes from their "miserable courts and alleys" were the two main problems that railway infrastructure might help to overcome. Pearson termed these "overcrowding" and "overcramming", two notions introduced in a pamphlet which he published in 1852, entitled *City Central Terminus. Address to the Citizens*.[29] His ideas resonated with much of the current thinking about urban social questions and their connections to metropolitan improvements. Based on the account of the Officer of Health, John Simon, Pearson described London as "revolting to decency, subversive to morality, injurious to health, and destructive to life." Loss of time, trade, health and life were consequences of how ill-defined was the city's growth. Pearson argued that neither street improvements nor "intramural model-lodging houses" gave proper and sufficient answer to the evils he described. The enlargement, widening, or opening of new thoroughfares was merely a "palliative", which offered no long-term solution

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28 *Royal Commission 1846*, p. 13; also quoted in Benjamin Baker: "The Metropolitan and Metropolitan District Railways." In *The Metropolitan Railways*, edited by J. Forrest. London, 1885, p. 5.

29 The pamphlet is divided into fifteen points, the majority of which allude to the distinction between congested streets and crammed housing. Charles Pearson: *City Central Terminus. Address to the Citizens*. London, 1852.

to the overcrowding problem. King William Street and Gresham Street, both in the City, were clear illustrations of his point.[30]

Two key issues are of interest for the discussion proposed here: (1) the differences and the relationship between housing and street congestion, or to use Pearson's terms, overcramming and overcrowding; and (2) the issue of freehold land, that is, the use of the land that railway companies acquired through compulsory purchase beyond what was allowed and stipulated by government.

The new possibilities of travel that railways offered, Pearson explained, had changed the urban population from "vegetative" to "locomotive", and correspondingly had turned "stationary" men into "migratory", which alluded mainly to tradesmen who could "oscillate between their businesses and their country-houses." As he had observed during the hearings of the 1846 commission, the distance between the centre and the railway termini intensified passenger traffic. Other important sources of traffic were the railway receiving houses at places such as Gresham Street, where the handling of parcels attracted a large number of people and vehicles.

Obstructions were most visible in the main thoroughfares, which had "serious consequences to all classes of the community." By contrast, insufficient affordable housing in the central districts forced mainly the poor to share their accommodation with many. Pearson used the term overcramming to address this. Overcramming was clearly apparent in places like Saffron Hill or in the slums on the edges of wealthy estates where the poor but also "respectable and industrious persons" lived. For Pearson, these were not "crowded or crammed" but "crushed" places which were "highly dangerous to the inhabitants of the surrounding districts" for they represented serious threats to health as the cradles of disease that he, health officers and City surveyors believed they were. In order to make a consistent case for overcramming, Pearson used census figures to show that while the population had increased about 12 per cent between 1831 and 1851, the houses built represented an increase of only 6 per cent between 1811 and 1851. This concerned the inner districts only, excluding the City and

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30   *Ibid.*, pp. 3–4.

the outlying districts. As a direct consequence of this, the large number of families and individuals sharing a single habitation was as much as 30 per cent higher than the average of the metropolis considered as a whole and 80 per cent higher than in England and Wales.[31]

Pearson claimed that if the railway companies situated north of the river, "would do their duty to the public and complete the last link in the chain that ought to unite the great commercial and manufacturing provincial Towns [of the north] with the centre of the capital of the empire", the situation of the inner districts, hence of their population, would improve.[32] Railways, he believed, could help relieve the city of both the overcrowding that everyone experienced on the streets and the overcramming that a distinct part of the population suffered. Overcrowding and overcramming were thus part of one and the same thing. They both obstructed: one obstructed the streets and thus affected the entire community; the other was concentrated in specific districts, affecting largely though not only the less privileged and the poor. While the former deterred the free movement of goods and people, the latter obstructed the passage of light and air. Both rendered areas clogged, unhealthy. Both were a reminder of the limits of progress and improvement. By the 1850s, a commentary of the *Railway Times* would claim:

> If house rent, twenty miles from the City, and travelling by rail, could be made to be not more than equivalent to house rent in crowded streets, is it not clear that the same motives which prompted the citizen to fix his habitation within an hour's walk of his place of business, would at once induce him to exchange the dirty suburb for the pure and invigorating atmosphere of the country? Who, for instance, would prefer living at Paddington, Islington, Kingsland or Walworth, if they could for the same cost reside at Kingston, Banstead Downs, Stanmore Common, Bushey Heath, Northfleet, Slough, Epsom, Hainault Forest, Barnet or Rei-

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31 *Ibid.*, p. 4.
32 *Ibid.*, p. 5.

gate? These pleasant salubrious sites are all accessible by railway and are within half an hour's ride of the metropolis.[33]

The real question that concerned Pearson and others was whether and how to open up the benefits of living outside London to those overcrowded and overcrammed in the city's centre and inner districts, and for whom walking was about the only mode of transport they could afford. Numbers were important but so was the composition of who might enjoy (and pay for) any improvements:

> 20,000 of the clerks, agents, small tradesmen, warehouse porters, artisans, mechanics, and others who resort daily to the City for the purpose of trade may be conveyed every morning and every evening to and from the country.[34]

The link between Pearson's city railway and the Great Northern Railway was to bring relief on the housing of the respectable and industrious classes "and thus produce a circulation between the *heart* of London and the *body* of the country, as vigorous, as regular, as efficient, and as healthful as that which pervades our physical organization from the action of the human organs of vitality."[35] Circulation was, in this sense, a function of railway development in direct relation to housing provision, precisely the kind of connection that legislation obstructed.

