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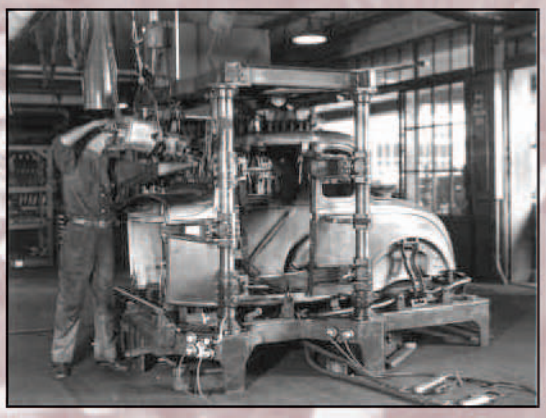
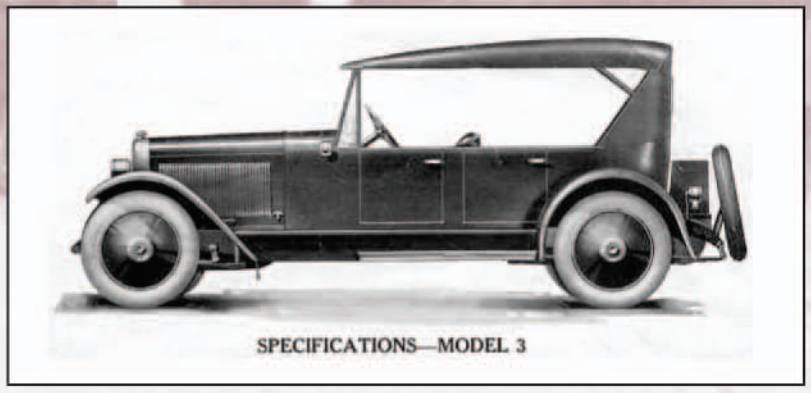
Making Cars in Canada

A Brief History of the Canadian Automobile Industry

1900–1980

Richard White





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Abstract

Automobile manufacturing began in Canada in the early years of the twentieth century, a few years after it began in the United States. This is no coincidence, for the first Canadian automobile manufacturers started business as partners of newly established U.S. companies, assembling and selling their partners' cars in Canada. Dozens of Canadian entrepreneurs pursued this strategy, though only two truly succeeded — Sam McLaughlin, who made Buicks in Oshawa, and Gordon McGregor, who made Fords in Walkerville. By 1914, a Canadian automobile industry had emerged and its pattern of operations was set — it would make U.S. cars in Canada.

In the 1920s the industry hit its stride, expanding such that Canada became the second-largest producer of automobiles in the world. Part of the reason for the growth is that Canadians themselves were buying cars by the tens of thousands, but another reason is that Canadian manufacturers were making cars for the world. Some years nearly 50 percent of the Canadian automobile industry's output was exported, mostly to countries in the British Empire. The key was the imperial tariff structure, which permitted Canadian-made products to enter most countries of the Empire nearly tariff-free. It was in these boom years, as well, that Canadian control of the industry was lost, as the U.S. automakers with whom the Canadians had partnered before the First World War, now huge corporations, bought out or established control over their Canadian partners.

The Second World War gave the industry a huge boost, for Canada became one of the main suppliers of military vehicles to the Allied forces, and the industry came out of the war with a vastly increased productive capacity.

After the war it entered another golden age, making the now notorious automotive behemoths of the 1950s for an increasingly car-dependent Canada. But this prosperity would not last. By the end of the 1950s the industry had lost its imperial export market, and even some of its domestic market, to British and European firms that made small, efficient cars with which North American producers could not compete. Before the industry fell into a crisis, however, the Canadian government took action, calling a Royal Commission that recommended major changes in the industry's tariff structure. The result was the

Résumé

La fabrication d'automobiles a démarré au Canada dans les premières années du vingtième siècle, quelques années après ses débuts aux États-Unis. Ceci n'est pas une coïncidence, car les constructeurs d'automobiles canadiens se sont lancés en affaires comme partenaires d'entreprises américaines nouvellement établies, au moyen de l'assemblage et de la vente des automobiles de leurs partenaires au Canada. Des douzaines d'entrepreneurs canadiens ont employé cette stratégie, mais il n'y en a que deux qui ont vraiment connu du succès — Sam McLaughlin, qui fabriquait des Buick à Oshawa, et Gordon McGregor, qui fabriquait des Ford à Walkerville. En 1914, une industrie canadienne de l'automobile a vu le jour et son mode de fonctionnement a été mis en place — elle fabriquerait des autos américaines au Canada.

Durant les années 1920, l'industrie a connu un tel essor que le Canada est devenu le deuxième plus grand producteur d'automobiles au monde. Cette croissance s'explique en partie par l'achat de dizaines de milliers d'automobiles par les Canadiens, mais aussi parce que les constructeurs canadiens fabriquaient des automobiles destinées au monde entier. Certaines années, presque 50 % de la production de l'industrie canadienne de l'automobile était exportée, surtout vers les pays de l'Empire britannique. Cela s'explique par la tarification impériale qui permettait l'entrée sans tarification des produits fabriqués au Canada dans la plupart des pays de l'Empire britannique. C'était aussi dans ces années d'expansion que le Canada a perdu le contrôle de l'industrie, car les constructeurs américains d'automobiles avec qui les Canadiens avaient conclu un partenariat avant la Première Guerre mondiale, étant devenus des sociétés immenses, ont acheté ou exercé le contrôle sur leurs partenaires canadiens.

La Seconde Guerre mondiale a propulsé l'industrie, car le Canada est devenu un des plus importants fournisseurs de véhicules militaires aux forces alliées, et une fois la guerre terminée, l'industrie a augmenté de beaucoup sa capacité de production.

Après la guerre, l'industrie a connu un autre âge d'or, grâce à la fabrication des gros véhicules maintenant légendaires de l'industrie automobile pour un Canada de plus en plus tributaire de l'automobile. Mais cette ère de prospérité n'allait pas durer. À la fin des années 1950, l'industrie avait

1965 “Auto Pact” between Canada and the United States, which permitted the major automakers — provided they met certain Canadian requirements — to fully integrate their operations on a continental scale. This saved the Canadian industry.

Since the 1970s the main new development has been the arrival of Japanese automakers, a result of government policies that compelled companies selling cars in Canada to make them in Canada too. Soon these Japanese manufacturers also began to export Canadian-made cars to the United States. It was a change in a way, for since its inception the Canadian industry had made U.S. cars. But in another way it was not a change — the industry was still the product of government policies that induced foreign automobile companies to make their cars in Canada.

perdu son marché impérial d’exportation, et même une partie de son marché intérieur, car les producteurs nord-américains ne pouvaient plus concurrencer avec les entreprises britanniques et européennes qui fabriquaient de petites autos performantes. Cependant, avant que l’industrie ne tombe dans un état de crise, le gouvernement canadien est intervenu en sollicitant une commission d’enquête parlementaire recommandant des changements importants dans la structure de tarification de l’industrie, ce qui a donné comme résultat le « Pacte de l’automobile » entre le Canada et les États-Unis, permettant ainsi aux constructeurs d’automobiles de premier plan d’intégrer pleinement leurs opérations à l’échelle du continent, moyennant le respect de certaines exigences canadiennes. Cette mesure a sauvé l’industrie canadienne.

Depuis les années 1970, l’arrivée des constructeurs d’automobiles japonais a donné un nouvel essor, grâce aux politiques gouvernementales obligeant les entreprises qui vendaient leurs automobiles au Canada à les fabriquer aussi au Canada. Peu de temps après, ces constructeurs japonais commençaient aussi à exporter aux États-Unis leurs autos fabriquées au Canada. D’une certaine façon, c’était un changement, car depuis sa création, l’industrie canadienne avait fabriqué des automobiles américaines. Mais d’une autre façon, ce n’était pas un changement, car l’industrie était encore le produit de politiques gouvernementales incitant les entreprises étrangères de l’automobile à fabriquer leurs automobiles au Canada.

Foreword

Between 1905 and 2005, auto assembly plants in Canada built about 88 million vehicles. Since few of these vehicles were sold under Canadian brand names, international recognition of the substantial scale of the Canadian industry has been limited. Unlike Italy, which produced some 75 million vehicles over the same period, Canada has never had a national champion comparable to Fiat. Names familiar to any automotive historian or enthusiast, such as Alfa Romeo, Ferrari, Isotta Fraschini, Lancia, Lamborghini, Maserati, and Officine Meccaniche, have no counterparts in Canada. There has never been a design house like Pininfarina, with a worldwide influence on auto styling. Canadian-built vehicles have been designed almost entirely in the United States or, in the past forty years, in Europe or East Asia. Concessions to the Canadian market have been limited to details such as trim and names like Acadian, Frontenac, and Monarch.

Richard White has transformed the bald statistics into a clear, readable, and critical history of the auto industry in Canada. In this study, three elements are revealed as central to the creation of the distinctive characteristics of Canadian vehicle manufacturing that evolved in the shadow of the vast American industry. Entrepreneurial efforts, especially in the formative period before 1914, created the foundations of large-scale production. Corporate expansion by American firms, and more recently from other parts of the world, shaped the plants, places, and production efforts. Public policies nurtured growth by providing some protection from external competition.

