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Ruud Filarski and Gijs Mom, *Van transport naar mobiliteit: De Transportrevolutie, 1800–1900* [From Transport to Mobility: The Transport Revolution, 1800–1900]; Gijs Mom and Ruud Filarski, *Van transport naar mobiliteit: De Mobiliteitsexplosie, 1895–2005* [From Transport to Mobility: The Mobility Explosion, 1895–2005] (Zutphen, Walburg Pers, 2008) 2 volumes, €59.50

Engineering is usually associated with progress and the future, not with the past and its remains. However, there are exceptions, and this publication is an impressive one. In 1995 Ruud Filarski, an engineer working with the Dutch Ministry of Public Works (*Rijkswaterstaat*), finalized a study on nineteenth-century canals in the Netherlands and was asked by his superiors to extend his research. Within the public administration, the lack of historical knowledge on Dutch transport systems was seen as an encumbrance to policymaking. Sometime later, Gijs Mom, an engineer working at Eindhoven University of Technology, and an internationally renowned mobility historian, was asked to join the project.

The two authors set off for an ambitious goal: to fully document the Dutch history of transport and mobility of the past two centuries. From the onset it was clear that the period covered would best be divided in two. The nineteenth century witnessed some important innovations, such as the coming of the railways, and was typified by an interplay between various transport systems. Quite different was the long twentieth century that witnessed a mobility explosion spearheaded by the automobile and other forms of motorized traffic. The outcome is a weighty set of two volumes of each well over 400 pages, Filarski taking care of the nineteenth-century tome, and Mom coordinating and writing the better part of the twentieth-century volume.

In the first volume, *De transportrevolutie, 1800–1900* (“The Transport Revolution, 1800–1900”) Ruud Filarski points out how far-reaching the changes in transport have been in the course of the nineteenth-century. In 1800 the Netherlands were under French occupation, with disastrous effects on sea trade. The transport situation inland, however, was not

bad; a thriving agricultural trade could make use of an excellent network of canals, connecting the hinterland to the sea ports. Characteristic was the intense use of a specific kind of a horse-drawn barge (“*trekschuit*”). This was small-scale transport (often even drawn by people instead of horses), slow and weather-dependent. However, Filarski insists upon the importance and relative efficiency of this typical kind of transport. Still, by the end of that century the transport situation had fundamentally been altered. Industrialization had taken off, the sea ports (Amsterdam and Rotterdam) had been heavily renovated, and canals and railways had been dispersed throughout the whole country. In general, transport had gone through a spectacular growth. Canal transport had been mechanized, and trains and trams had killed the barge and the stagecoach.

The author tries to explain such vast changes by pointing at five dynamic forces and four static factors. Dynamic forces ruling the transport revolution in the Netherlands were the mechanization of transport, the modern attitude of the public authorities towards transportation (not in the least the opinionated policies of king Willem I, nicknamed “the canal-king”), the growing number of travelers, entrepreneurs creating new transport industries and companies, and the rise of the adjacent German Ruhr region as a prime European industrial zone. In the background, the Netherlands traditionally had always paid a lot of attention to the development of sea ports and the opening up of the countryside. Inland shipping trade had always functioned well (an obstacle the railways had to overcome), and colonial profits were co-financing naval trade and the construction of the railways. On top of this, on several occasions throughout the century public authorities and private businesses proved to be able to successfully cooperate. By the end of the century the country could boast a fast and dense railway network, and a great number of deep and wide rivers and canals.

By then, however, a new phenomenon had already appeared on the Dutch roads: the automobile. In the second volume of this publication, *De mobiliteitsexplosie, 1895–2005* (“The Mobility Explosion, 1895–2005”), Gijs Mom concentrates on the rise of motorized land transport and the spectacular effects this had on the lives and spaces of twentieth-century Dutch society. In a fascinating and highly inventive text the author tells the story of the construction of an automobile system in the Netherlands. In three periods attention is drawn first towards the coming of the bicycle, followed by the automobile, and the troubles and conflicts it caused, leading authorities to take the first steps towards a mobility policy (“*Transition, 1890–1920*”). After the First World War motorization effected a breakthrough and the public authorities responded by building new roads and further developing the automobile system (“*Collision, 1920–*

1945"). But that was merely the start. After the Second World War mobility became a wholly new kind of phenomenon, creating a vast array of new uses and changing the face of public space ("*Explosion, 1945-1980*"). This second volume closes with an attempt to situate the Dutch case of mobility in a European context, and to evaluate the long twentieth century of Dutch mobility history. Ruud Filarski adds two chapters on trams and trains in this volume.