One main objection that Pearson's plan encountered was "the apprehension that so magnitudinous and magnificent a project, as it was denominated, could hardly find money and means to carry it into execution." In addition, there was the government's reluctance to allow any official intervention in

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33 *Railway Times*, 29 June 1850, quoted in Theo Barker and Michael Robbins: *A History of London Transport. Passenger travel and the development of the metropolis. Vol. 1*. London: George Allen & Unwin Ltd, 1963, p. 54.

34 *Herapath's Railway and Commercial Journal*, 15 November 1851; quoted in Kevin F Bradley: *The Development of the London Underground, 1840–1933: The Transformation of the London Metropolis and the Role of Laissez-Faire in Urban Growth*. Ph.D. Thesis, Emory University, 2006, p. 48.

35 Pearson, *City Central Terminus*, p. 7; emphasis in the original.

projects of such a scale, with the subsequent difficulties associated with the ways in which capital was raised. In reference to this Pearson wrote: "the practice of effecting all these great works by means of private companies has prevailed so long, and so extensively, in this country, that it seems impossible to accomplish any great object of this nature otherwise than by the ordinary means." Pearson used the example of how the gas provision was administered in Manchester and compared the London docks to those in Liverpool, both precedents of the role that, in his view, the City should assume in the capital. A central task in the process was therefore overcoming the resistance of institutionalised practices and the political culture they represented. New means had to be devised for a project of this nature to secure support. The ambition was clear: the rewriting of "new principles in the railroad legislation of this country" and with them creating the "land and railway company" that could build his project.[36]

Legislation required railway companies to release any land they purchased apart from that used exclusively for the service of their lines and stations. The companies were often forced to buy larger sections from the landowners' estates, the unused parts of which they were "compelled to sell […] within a stated time after the completion of their works." Pearson demanded a new set of rules facilitating the implementation of his plans arguing that this practice was inherited from "the old feudal law", in relation to which he wrote:

> On behalf of the citizens of London, I ask for the establishment of a company absolved from this restriction –a company expressly endowed by the legislature with powers (not compulsory powers) to purchase a quantity of land, at such spots as they may think proper to establish stations along the line.

The company might in this way diversify the use of the land it owned and become involved in, for example, housing development. The enlargement of the metropolitan circle by incor-

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36   *Ibid.*, pp. 6 and 10.

porating new areas connected to railway lines was an opportunity which private interests could use in ways that the existing legislation restricted: "[a] domestic line from the northern suburbs to the centre of the City, with cheap, rapid, and frequent trains, combined with the possession of building land in immediate connexion with it, will yield a larger immediate and prospective return than any other railroad undertaking."[37] Connecting railway building to housing was in this sense also a way of making the plan attractive to subscribers.

To Pearson, railways were both a means of transport and a means of encouraging the creation of new residential districts in areas that had become nearer by virtue of the time that it took to reach them. The two functions, kept separate by legislation, were, in his view, complementary. Up to the 1900s, railway expansion and the building of suburbs ran parallel to one another, with later developments in areas such as Metroland catering for the middle classes rather than the artisans and the poor.[38] With his project, and by addressing two distinct and yet related evils – overcrowding and overcramming – Pearson brought rights over rural land closer to the issues around urban circulation and metropolitan improvement. The city and the country, railway infrastructure and housing, were merged in his vision; their relationship was articulated through the alternatives that privately owned railway lines represented for some of the most urgent problems across London. This is the most central aspect of Pearson's vision and one we ought to remember.[39] Unsurprisingly, the prob-

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37 *Ibid.*, pp. 8–10. The combination between land and transport would later be one of the strategies to attract customers to new developments in, for example, Middlesex, where passes for free railway travelling were 'offered as an inducement to those purchasing villas with a rent of over £50 *per annum*'. See Kellett, *Railways and Victorian Cities*, p. 251; see also Barker and Robbins, *A History of London Transport*, p. 53.

38 On suburban growth and railway development, see Michael Jahn: "Suburban Development in Outer West London, 1850–1900." In *The Rise of Suburbia,* edited by F. M. L. Thompson. Leicester, 1982, pp. 94–156. See also Alan A. Jackson: *Semi-detached London: suburban development, life and transport, 1900–1939.* Didcot: Wild Swan, 1991.