Most of the significant pioneering car manufacturing firms were not, as once supposed, branch plants of U.S. enterprises. They were, in fact, what would now be called joint ventures or, in some cases, licensing agreements by which Canadian entrepreneurs gained access to American designs, production methods, and mechanical components. Some of these, such as Gordon McGregor's arrangements with the Ford Company or Samuel McLaughlin's link with Buick and General Motors, were highly successful. Other connections, such as those made by J. B. Tudhope and William Gray (Gray-Dort), were more short-lived. Entrepreneurial efforts have continued since the early period of the industry. Harry Zoltok, in the 1930s, transformed a Winnipeg repair shop into a bus builder and, under the ownership of Greyhound Lines, produced MCI coaches that have dominated

Avant-propos

Entre les années 1905 et 2005, les usines d'assemblage automobile au Canada ont fabriqué environ 88 millions de véhicules. Comme peu de ces véhicules ont été vendus avec des marques de fabrique canadiennes, la reconnaissance internationale du niveau substantiel de l'industrie canadienne a perdu de l'importance. À la différence de l'Italie qui a produit quelque 75 millions de véhicules pendant la même période, le Canada n'a jamais eu une étoile nationale comparable à la Fiat. Les noms familiers que tous les historiens ou les passionnés de l'auto connaissent tels que Alfa Romeo, Ferrari, Isotta Fraschini, Lancia, Lamborghini, Maserati, et Officine Meccaniche, ne trouvent pas leur équivalent au Canada. Il n'y a jamais eu une société de design automobile ayant exercé une influence mondiale sur l'esthétique de l'automobile à l'égal de la société Pininfarina. Les véhicules fabriqués au Canada ont presque tous été conçus aux États-Unis, ou depuis les quarante dernières années, en Europe ou en Asie orientale. Les concessions faites au marché canadien se limitent à des détails tels que la finition et les noms de modèles comme Acadian, Frontenac, et Monarch.

Richard White a transformé les statistiques imprécises en un historique clair, critique et facile à lire de l'industrie automobile au Canada. Dans cette étude, trois éléments s'avèrent essentiels à la création des caractéristiques propres à la fabrication de véhicules canadiens qui s'est développée à l'ombre de la vaste industrie américaine. Les efforts des entrepreneurs, spécialement dans la période de formation antérieure à 1914, ont établi le fondement d'une production à grande échelle. L'essor des entreprises par les sociétés américaines, et plus récemment par des sociétés en provenance d'autres parties du monde, a façonné les usines, les endroits et les efforts de production. Les politiques publiques ont entretenu la croissance en offrant une protection contre la concurrence extérieure.

La plupart des entreprises pionnières de fabrication d'automobiles n'étaient pas, comme on l'avait déjà laissé entendre, des usines succursales des entreprises américaines. En fait, elles étaient plutôt, comme on les nommerait maintenant, des filiales communes. Parfois, elles jouissaient d'accords d'autorisation permettant aux entrepreneurs canadiens d'avoir accès aux conceptions, aux méthodes de production et aux composantes mécaniques américaines, notamment les arrangements de Gordon McGregor avec la société Ford

intercity travel in North America since the 1960s. New initiatives have been most spectacular in automotive parts and vehicle systems. Frank Stronach, who started with a tool and die shop in 1957, has developed Magna International into a multinational corporation that is now larger than Alcan, the long-established aluminum producer.

Early barriers to entry, created by the high costs of research and development and the production of all-steel closed bodies, meant that much of the growth would come from large American corporations investing in Canada. Early branch plants included those of E-M-F/Studebaker, Maxwell (later Chrysler) Durant, Dodge Brothers, and International Harvester. Later entrants included American Motors and Mack trucks. Volvo (1963–1998) was the first manufacturer from outside North America to develop an assembly plant in Canada. In the 1980s, massive new investment came from Honda, Toyota, the joint venture (CAMI) of Suzuki and General Motors, as well as the short-lived Hyundai plant in Quebec. By 2005, Asian-designed vehicles amounted to one-third of Canadian production. International acquisitions on a larger scale began with General Motors' takeover of McLaughlin in 1918. Global consolidation of the automotive industry in the 1990s has taken most of the niche producers in the truck and bus segment into the control of Freightliner (DaimlerChrysler) and Volvo.

Public policies at various levels have sheltered and sustained the Canadian motor vehicle industry since its inception. The 35 percent import duties on finished vehicles, lower rates on parts, and British Empire preferences shaped the early industry in the first three decades of the twentieth century. Deficits in the balance of imports and exports in the 1950s, as low-cost small cars from Europe entered the Canadian market in large numbers, forced a reappraisal of the nature of the industry. The Bladen Royal Commission, which reported in 1961, paved the way for the Auto Pact (1965–2001), and under its provisions the Canadian industry expanded very substantially. Average annual vehicle output grew from around half a million in 1960–1964 to 1.4 million in 1970–1974 and nearly doubled again during the next three decades.

While always operating in the shadow of the United States, automotive manufacturers in Canada have made significant contributions to the global industry. Ontario car plants were early adopters of the mass-production methods pioneered in Detroit, and Canadians (especially in the Ford Motor Company of Canada) diffused these techniques to establish the foundations of decentralized assembly in South Africa, India, Australia, and New Zealand. Many of these countries also used Canadian public policies

ou le lien de Samuel McLaughlin avec Buick et General Motors qui ont connu beaucoup de succès. D'autres filiations, comme celles qui ont été faites par J. B. Tudhope et William Gray (Gray-Dort), ont duré moins longtemps. Les entrepreneurs ont poursuivi leurs efforts depuis les débuts de l'industrie. Harry Zoltok, dans les années 1930, a transformé une boutique de réparation de Winnipeg en local de fabrication d'autobus et, sous la propriété de Greyhound Lines, a produit les voitures-coachs MCI qui ont dominé le transport interurbain en Amérique du Nord depuis les années 1960. Les nouvelles initiatives les plus spectaculaires ont été dans le domaine des pièces pour véhicules automobiles et les systèmes de bord des véhicules. Frank Stronach, qui a débuté par une boutique d'outils et de matrices en 1957, a fait progresser Magna International en une société multinationale qui surpasse maintenant Alcan, le producteur d'aluminium établi depuis longtemps.

Les premiers obstacles à l'importation, créés par les coûts élevés de la recherche et du développement ainsi que de la production de carrosseries fermées tout acier, signifiaient qu'une grande partie de la croissance serait assurée grâce à l'investissement au Canada des grandes sociétés américaines. Les premières usines affiliées comprenaient celles de E-M-F/Studebaker, Maxwell (plus tard Chrysler), Durant, Dodge Brothers et International Harvester. Par la suite, American Motors et les camions Mack se sont rajoutés. Volvo (1963–1998) a été le premier constructeur de l'extérieur de l'Amérique du Nord à mettre sur pied une usine d'assemblage au Canada. Dans les années 1980, des investissements considérables ont été effectués par Honda, Toyota, l'entreprise commune (CAMI) de Suzuki et de General Motors, de même que l'usine de courte durée de Hyundai au Québec. En 2005, les véhicules conçus en Asie constituaient le tiers de la production canadienne. Les acquisitions internationales à plus grande échelle ont commencé avec la mainmise de General Motors sur McLaughlin en 1918. La fusion mondiale de l'industrie automobile dans les années 1990 a placé la plupart des producteurs du créneau camions et autobus sous le contrôle de Freightliner (Daimler Chrysler) et de Volvo.

Les politiques publiques des différentes administrations ont protégé et appuyé l'industrie canadienne des véhicules automobiles depuis sa création. Les droits d'importation de 35 % sur les véhicules assemblés, les taux moins élevés sur les pièces, et les tarifs préférentiels de l'Empire britannique ont façonné l'industrie naissante dans les trois premières décennies du vingtième siècle. Les déficits dans l'équilibre entre les importations et les exportations durant les années 1950 ont rendu nécessaire une réévaluation de la nature de l'industrie, à mesure que les petites autos économiques s'imposaient sur le marché canadien. La

of customs duties to establish national manufacturing beyond the assembly of Canadian parts. Canadian migrants have worked in American and overseas car plants as mechanics, designers, and managers. James Couzens (1872–1936), born and educated in Chatham, Ontario, was a key figure in the dramatic growth of Ford between 1905 and 1916. Sir Graham Day, a Halifax lawyer, became an expert in restructuring corporations and privatizing state assets in Britain during the 1980s. As chairman of British Leyland, he supervised the reorganization of the state-owned corporation, renamed Rover Group, and succeeded in selling its assets in car, truck, and bus making to private investors. In the 1990s, Ballard Power Systems in Vancouver, created by Dr Christopher Ballard, became a major player in developing non-polluting vehicle power through the use of fuel cell technology.

Over the past century, the Canadian auto industry has experienced many cycles of expansion and recession. As at times in the past, it now faces major external and internal challenges that will shape the industry and its vehicles. On the production side, emerging manufacturers in China and India are likely to affect the existing order of world production. In the North American market, the rising costs of traffic congestion, fuel consumption, and air pollution will eventually cause some constraints on future expansion.