In order to characterize the Dutch history of mobility, Mom singles out ten salient features. Dutch public authorities were notoriously active in the development of a modern mobility system, leading to a politically segregated ("*verzuild*") and anti-liberal policy. They were confronted with a growing set of mobility networks—trams, bikes, buses, cars, trains, ships, planes—that accumulated rather than substituted uses and functions. The authorities were far from monolithic, but internally divided in often-competing administrations and policy levels, and surrounded by strong lobbying organizations, so that clear choices for one or a limited number of networks were never made. Still this did not prevent the Netherlands to take up a strong position in European transportation, quite the contrary. By the end of the century, the capacity of all these systems was greatly increased, serving ever-growing numbers of commuters and freight transporters, eventually redefining the face of society itself and leading to a convergence of automobile user cultures and social structures. Dutch mobility today typically calls up images of canals with intense water-borne trade, and of strong positions held by slow traffic users such as pedestrians and, above all, cyclists. Freight traffic, often international, is ubiquitous, and the motorway network is among the densest and busiest of the world.

From Transport To Mobility is a true magnum opus, counting almost a thousand pages, in large format and a two column layout, with thousands of references, a large number of graphics, heavily illustrated, and written in a clear and straightforward style, making it accessible to a public much larger than merely professional mobility researchers. The authors have made a deliberate choice not just to describe, but to analyze and synthesize. Throughout the book positions are taken and insights are defended that may give rise to debate. Given the original aim, to provide the public administration with background knowledge to improve and deepen mobility policy decisions, such a position is laudable. To agree with everything this extensive study has to offer, is of course impossible, if only given the sheer number of ideas presented. The Dutch case of mobility history can now be considered the most widely documented worldwide. If ever a good reason for learning the Dutch language was sought for, it is here now.

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William J. Mitchell, Christopher E. Borroni-Bird, and Lawrence D. Burns, *Reinventing the Automobile: Personal Urban Mobility for the 21st Century* (Cambridge, MA: MIT Press, 2010), x + 227 pp. \$21.95

The car culture is in trouble. The negative tradeoffs are impossible to finesse or ignore: profligate squandering of land and other resources by urban sprawl, congestion reaching absurdist levels, polluted air, unsafe streets, and, of course, global warming. Some of these are more or less by definition urban problems, and all are exacerbated by crossing the car with the city. It is enough to make the most committed car enthusiast or optimistic new urbanist a little tense.

The view advanced in *Reinventing the Automobile: Personal Urban Mobility for the 21st Century* is that we can relax. A perfect storm of converging vehicle and communications and information technologies is waiting for us to unleash it, and if—when—we do, it will radically rearrange our conceptions of and capacity for personal mobility, and give us more sustainable cities, cleaner air, and a greener economy to boot.

The authors should be in a position to know. Lawrence Burns was vice president of research and development at General Motors for ten years, until 2009, and Christopher Borroni-Bird is GM's director of advanced technology vehicle concepts; William Mitchell is director of the Smart Cities research group at the MIT Media Lab. They structure their proposition around four Big Ideas: a fundamental transformation of automobile design principles based on electric drive, electronic controls, and wireless communications; intelligent vehicles and the internet; clean energy and smart grids; and real-time dynamic pricing of markets for cars, roads, parking, and power. Some of this will be familiar to any reasonably well-informed reader, and more to anyone acquainted with current literature in transportation policy and urban planning. But *Reinventing the Automobile* offers a comprehensive synthesis of many technological hopes and predictions presently in the air, founded on a claim that the capacity to realize such a radically new transportation paradigm either exists or is within reach.

The bulk of the book is devoted to sketching out these four ideas (and, given its brevity and their complexity, sketching is the right term). A couple