39 The historiography dealing with Pearson's plans restricts the scope of his ideas to the context of early stages of the later implementation of the Metropolitan Railway. Kevin Bradley has identified this tendency in his

lem was how to translate these ideas into practice: a challenge that we still face today.

Histories of railway infrastructure and city housing

The housing situation worsened in London and Paris as the nineteenth century progressed. The insufficiency and short-sightedness of a system that failed to respond to the need for better and more decent homes was something that national and metropolitan authorities would recognize in the 1880s when the topic was deemed urgent, calling for new committees and commissions in both cities. Yet little would change before the end of the First World War.[40]

To a significant degree the histories of railways in London and Paris show a transport technology that is contingent, "born out of conflict, difference [and] resistance", and that is permeated by strategies in which actors and contexts were "recursively implicated."[41] More specifically, the interaction between urban transport infrastructure and the provision of affordable homes in the two cities is a clear illustration of the conflict, the differences and the resistance around the change that the two cities experienced during this period. In Paris, change followed a route that was clearly specified according to the will of the emperor and his prefect. In London, change followed largely private capital with all the different projects and ideas that such capital was able to produce and ignore. At the same time, a close reading of plans such as Pearson's and de Kérizouet's shows the range and kind of issues that were related to the planning and building of railway infrastructure in the two cities. True, railways were an important factor in their expansion: outward growth was often coupled to the

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above-mentioned doctoral work: 'The Development of the London Underground", p. 48.

40 See, for example, Ann-Louise Shapiro: *Housing the Poor of Paris, 1850–1902*. Madison: The University of Wisconsin Press, 1985; and Martin J. Daunton: *House and Home in the Victorian City: Working-class Housing 1850–1914*. London: Edward Arnold, 1983.

41 Wiebe E. Bijker and John Law (eds.): *Shaping Technology/Building Society Studies in Sociotechnical Change*. Cambridge, MA and London: The MIT Press, 1992, pp. 9–10.

centrifugal forces of railway lines, something that would become particularly apparent in London, with the opening first of the Metropolitan Railway in 1863, followed five years later by the Metropolitan District Railway. By contrast, the building in stages since 1852 of a suburban railway ring, or *Ceinture*, in Paris would contain rather than expand the connections that were in place through the main line services of railway companies on both riverbanks.

The connection between railway developments and affordable housing in London and Paris was riddled with at least three main difficulties, namely, the conditions under which the two cities changed, what role transport infrastructure might play in that process and whose interests were at stake. Railways were one of the most transformative forces of nineteenth-century Britain and France, spatially, culturally, economically, socially and politically. In the two capitals, railways represented both an opportunity and a constraint in relation to the ways in which they might spur growth, an important part of which involved the provision of affordable housing for the working and poorer classes. Turning railways into an opportunity depended on the model behind railway planning and building, which was determined, as it was, by a culture of laissez-faire in Britain and the oversight of urban developments by national authorities in France, notably the Ponts et Chaussées engineers and the Seine Prefect. The constraints concerned, for example, legislation, particularly that related to land use, tax collection as per the octroi, as well as the path dependency of the lines that would be built in the two cities by 1860. The connectivity that railways demanded not always aligned with the needs behind the growth of the two cities, especially as the specialization in the transport of goods and people became increasingly central to railway development within, into and out of them. Connecting new housing to new railway lines was a challenge to existing practices whether it was the emphasis on the opening and widening of boulevards in Paris or the predominance of the private interests that shaped growth in London.

Railway infrastructure provided an alternative where the opening of new boulevards and the widening of thoroughfares did not. As Pearson and de Kérizouet argued repeatedly, it was

a vision combining railway (or at any rate transport) and the provision of affordable housing that might represent a real solution for some of the most pressing challenges that the two cities faced. Their ideas and visions failed to gain the support necessary to realize them, partly because of the interests that gathered elsewhere, around the wide boulevards in Paris and the ever new railway lines and extensions that crisscrossed London during the second half of the nineteenth century.

Recovering the work of people such as Pearson and de Kérizouet is important not only because of its relevance for the housing crises in London and Paris today, but also because of its being an overlooked precedent of the influential scholarship on cities by, for example, the Chicago School. Mobility was to Park and Burgess the 'pulse of the community'; a community, largely that of Chicago, where 'juvenile delinquency, boys' gangs, crime, poverty, wife desertion, divorce, abandoned infants, vice' and more gave worrying signs of a process that required understanding.[42] Pearson and de Kérizouet were among the many commentators and advocates of change that recognized similar signs in mid-nineteenth-century London and Paris. But they also took an additional step and envisioned an alternative future for the two cities. An important lesson for us – if not a call for action – is precisely to do justice to their work and to the lives of the many whom their plans cared for.

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42 Ernst W. Burgess: "The Growth of the City: An Introduction to a Research Project." In *The City*, edited by Park, Burgess and McKenzie, pp. 58–59.