There are few tangible remains of a century of motor vehicle building in Canada. Records have been destroyed and dispersed, old buildings have been demolished, and millions of vehicles have gone to the scrapyard. Private initiatives, led by dedicated enthusiasts, have rescued artifacts and kept memories alive. In some cases their efforts have resulted in fine new museums, such as those in Wetaskiwin, Alberta, and Kingsville, Ontario. The Craven Canadian Foundation made a promising start in 1972 when it opened a museum in Toronto. Five years later, however, the place was closed and the collection dispersed. Its most precious legacy was support for the publication of a monumental volume by Hugh Durnford and Glenn Baechler. *Cars of Canada* (1973) will always remain a foundation of automotive history in Canada. The Canada Science and Technology Museum in Ottawa is now the custodian of the most important collection of motor vehicles in Canada. Seth Taylor's 1867 steam buggy takes pride of place alongside a range of vehicles from LeRoys to Russells, Fords, and Chevrolets. These vehicles and other artifacts constitute a significant part of Canada's manufacturing and transportation heritage.

This book celebrates an industry which transformed the efforts of a few dedicated tinkerers at the beginning of the twentieth century into a multinational industry that is now part of the core region of North American

Commission royale d'enquête Bladen, qui a produit un rapport en 1961, a préparé le terrain pour le Pacte de l'automobile (1965 à 2001), et en vertu de ses dispositions, l'industrie canadienne a connu un très grand essor. La production annuelle moyenne s'est accrue d'environ un demi-million de véhicules de 1960 à 1964 jusqu'à 1,4 million de véhicules de 1970 à 1974 et a presque doublé à nouveau au cours des trois décennies qui ont suivi.

Même s'ils travaillaient à l'ombre des États-Unis, les constructeurs d'automobiles du Canada ont largement contribué à l'industrie mondiale. Les usines d'automobiles de l'Ontario ont adopté dès les débuts les méthodes de production en série instaurées à Détroit, et les Canadiens (plus particulièrement Ford du Canada) ont diffusé ces techniques pour établir les fondements de l'assemblage décentralisé en Afrique du Sud, en Inde, en Australie et en Nouvelle-Zélande. Plusieurs de ces pays ont également utilisé les politiques publiques canadiennes des droits de douane afin d'établir une fabrication nationale en dehors de l'assemblage des pièces canadiennes. Des immigrants canadiens ont travaillé dans des usines d'automobiles aux États-Unis et outremer en tant que mécaniciens, concepteurs et gestionnaires. James Couzens (1872 à 1936), né et éduqué à Chatham, Ontario, a joué un rôle très important dans la croissance phénoménale de Ford entre 1905 et 1916. Sir Graham Day, un avocat de Halifax, est devenu un expert dans le redressement d'entreprises et dans la privatisation des biens de l'État en Grande-Bretagne durant les années 1980. À titre de président de British Leyland, il a supervisé la réorganisation de la société appartenant à l'État, a trouvé un nouveau nom pour le Rover Group, et a réussi à vendre son actif dans la fabrication d'autos, de camions et d'autobus à des investisseurs privés. Dans les années 1990, Ballard Power Systems de Vancouver, créé par M. Christopher Ballard, est devenu un acteur important dans la conception d'un moteur non polluant pour les véhicules au moyen de la technologie de pile à combustible.

Tout au long du siècle dernier, l'industrie automobile canadienne a connu plusieurs cycles de progrès et de recul. Comme dans le passé, elle doit maintenant faire face à des défis externes et internes qui façonneront l'industrie et ses véhicules. Du côté de la production, de nouveaux constructeurs en Chine et en Inde sont susceptibles de porter atteinte à l'ordre actuel de la production mondiale. Quant au marché nord-américain, la hausse des coûts dus à la congestion de la circulation, à la consommation de carburant et à la pollution atmosphérique suscitera un certain nombre de contraintes sur la croissance future.

manufacturing. In this well-balanced historical survey, Richard White also emphasizes the role of two world wars in shaping the industry's development. He has integrated many themes and fragmented sources into a publication that deserves a wide readership.

Gerald T. Bloomfield
Professor Emeritus
University of Guelph, Ontario

Il reste quelques vestiges concrets d'un siècle de fabrication de véhicules automobiles au Canada. Les dossiers ont été détruits et dispersés, de vieux bâtiments ont été démolis et des millions de véhicules ont abouti au parc à ferrailles. Grâce à leurs initiatives personnelles, des passionnés enthousiastes ont sauvé des pièces de collection et en ont perpétué le souvenir. Parfois, leurs efforts ont donné lieu à de magnifiques nouveaux musées, notamment ceux de Wetaskiwin (Alberta) et de Kingsville (Ontario). La Craven Canadian Foundation a connu des débuts prometteurs en 1972 quand elle a inauguré un musée à Toronto. Cinq ans plus tard, cependant, le musée a fermé ses portes et la collection a été disséminée. Son legs le plus précieux a été sa collaboration à la publication d'un volume magistral rédigé par Hugh Durnford et Glenn Baechler. *Cars of Canada* (1973) restera toujours le manuel de base de l'historique de l'automobile au Canada. Le Musée des sciences et de la technologie du Canada à Ottawa est maintenant le dépositaire de la plus importante collection de véhicules automobiles au Canada. L'automobile à vapeur de 1867 de Seth Taylor se place avantageusement à côté d'une collection de véhicules allant des LeRoy aux Russell, Ford, et Chevrolet. Ces véhicules et d'autres pièces de collection constituent une partie importante du patrimoine canadien de la fabrication automobile et du transport.

Ce livre met en valeur une industrie qui a transformé les efforts de quelques bricoleurs enthousiastes au début du vingtième siècle en une industrie multi-nationale qui fait maintenant partie du noyau de la fabrication nord-américaine. Dans cette vue d'ensemble historique bien équilibrée, Richard White met l'accent aussi sur le rôle des deux guerres mondiales dans la croissance de l'industrie. Il a incorporé plusieurs thèmes et sources parcellaires dans une publication qui devrait intéresser de nombreux lecteurs.

Gerald T. Bloomfield
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I would like to acknowledge the assistance of David Monaghan at the National Museum of Science and Technology (as it was then called) in preparing the original 1998 study from which this published work is derived. I would also like to thank Professor Gerald Bloomfield of the Department of Geography at the University of Guelph, who helped in so many ways with that original work. The current incarnation has been guided by Garth Wilson and Randall Brooks of the Canada Science and Technology Museum (as it is now called), and I am grateful for both their commitment to its publication and their assistance in seeing it through. My work of revising the original report into the present manuscript was helped immeasurably by insightful comments and suggestions from three readers of the original report: Professor Bloomfield, Professor Dimitry Anastakis of Trent University, and Professor Janis Langins of the University of Toronto Institute for the History and Philosophy of Science and Technology. I would like to thank all three for taking the time to read the work so carefully.

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Introduction

This brief history of the Canadian automobile industry has a little history of its own. It was originally written in 1998, as a "Historical Assessment" for the Canada Science and Technology Museum (CSTM). These commissioned research studies are intended primarily to support collection development at the Museum by serving as a foundation document in a larger strategy. Although the Museum's historical assessments are available through the Museum's library, only a small number are formally published. But so little else had been written on the history of the Canadian automobile industry that as the years passed a number of other researchers, upon hearing of the work, asked if they could read it. And some of the study's conclusions, when reported in academic papers, stimulated a fair amount of interest. The report, in other words, seemed to have a wider use, so the Museum decided to make the work available to a broader public by publishing it in its Transformation series.

In preparing the work for publication I have revised the original report quite substantially, sharpening some of the conclusions and adding a few sections. I was also able to benefit from literature published since the original writing, especially David Roberts's excellent biography of Gordon McGregor (of Ford of Canada) and Dimitry Anastakis's thorough and clear-headed analysis of the industry's recent history.

But revising a work for publication does not allow time for a complete rewrite, so much of the original approach and structure remain. One consequence of this that deserves comment is the termination date of the study. Ending the history in 1980 made some sense in 1998, as at that time there was not yet a consensus on where the post-1980 industry was going. But now, in 2007, a termination date of 1980 makes very little sense. In the last nine years several important trends in the post–Auto Pact industry have become very clear — such as the beneficial impact of the Auto Pact on Canada and the continuing expansion of the North American industry — and these trends are most clearly seen by considering the industry from the mid-1960s right through to the present, disregarding 1980 completely. As well, several critical events, such as the end of the Auto Pact (2001), have occurred. Nevertheless, though the wording of the original report has been revised to reflect some of these recent developments, the termination date of 1980 has been retained. Time just did not permit a complete rethinking and rewriting of the final sections. What has been added, instead, is an epilogue that briefly outlines some of the post-1980 developments in the industry.

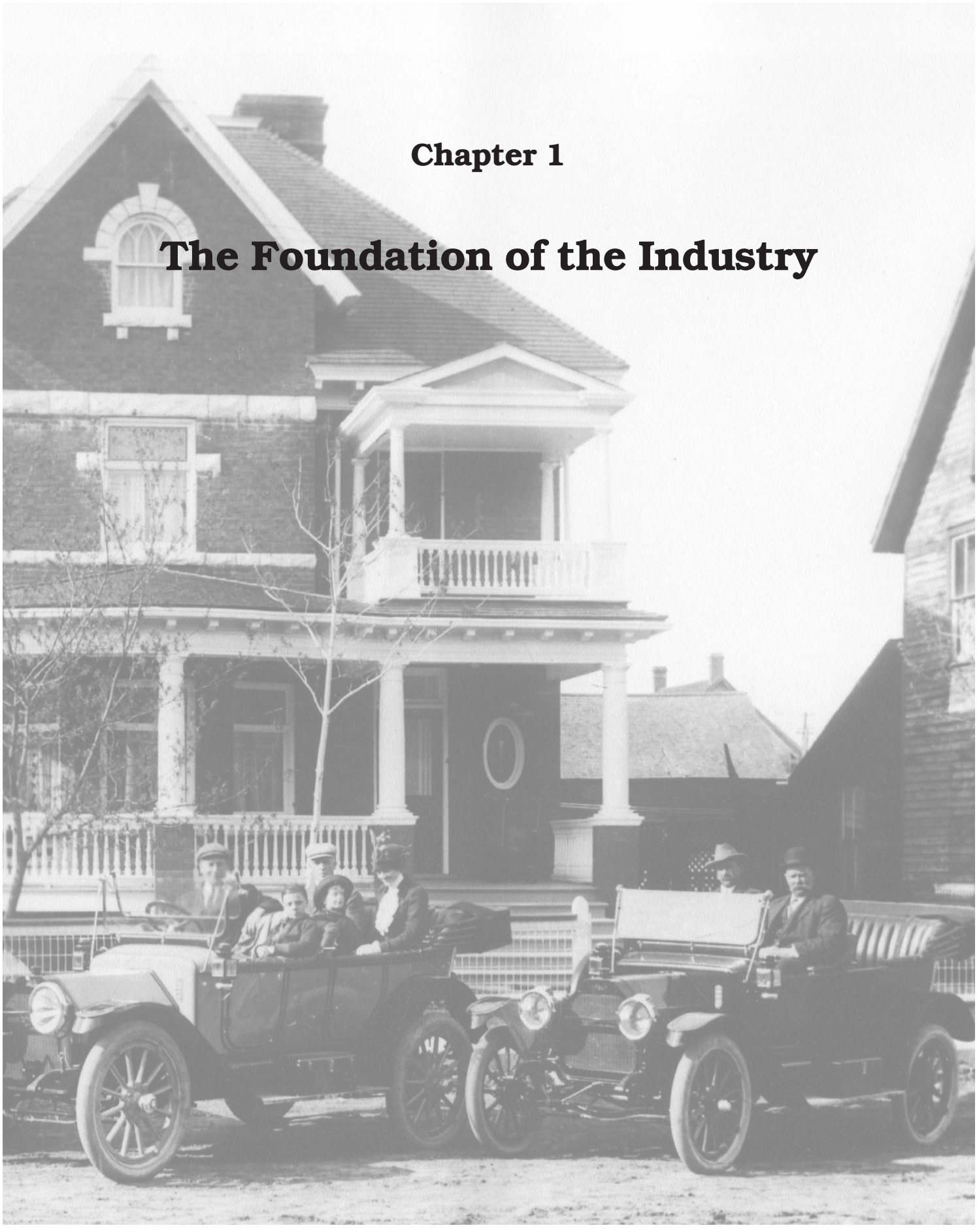
The first problem one has to deal with in chronicling the history of the Canadian automobile industry is, considering its close ties to the U.S. industry, whether such an industry even exists. And if it does, what is it? Does it make Canadian cars? The answer I have arrived at is that a Canadian automobile industry does most certainly exist and has existed since the first decade of the century. What else can one call the car-making activity at which thousands of Canadians work, in factories on Canadian soil, under Canadian laws and international trade agreements? One of the industry's central features, to be sure, is a close connection to the U.S. industry, but this connection does not preclude the industry's existence.

That is not to say this industry makes, or has ever made, cars that were Canadian in any meaningful sense of the word. Granted, the nationality of a technological device is hard to determine, but by almost any definition the cars made in Canada were U.S. cars. The critical engineering and design, the method of production, and the brand names and marketing images of the cars made in Canada have always emanated from the United States. So too, after a generation, did the industry's investment capital and management strategies. To distill this complex matter down to unqualified statements is perhaps a little misleading. The relationship between the U.S. and Canadian automobile industries has many aspects, all of which are explored herein, but the basic point this history shows is that the Canadian automobile industry has always been a part of, not an alternative to, the U.S. automobile industry.

A few words about sources are in order. It is generally understood that the Canadian automotive industry lacks primary source material, for a number of reasons, but this was not found to be an impediment in this project. First, even if good original business records had existed, there was no time to go through them. More important, the secondary literature has proved surprisingly rich and more than sufficient. Antiquarian writing, much of it rooted in a deep affection for the automobiles themselves, proved valuable. The work of academic political economists, put in its context, was also very useful. Aikman's trenchant 1926 analysis of the industry is unsurpassed, and Bladen's 1960–1961 inquiry and

report are equally penetrating. The work of historical geographers, notably G. E. Bloomfield, was valuable as well. The American literature on the history of the automobile is extremely comprehensive and useful for Canada (though the literature on the great car men, and their giant corporations, has next to nothing on their Canadian affairs, even when those affairs are central to the story). When one adds to this the huge array of statistics compiled annually by the Dominion Bureau of Statistics, which were still evoking insights up to the day the final draft of this history was completed, and an assortment of other government records, one certainly has enough. Any limitations are a product of the project's historian, not its sources.

Finally, it is important to set out what this study is and what it is not. It is a history of making cars in Canada, primarily the business of making cars, with some attention paid to the technology and the politics involved as well. This means it overlooks several other themes. Probably the most important of these is labour in the industry, for which there was not sufficient secondary literature to provide a full picture. The subject is covered briefly in the context of one historical period, but it deserves a research project of its own. This work is also not a study of the use of cars — except insofar as their popularity prompted more and more to be made — and the many cultural aspects to their adoption. This broader phenomenon is a theme of profound importance in twentieth-century history, but it is barely touched in this study. There is, in short, much that is not here. But as a colleague who read this manuscript said, reflecting on whether it warranted publication in view of all it overlooked, surely a history of the automobile in Canada needs more than one book.



Chapter 1

The Foundation of the Industry

The Foundation of the Industry

The Canadian automobile industry was born and took shape in the early years of the twentieth century. The automobile itself had been invented a generation or so earlier and was already being commercially produced by the late nineteenth century in several other countries, but in Canada commercial production did not begin until after 1900. Once established, however, the industry expanded very quickly. When the First World War broke out in 1914, automobile manufacturers in Canada were producing some 24,000 reasonably reliable vehicles per year. The foundation of an important Canadian industry had been set.

It is important to understand that right from the start the Canadian auto industry was closely tied to the dynamic U.S. auto industry — so closely tied, in fact, that to speak of a "Canadian" industry is to be a little misleading. Nearly all the technical development that carried the Canadian industry so far so fast was done in the United States, and the automobile brands made and sold in the United States were for the most part the same brands made and sold in Canada. Only by an extreme stretch of the nationalist imagination can one find a *Canadian* automobile. Yet there was no shortage of Canadian business activity in the founding and establishment of the industry. The cars, in other words, might not have been Canadian but the industry was, at least to a degree.

The development of the industry before the First World War can be roughly divided into two stages: an early pioneer stage up to 1906 or 1907, in which little commercial production occurred but important parts of the industry were established, and a more commercial period from 1907 or 1908 until the start of the war, in which an actual industry began to take shape.

The Prehistory of the Industry

Overviews of the Canadian automobile industry generally begin with the founding of Ford of Canada in Walkerville, Ontario, in 1904.[1] Although there is something to be said for starting here — Ford was the first Canadian auto manufacturer to succeed and endure — doing so causes one to overlook how much technical and entrepreneurial activity related to car-making was already underway in Canada before Ford was founded. Such activity might not deserve the appellation "industry," for it yielded next to nothing that anyone ever bought, but it shows how much a part of Canadian life automobile tinkering and scheming were at the time, which helps explain how swiftly and enthusiastically automobiles and automobile manufacture were taken up in Canada a few years later. It is with these pioneer efforts that the story begins. First, however, one must briefly consider the international context.

As most international histories of the automobile relate, the auto industry developed first on the European continent, late in the nineteenth century. The industry matured quite quickly, especially in France, where by the 1890s several good cars were in production. The North American industry was slightly behind. In the United States individual experimental vehicles were built in the 1880s and 1890s, but not until the end of the latter decade were automobiles in commercial production — the first true production vehicle in the United States, one authority asserts, being an electric car made by the Pope Manufacturing Company of Hartford, Connecticut, in 1897. Pope made five hundred such cars over two years. Other manufacturers began at roughly the same time, such as the Winton Motor Carriage Works of Cleveland, Ohio, whose car was driven on a celebrated reliability trial from Cleveland to New York in 1897. Very soon there were many others. By 1899, thirty U.S. firms were producing motor vehicles for sale, some powered by electricity, some by steam, and some by internal combustion engines — the motive power of the new device not yet having been finalized.[2]

One should not be surprised that automobile manufacture expanded so fast. Most of the automobile's components were already part of the contemporary industrial world. Such things as steam engines, steel vehicle frames and springs, wheels and axles, and electric batteries and motors were already being made for other purposes in the industrial centres of the northern United States in the 1890s. Even the gasoline engine, developed and refined in Europe only in the 1870s, was being manufactured for stationary uses. So there was little true invention needed for early automobiles. Furthermore, the "shop culture" that flourished in the bicycle, farm implement, and electrical shops of the time — as well as in the many machine shops that supplied and serviced them — was a culture rich in technical skill and entrepreneurship; the result was an endless amount of sophisticated tinkering,

and a constant effort to develop marketable products, in these industrial shops.[3]

The U.S. industry was thus on a solid footing by the start of the twentieth century, at which point it began to grow at an astonishing rate. From 1900 to 1908, 485 automotive manufacturers started business, about half of which still survived at the end of that eight-year period.[4] Among them were several now familiar names. Ransom Olds, David Buick, and Henry Ford all commenced production in the first few years of the century, all making cars with gasoline-powered internal combustion engines, which was developing into the industry standard.

The critical problem facing automobile manufacturers at the start of the twentieth century was not how to make good, reliable cars. This they could do. The 1901 German-built Mercedes, which set an impressive new standard of quality, makes this perfectly clear. American makers had good skills and knowledge as well. The critical problem related more to the business of automobile manufacture than to the manufacture per se — making good cars was expensive. A quality car was simply too labour-intensive to be widely affordable. It took nearly two production workers for every Mercedes car produced in 1901, many of whom were highly skilled and well paid. U.S. producers such as Ransom Olds and Henry Ford responded to this by striving toward simpler, easier to build, and thus cheaper cars. At first this meant fairly primitive vehicles, as the original Olds demonstrates ("a motorized horse-buggy," as one historian describes it). But they soon found a middle ground. Ford's first Model A, in 1903, averaged twelve reasonably good cars per worker. European producers were not so inclined, and on this point the American and European industries diverged, with European makers sticking to artisanal production for at least another generation while most U.S. makers moved toward quantity production for the masses, at fairly low prices. This latter goal ultimately became the defining feature of the U.S. auto industry.[5]

Early Canadian automobile development, in some ways, paralleled that of the United States, but on a much smaller scale and with some significant gaps. Thanks to the assiduous efforts of automotive antiquarians, we know of at least a dozen technical wizards who made or assembled what might be called "experimental" motor vehicles in Canada in the late nineteenth century.[6] Henry Seth Taylor, a farm boy from Stanstead, Quebec, who became a jeweller and watchmaker, appears to have been the first. He made a steam carriage in 1867 that worked well enough to show at local fairs, where the local newspaper took notice. The first Canadian electric car was made in Toronto in 1893 by the British-born electrician William Still with money provided by a wealthy patent lawyer named F. B. Fetherstonaugh. Still had invented a new electric battery and approached Fetherstonaugh to assist him in obtaining a patent for it, whereupon Fetherstonaugh proposed they make use of the invention by developing an electric car together. This they did, and the resulting car was in occasional use around Toronto for some fifteen years. A bicycle mechanic and machinist in Sherbrooke, Quebec, named George Foss made a gasoline car in 1901, and a stove manufacturer in Sarnia, Ontario, named Tom Doherty did the same. Mechanics at Armstrong & Morrison's Vancouver machine shop modified a horse-drawn vehicle and fitted it with a gasoline-powered steam engine in 1899. The skilled carriage maker Henri-Emile Bourassa of Montreal was commissioned by Bruno Lalumiere, the wealthy owner of a rival carriage works, to build a car, which he did with what was apparently a locally built gasoline marine engine. Several more such men are on record, and no doubt many others who did similar pioneering work are not.

Yet no matter how many of these devoted, skilled tinkerers are uncovered by antiquarian research, they will never add up to an industry. These men made single cars, for their own use, not for sale to others. "Benzine buggies," they were disparagingly called by a journalist in 1906 who was celebrating the beginnings of a more substantial commercial industry. "They go. Some of them go well. They suit their owners because they made them. But they would be a cold proposition to sell."[7] What they are, however, is evidence that the interest, skill, and inclination to make automobiles existed in several parts of Canada in the later nineteenth century, just as it did in the United States.

One sees even more of this enthusiasm in the early efforts to commercialize automobile production. The earliest and probably most successful developed around William Still's electric battery used in Fetherstonaugh's electric car. A group of Toronto businessmen formed something they called the Canadian Motor Syndicate, into which they invested enough money to allow Still to manufacture first two or three small electric "delivery bicycles" and then a gasoline-powered carriage. Nothing came of this, but Still persevered, organizing his own Still Motor Company to make electric vehicles. A few sold locally before Still ran out of capital in a few months. Then the firm was taken over by British interests — the only known case of a Canadian car maker being bought by British capital — and run under the name Canadian Motors Limited for two years. They even exported machines (nobody knows how many) to England briefly, but the Toronto operations could not be sustained, probably for lack of capital, and the firm closed in 1902.[8]

Canada Cycle and Motor Company (CCM), a syndicate formed in 1899 when the bicycle division of Massey-Harris was amalgamated with the Canadian branches of four U.S. bicycle makers, also had a little success manufacturing automobiles at the turn of the century. The company made and sold, under the name Massey-Harris, a few powered tricycles and quadricycles fitted with the successful De Dion gasoline engine from France. CCM held the rights to the De Dion engine through the Lozier Cycle Company, one element of the CCM syndicate, the U.S. parent of which owned the rights. The company also briefly manufactured the steam-powered Locomobile car in Hamilton. This was not a vehicle CCM developed on its own but an existing U.S. product that its American competitor National Cycle and Automobile Company had begun making at a Hamilton branch plant. Rather than compete with them as bicycle makers, CCM bought them out in 1900 and in the process acquired the Locomobile, which it kept in production at Hamilton for a time. There is no record of how many of these vehicles were made or sold, although one sees mention of Locomobiles surprisingly often — a Vancouver mechanic named Alec Fenton, for example, is on record as buying one in 1903. CCM took over the Canadian Motors Limited factory in Toronto in 1902, after the British owners ceased production, and began making its own electric vehicle, labelled the Ivanhoe, for about a year, but falling bicycle sales led the company into financial trouble and the Ivanhoe was abandoned.[9]

Another venture, at the other end of the Canadian corporate scale, was the LeRoy. It is often cited as Canada's first production gasoline car, which strictly speaking it was, but only ten or twenty vehicles were ever made. The force behind the LeRoy was the extraordinary enthusiasm of the Good brothers, Milton and Nelson, of Kitchener, Ontario. They had experimented with gasoline and steam vehicles for several years, with mixed success, when in 1901 they heard of the new, simple Oldsmobile being made in the United States. They bought one and were so impressed that they took it apart and set about making a copy for themselves, taking a pattern from the Olds engine block to a local foundry in order to cast a replica. Their car worked — the brothers evidently knew what they were doing — and they followed up with five more vehicles (which took a year), sold them for $650 each, then moved into larger premises with a plan to make twenty-five more in 1903. By the following year they were out of money and had to abandon production with only a portion of their twenty-five vehicles made. One intriguing aspect of this story is that although their car was a direct replica of the 1901 Oldsmobile — they went so far as to copy the operator's manual — the Good brothers heard not a word of complaint from Ransom Olds or his financial backers in Michigan. Olds himself was even brought to Kitchener in 1904 by a local industrialist trying to interest him in investing in the failing enterprise, without success. Olds evidently viewed the Good brothers as neither threats nor potential partners.[10]

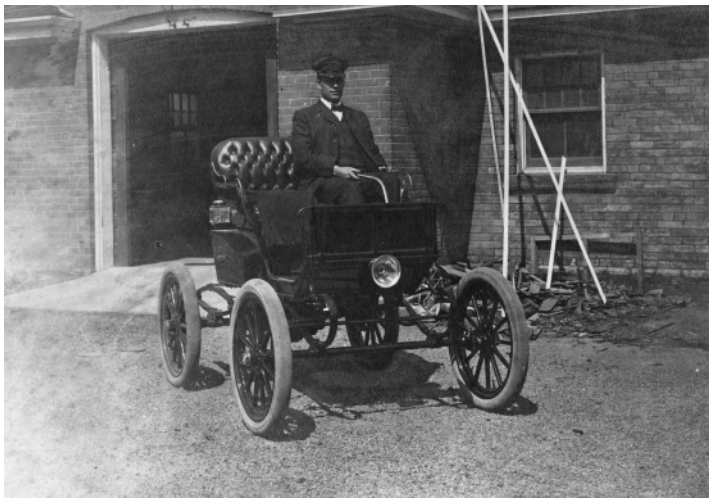


Figure 1. *John C. Eaton, of the famous Toronto department store family, was an early automobile enthusiast. Here, in 1903, he tries out a tiller-steered vehicle that resembles those made in Toronto by the Still Motor Company and its successor, Canadian Motors Limited (Durnford and Baechler,* Cars of Canada, *71–7).*
(Archives of Ontario, neg. F229-308-0, B569, File 2429)

The Still, the Locomobile, and the LeRoy — these were the successful ventures. Although production of all three was abandoned after a brief time, and although none could possibly have made money for their investors with sales in the twos and threes, or at most the dozens, these firms did at least manage to produce and sell something. Plenty of others did not get even that far. The MacLachlan, the Victorian, the Queen, the Redpath, and the Case are five Canadian cars intended for commercial production that were conceived in the first few years of the century but never got beyond prototype.[11] There was no shortage of automobile entrepreneurship in early-twentieth-century Canada.

What was lacking, it seems clear, was the shop culture that spawned so many of the early U.S. automobile makers. Ransom Olds was a manufacturer of stationary gasoline engines when he entered the automobile industry. Henry M. Leland, the machinist who built Olds's engines and transmissions, had been trained at the United States armoury in Springfield, Massachusetts, and was nationally known as a producer of top-quality machine tools made to the finest possible tolerances. He founded the Cadillac Automobile Company in 1904. Henry Ford, himself a skilled machinist, had his first chassis made by the gifted Detroit

machinists John and Horace Dodge in 1903. This shop culture provided not only technical skill but access to capital too. Leland raised his initial capital from two Michigan men with whom he was already doing business. The Dodge brothers were prosperous enough to provide Ford with parts in return for shares in the Ford Motor Company, effectively supplying Ford with part of his early operating capital.[12] One sees a glimmer of such a world in Canada's pioneering automobile entrepreneurs, but nothing on the scale of what gave birth to the early U.S. industry.[13]

The Beginning of Commercial Production

So the solution for Canadians wanting to manufacture cars seemed to be to tap into the engineering expertise across the border, as in a sense the Good brothers so ingenuously did when they took their pattern of Olds's engine block to a local foundry in 1901. And it was to do this very thing, in a more formal way, that the Ford Motor Company of Canada was founded in 1904. The name Ford in this venture is misleading to modern Canadians, accustomed as they are to branch plant operations of U.S. companies. Ford of Canada was not a branch plant. It was in fact the quintessential Canadian company, created by a Canadian entrepreneur in response to Canadian circumstances, and a very successful one at that.

Ford of Canada was the idea of Gordon McGregor, a young (born 1873) entrepreneur from Windsor, Ontario, with, in the words of his biographer, the "street instincts of a traveling salesman."[14] In 1900 McGregor's father, William — a fairly successful local businessman with a variety of interests — had bought the plant and adjoining farm of the Walkerville Wagon Works, a small concern on the Detroit River just west of Windsor. The elder McGregor planned eventually to subdivide and sell the land but opted to keep the wagon works in operation for a time as a family enterprise. The business was only a few years old, and its main owner had died shortly before the sale, so it was by no means well established, but it had potential. McGregor put his young son Gordon in charge in 1902, but the following year the works remained in debt and the McGregors were compelled to reduce staff and sell most of the production equipment to a wagon maker in another town. Then young McGregor, seeing the rapid growth of the automobile industry across the Detroit River, hit upon the idea of using the premises of the wagon works to make U.S. cars in Canada. There was not a great demand for cars in Canada in 1904 but there was some, enough to prompt CCM, after giving up manufacturing its own cars in 1903, to become a Toronto sales agent for Henry Ford's company, and for Ford to establish a sales office in Windsor.[15] More than three hundred U.S. cars were imported that year. Surely it was just a matter of time before they really caught on.

The key to McGregor's scheme was the Canadian tariff. An import duty of 35 percent had long been imposed on carriages imported from the United States, and this was now being applied to automobiles as well. Most of an automobile's components had an import duty on them too, but it was lower, ranging from 20 percent to 30 percent. This meant that if a Canadian business imported a car's components from the United States and assembled them into a car in Canada, less duty would be paid on that car than on a finished car imported from the U.S. complete. The tariff differential was not great, but it did exist. McGregor was also fully aware, and this was likely more important, of a potential export market. Imperial trade policies in place since 1897 gave nearly free trade within the entire British Empire, so cars produced in Canada could be exported to anywhere in the Empire tariff-free, whereas those manufactured in and exported directly from the United States would have tariffs imposed. Setting up a manufacturing plant in Canada thus offered an American producer nearly duty-free access to British imperial markets.[16]

Of the several rising U.S. automakers, McGregor decided on Henry Ford as a likely partner. McGregor approached Ford directly, proposing that they start a new Canadian company to make Ford cars in Canada, according to Ford's specifications, on the premises of the Walkerville Wagon Works. After touring the Walkerville site with McGregor, Ford decided to go along. Ford of Canada would be created, with exclusive rights to sell Ford cars in Canada and any country in the British Empire outside the United Kingdom (in which another agreement was already in force). The company was chartered 10 August 1904. Henry Ford was subsequently named vice-president and McGregor managing secretary. (The president of Ford U.S., John Simon Gray, was named president.)[17]

The company was capitalized at $125,000. Ford Motor Company of Michigan was given 51 percent of the stock as compensation for information on how to build the cars — technology transfer from the United States was thus built right into the foundation of the company — and the legal rights to do so, but they invested no cash. The remaining 49 percent ($61,250) McGregor sold in $100 shares. He took fifty himself, as did his associate in the wagon works Mr Curry; the wagon works itself was turned over to the new company with a value of $30,000 — $5,000 in stock and the remainder to be paid at $5,000 per year until fully paid, the principal being subject to 5 percent interest. C. M. Walker (of the Hiram Walker family who had given their name to the

Figure 2. *A Ford of Canada advertisement from 1906, only the company's second year in business, when cars were clearly still a luxury. The low-priced Model N, just then being introduced, was an important precursor of the famous Model T.*
(*Industrial Canada*, May 1906)

town, and who had had a major interest in the original wagon works) bought one hundred shares, and other local men bought smaller amounts. Robert Gray of William Gray and Son, a Chatham carriage builder that hoped to supply bodies for the new Fords, took five shares. A good portion of the shares were sold in Michigan. All told, upon its incorporation 69 percent of the company was held in Michigan (including the majority share granted to the Ford Motor Company).[18]

Notwithstanding the tariff advantages that could be gained by simply assembling American-made parts in Canada, McGregor's intention seems to have been to buy many of his components locally. This is understandable since parts produced in Canada had no duty on them at all, so using them would lower production costs further still. Ford of Canada's 1904 prospectus states that frames would be bought from the Canadian Bridge Company, gasoline engines from the Canadian Typography Company, and wheels, springs, axles, and bodies "probably from Chatham."[19] Such a purchasing program might have been slightly embellished to lure capital from local businesses. In the case of Robert Gray of Chatham, it had worked, as Gray did buy shares. But the program was not entirely fictional. Gray's family firm was quite capable of supplying McGregor's auto bodies and did end up doing so. (The Chaplin Wheel Company, also of Chatham, supplied McGregor's wheels.) Procuring engines from a typography company was not as absurd as it sounds. The Dodge brothers had an interest in this Canadian firm, so the arrangement could well have been a ruse to avoid paying import duties on the Dodge Brothers engines built in the United States.[20] When production began in October 1904, however, the entire chassis (frame, engine, transmission) was brought over by ferry from Dodge Brothers in Detroit. The typography company was not utilized.[21]

Ford of Canada met with modest success at first. The company had made and sold 114 cars by the middle of 1905 (107 Model Cs and 7 big Model Bs) and paid a 6 percent dividend to their investors, but production for the whole of 1906 was only 101 cars and the company paid no dividends. The 1907 year was better, with 327 sales, but with the lower-cost Model N, and its Model R and S variations, now replacing the Model C, revenue was modest and still no dividends were paid. It was a small, fairly casual operation — the company had only 39 employees in 1907, all of whom stopped work for lunch — but the business plan seemed to be working out.[22]

One of the reasons for the slow start might have been increasing competition. McGregor's car was quickly followed by others, one with even closer American

Figure 3. *T. A. Russell knew that a successful car needed promotion as much as it needed engineering. Here he sits behind the wheel (still right-hand drive) of the lead car in a display at Toronto City Hall. If the date of the photograph (1905) is correct, these would have been* CCM*'s first "Russell" automobiles.*

(Metro Toronto Reference Library, neg. 966-1-6)

connections — the Oldsmobile. In 1905, the year after Ford of Canada commenced operations, Olds Motor Works of Lansing, Michigan, came to an agreement with the Packard Electrical Company of St Catharines, Ontario, to make the Oldsmobile in Packard's St Catharines factory from parts shipped in from Lansing. No new company was formed. There was simply an arrangement struck between Olds and Packard Electrical (which was itself a branch of Packard Electrical U.S.). Sales of these Canadian-built Oldsmobiles were fairly good, probably in the hundreds per year, but the company found little advantage in manufacturing in Canada. In 1907, as Olds Motor Works began moving toward larger, more complex cars, it closed its St Catharines facilities and opened a sales and service office in Toronto to import Oldsmobiles made in the United States.[23]

Another competing car that appeared in 1905 was the Russell, the only car from this period to begin production without a U.S. connection. The Russell was made entirely (or almost entirely) by CCM at its Toronto Junction bicycle factory, to which it added two new buildings during the winter of 1905/06 (totalling 20,000 square feet) to house an automobile department. The car was named after CCM's young new manager, T. A. Russell, who had been brought into the company about 1903 to oversee the development of this new branch of its operations. The Russell was a "sturdy, powerful, handsome little car," technically up to date, and it caught on quickly. Production was a modest twenty-five vehicles in its first year, but two new improved models were brought out in 1906 that sold well. The prominent and increasingly wealthy Toronto businessman Joseph Flavelle bought and drove one of those 1906 Russells, helping to establish the car's profile among the Toronto elite, and sales remained reasonably good over next year or two.[24]

That CCM was the one Canadian automaker to carry things this far on its own can be explained in two ways. As the historian of mass production David Hounshell has thoroughly demonstrated, the bicycle industry was a critical precursor to automobile mass production. It was in bicycle-making that the metalworking and machine-tool trades were refined to the level required for successful large-scale automobile manufacture.[25] CCM essentially was the Canadian bicycle industry at this time, so it is no surprise that it had the knowledge and capacity to move into large-scale, state-of-the-art automobile production. Its new facilities, described and pictured in trade literature that by good fortune is still extant, reveal this quite clearly. After its 1906 expansion, the company had production machinery valued at between $300,000 and $400,000 and a workforce of 375 men working day and night shifts. They machined their engine block castings (made elsewhere at "a foundry," probably in the United States) and steel crank shafts in their own machine shops, cast their aluminum crank cases in their own light-metal foundry, forged their axles and transmission gears in their drop-forge department, built their own frames from laminated white ash and strips of sheet steel, and manufactured their bearings, as they had been doing for bicycles, "on automatic machines which work with unerring accuracy."[26]

Apart from the technical connection with bicycle manufacture, CCM also had unique business advantages. Being part of the Toronto business establishment of the time, the company was in close touch with the best-connected Canadian businessmen of the age.[27] In setting up a national distribution network, for example, Russell was immediately able to hook up with the automobile marketer Dominion Automobile Company, a new expanding company with sales offices across the country, as well as to exploit connections elsewhere in the British Empire. Russell also had access to capital. Unlike any other Canadian automobile manufacturer at this time, CCM was able to develop its car from one year to the next.[28] This was critical for successful automobile production. Automobiles were technically so complex that many parts and elements of their design could be, and really had to be, improved from one year to the next; yet to have the capital to do so, on the strength of only twenty-five sales the first year, was a luxury no other Canadian automaker had.

So by 1907 or 1908 a Canadian automobile industry was beginning to take root. Canadian-made Fords and Oldsmobiles were selling annually in the hundreds, and Russells were not far behind. As well, some 400 cars were being imported every year. Car ownership was a growing trend: more than 3,000 automobiles were registered in Canada in 1908.[29] In April 1906, "the first real invitation motor show that was ever made in Canada" was held, with several U.S. cars on display along with a French Darracq and an English Humber. Another show followed in September. Trade publications from 1906 show that several auto accessory suppliers (tires, batteries, coils) and auto service businesses had set up in Toronto. So had two substantial dealers by this date — the Automobile and Supply Shop and the Dominion Automobile Company, the latter with offices in Montreal and Winnipeg too. Montreal also had at least two importers, the Automobile Import Company (90–96 Stanley Street) and the Franco-American Automobile Co. (415–417 Guy Street).[30] Cars, and the industry that made them, had come to Canada.

A Successful Industry Takes Shape

Over the next few years, between 1908 and the First World War, Canada moved farther, and irreversibly, into the automobile age. As mentioned, in 1908 there were 3,000 registered motor vehicles in Canada; by 1914, there were 69,598. Traffic monitors at an intersection west of Toronto saw six automobiles in ten hours in 1908; in 1912, they counted 382. The 1913 Toronto Motor Show attracted 90,000 visitors. Such numbers would be dwarfed by the figures of the 1920s, when the automobile truly entered the life of the masses, but the rate of growth is still considerable.[31] And demonstrating the acceptance of "automobility" in another way: in 1913 Prince Edward Island's notorious ban on automobiles, in place since 1908, was finally relaxed.

Figure 4. *This is said to be the entire staff (39 men) of Ford of Canada's Walkerville factory in 1907, many of whom had likely been employees of the Walkerville Wagon Works. Production that year was 327 cars, about eight cars for each worker in this image. Ford U.S., a few years earlier, was making about 12 cars per worker (Durnford and Baechler,* Cars of Canada, *353; Flink,* The Automobile Age, *42–3).*

(Ford of Canada Archives, neg. P8952)

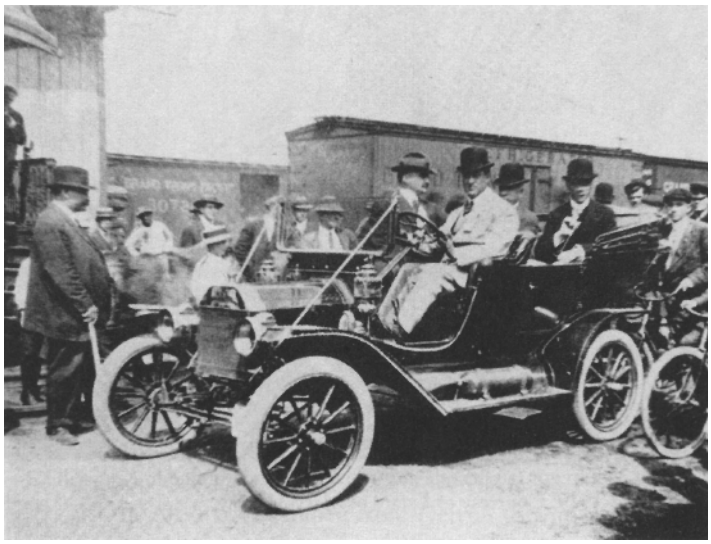


Figure 5. *Gordon McGregor, behind the wheel of a new Model T, chauffeuring Liberal prime minister Sir Wilfrid Laurier (back seat, behind McGregor) from the Windsor train station during the election campaign of 1911. Unlike many Ontario industrialists, McGregor — a long-time Liberal — supported Laurier's new reciprocity agreement with the United States (Roberts,* In the Shadow of Detroit, *81).*

In these years before the First World War, as well, the final basic technical developments occurred to make the automobile more appealing and more like the vehicle we know today, the most important probably being the introduction of the electric starter in 1912. This did away with the need to crank-start internal combustion engines, which ended the one remaining advantage of electric vehicles. From this point on the gasoline engine would be the motive power of choice. A few electric cars and steamers would still be made during and after the First World War, but they were novelties and took no part in the growth of the industry.[32]

Canadian automobile factories were not the source of all this growth — imports rose from 674 to 6,288 between 1908 and 1914 — but there is no question that Canadian production increased. Figures were not yet being compiled by the dominion government, but one recent study estimated that annual Canadian production rose from about 600 vehicles in 1908 to about 24,000 in 1914. Certainly Canadian manufacturers were supplying a good part of the rising Canadian demand for automobiles.[33]

The company that made the greatest number of these vehicles was Ford of Canada, as the modest success of its first few years quickly gave way to astonishing growth. The reason for this, apart from increasing demand for automobiles generally, was the Model T, that justly famous car of Henry Ford's that transformed the economics of automobile production — some would say it transformed human life — forever. Ford introduced the Model T to the United States in late 1908, and before the year ended he had sold more than 300 of the low-priced cars. Ford of Canada did not make Model Ts until March 1909 — at least Ford Detroit shipping records show the first Model T chassis going over to Walkerville that month — but the model caught on quickly in Canada too, with 458 made and sold by August.[34]

Production methods began changing as well. A young machinist from the American company had been brought to Walkerville in 1906 to manage production, and he had introduced some new machinery to pick up the pace, although production had remained stationary, both for the low-priced Model N (which in Detroit was made with some elements of moving assembly line production) and the first Model Ts in 1909. The wagon works had very limited room. But by the end of 1909, with the T catching on, the old ways had to go. A new building, designed by the noted Detroit architect Albert Kahn, who had just done Ford's new Highland Park factory, was added west of the wagon works in the summer of 1910. This allowed for more machining in-house and began a general shift in operations away from straight assembly toward manufacture. The following year Ford of Canada purchased the entire riverfront adjacent to its plant and built a huge new four-storey factory — also designed by Kahn — along the length of the property. This permitted full assembly line production, and the numbers show the result. Ford of Canada made and sold 486 cars in 1909, 1,280 in 1910, and 14,401 in 1914. Using Henry Ford's system of mass-producing in high volume and selling at low cost — let there be no mistake about whose ideas these were — Gordon McGregor had hitched Ford of Canada to a rocket that would carry him to untold heights.[35]

Once again, however, concentrating on Ford takes attention away from other makers, modest though their contributions might have been. There was, in fact, something of an entrepreneurial scramble in the Canadian industry during these years, particularly in the boom just before the war. Unfortunately for most of these entrepreneurs, the growing demand for automobiles continued to be filled by the few manufacturers who were already in business when the boom began. Thirty-five new Canadian automobile companies started production between 1908 and 1915, but by 1917 only two survived.[36] Ten new American-owned plants began operation in the period, but only four of them survived into the war, two just barely.[37] As business booms so often do, this one attracted many hopefuls but made few new fortunes. Despite rapidly rising demand and production, plentiful

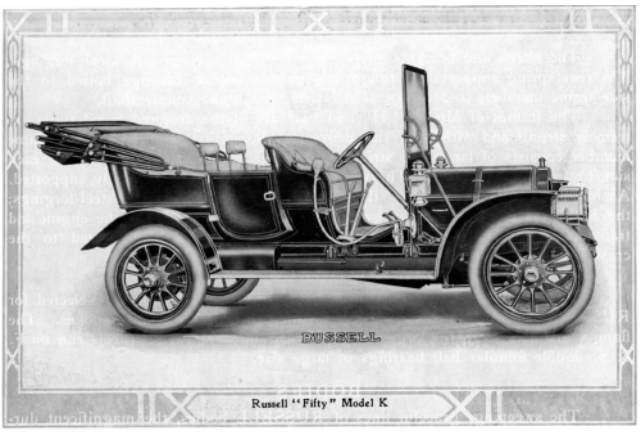


Figure 6. *The Russell Model K, pictured here in a 1909 sales brochure, was the top of the Russell line. The company made no effort to produce a car for the masses.*
(CSTM/de Bondt Collection)

Canadian entrepreneurship, and increasing expansion of the U.S. industry into Canada, in the end the structure of the Canadian automobile industry changed very little in these years before the war.

Unlike the entrepreneurial efforts earlier in the decade, a few of the new Canadian companies did have some modest, albeit short-lived, success. Lou D. Robertson, a former bicycle racer who managed the Eastern Automobile Company, a fledgling Montreal dealership, put together a company to make the Comet car in 1908 and 1909. Using parts imported from Europe and carrying an initial price of $5,000, the car was successful enough that as many as 200 were sold before Robertson's backers elected to withdraw their investment, without profit no doubt. The Brockville Atlas has a similar story. Some 300 of these cars were built in Brockville, Ontario, from 1912 to 1914, using the Atlas engine made in Indianapolis and parts from a number of other U.S. suppliers. Another new car was the McKay. This was the project of two brothers from Prince Edward Island, Jack and Don McKay, who leased the Kentville plant of the Nova Scotia Carriage Company in 1910 and began making cars modelled after the U.S.-made Penn car, using imported Penn parts and their own locally made bodies. Mechanical problems limited their production to only twenty-five cars the first year. Then they were attracted by generous civic bonuses to Amherst, Nova Scotia, in 1912, where they erected a large new factory with machinery capable of producing 1,000 vehicles annually. They never reached this level, but did manage to make about 200 cars before the U.S. Penn Company went out of business in 1914, ending their parts supply and forcing them to shut down.[38]

CCM, continued its efforts, also with some success. Its earlier Russells had sold well but not well enough, and in 1909 the company took a new tack. It bought the rights to the quiet new Knight sleeve-valve engine, designed in the United States but popular on European and English luxury cars, and in 1910 introduced a new line of Russell-Knight cars that used these engines. These were top-quality vehicles, with engines imported from Daimler in England and luxurious leather interiors. Their price was correspondingly high, ranging up to $5,000 — CCM was clearly going the opposite direction to Ford — but the cars sold reasonably well. Production in 1910 was about 100 vehicles. For the next two years production rose and the company flourished. Russell-Knights, as they were often called, seemed to have found a niche in the high end of the market. CCM's automobile business became big enough to warrant its own company, and in 1911 the Russell Motor Car Company was spun off from CCM, with Russell as its first vice-president. Everything looked promising for this so-called Canadian car (with an English engine). But the company was then forced by patent restrictions to manufacture its own engines, which it did for a redesigned 1913 model. Russell was not up to this task. The engines were badly flawed, as were the newly designed chassis — the vehicle had been brought out in haste — and the car quickly lost favour. Apparently the company managed to fix the car's technical problems and invested heavily in rehabilitating its image, but Russell was hit by the 1913 recession and sales never did recover. The company was losing money badly when the war broke out.[39]

Success of this type, modest though it might have been, was not the experience of the majority of entrepreneurs in the boom. Production of the Gareau (in Montreal) was three cars, the Swift (Chatham, Ontario) one or two, the Jules (Guelph, Ontario) two, the Clinton (Clinton, Ontario) eight, the Maritime (Saint John, New Brunswick) six to twelve, and so on.[40] Nevertheless, one is struck not just by the failures but by the fact that Canadian entrepreneurs were seeing the opportunities and responding, in most cases quite appropriately.

What stopped them from succeeding? Failure, of course, is by no means an uncommon outcome in business ventures. In times of heavy competition and rapid market growth it is doubtless more common than success. Nevertheless, some evident reasons for the success or failure of these Canadian automotive entrepreneurs can be outlined. An essential point is that they appear to have had access to enough capital to get started (sometimes in the form of civic bonuses). However, often they lacked money to continue developing their cars. Frequent modification and refinement were needed in these years of rapid technological evolution, as the constantly changing letter names of Ford's early models show, and with the exception of Russell, Canadian automakers did not

have the money. This, however, may be just the other side of poor sales, rather than a true shortage of capital. Most of the early U.S. car makers, by keeping the money flowing quickly through their businesses, financed the refinement of their vehicles with money from sales, rather than from further investment capital.[41] Revenue could come in quickly when cars suddenly caught on. Only with a careful study could one say for sure, but the lack of developmental capital for these Canadian companies appears to be primarily a sales problem, not really an impediment of its own.

McLaughlin and Tudhope Compared

To get a closer view of the forces at work on the industry in this period, it is instructive to compare two Ontario companies that started operations in 1908 — both of which did well enough to survive for a time, but only one of which lasted beyond the period. The successful venture was Sam McLaughlin's in Oshawa; the failed one was J. B. Tudhope's in Orillia. The comparison of their stories illustrates what made a successful Canadian automobile company in early-twentieth-century Canada.

Sam McLaughlin's automobile business was built on the foundation of a successful carriage-making firm his family had owned and run in Oshawa since the 1870s.[42] Around 1905 he began to urge his family toward automobile manufacture. At first this change was resisted by the father, but by 1906 Sam had won out and was actively seeking arrangements with a U.S. manufacturer to get started in automobiles.

Although aware of the need for a U.S. link, McLaughlin was unsure how best to do it, as well as rather uninformed about the technical aspects of auto production. He met and considered doing business with William Durant, an American carriage maker McLaughlin knew from the carriage trade who had recently taken control of the faltering Buick company in Detroit. But McLaughlin would not accept Durant's terms. Then, thinking he might be better off on his own, McLaughlin hired a group of Detroit engineers to design a car for him to make in Oshawa. This went nowhere. So McLaughlin hired another engineer, a man from Milwaukee by the name of Milbrath, to come to Oshawa to develop a car similar to Durant's Buick and to arrange a manufacturing plant to build it. This was a more realistic scheme and got far enough that the car was given a name — Model A — and a picture on a company calendar, looking much like a Buick. The McLaughlins supposedly set up a machine shop and ordered in parts, to their specifications, from a Cleveland supplier, including engine block castings they intended to machine in their own shop (as Russell was doing). What happened to the McLaughlin Model A, and to the parts that were to go into it and the machine tools that were to build it, nobody is sure. The fact is that no McLaughlin Model A was ever built. Two months after hiring engineer Milbrath to design and tool up the operation, McLaughlin dropped the plan and made a deal with Durant after all. They agreed to a fifteen-year contract in which McLaughlin would have exclusive Canadian rights to buy Buick parts from Durant's Buick Motor Company in Michigan — which would be assembled in Oshawa together with bodies made by McLaughlin — and to sell Buicks in Canada.

McLaughlin, after his prevarication, had probably made a wise decision. Without a bicycle-making machine shop filled with machinery and skilled men, as CCM had, it would have been very difficult to enter true automotive manufacture. The explanation usually given for their sudden change of heart is that engineer Milbrath fell ill with pleurisy and could not finish what he had started, so they had no choice but to go to Durant and make the deal they did. Milbrath might have fallen ill, but the rest of the story is barely plausible. It is hard to imagine one engineer designing a car, equipping and staffing a full machine shop, and ordering in a stock of semi-manufactured parts in just two months. Furthermore, had he been able to do so through some Herculean effort, it is odd that the company that paid for this work and machinery would abandon the plan when he fell ill. With such an

Figure 7. *By 1913, after only five years of operation, the McLaughlin Motor Car Company had assembled and sold several thousand McLaughlin-Buicks, and its cars could be found all across the country. Here, at a house on Cedar Street in Sudbury, are three probably brand new 1913 models: (from L to R) the Model 24 ($1,250), 31 ($1,825), and 25 ($1,450) (Durnford and Baechler,* Cars of Canada, *340).*
(City of Toronto Archives, Fonds 1244, Item 2506)

Figure 8. *What it took to underprice the Model T: Tudhope-McIntyres, with their high clearance and low price, were popular among rural and farm people for a few years. Tudhope assembled them at his Orillia carriage factory, from components made in Indiana, for about a year starting in 1908 before his factory burned down.*
(CSTM/de Bondt Collection)

investment, and a full commitment, surely another engineer could have been found. More likely the McLaughlins, finally realizing the true nature of their enterprise, were already changing their minds when Milbrath's illness struck. And perhaps, as Heather Robertson speculates, they were under pressure from Durant, who was expanding Buick operations very aggressively at this time by urging many of the suppliers of his carriage business to switch to automobile part production and join in his new venture.[43]

Whatever the reasons and the details, the McLaughlin Motor Car Company was incorporated on 20 November 1907. The McLaughlin Carriage Company bought just over half the shares and the Buick Motor Corporation less than a quarter. It was an arrangement essentially similar to McGregor's with Ford, though the McLaughlin family firm had more to invest than did McGregor. The first car, a 1908 McLaughlin Model F, came out of the factory in December 1907 and sold for $1,400; production of this and other models continued for several years. With their cars sometimes called McLaughlins and sometimes McLaughlin-Buicks, the company had annual production of 154 in 1908, 847 in 1910, and 1098 in 1914.[44] Carried along by the great success of Buick in the United States — it was second only to Ford in U.S. production from 1908 to 1910[45] — and free from the need to manufacture critical mechanical parts (the problem that had challenged Russell), the McLaughlin firm was on solid ground at the outbreak of the First World War.

The other 1908 venture, the Tudhope, has intriguingly similar origins.[46] It too was a spinoff from a family carriage-making business, carried forward by a son more attuned than his father to new technology and the business climate of the time. The Tudhope car was the result of J. B. Tudhope striking a deal with W. H. McIntyre of Auburn, Indiana, to make the McIntyre "high-wheeler" at his Orillia carriage shop. The high-wheeler was a light, inexpensive, buggy-like vehicle experiencing a great vogue at this time. Looking much like the first motorized carriages of the late nineteenth century, it was a deliberate attempt to make a low-cost, high-clearance vehicle suitable for rural drivers. Tudhope agreed to import all the mechanical parts from McIntyre and to make and install an all-wood body in his shop. Tudhope-McIntyres were soon on the road. With a price of only $550, and a network of retailers already established for carriage sales, Tudhope had good success. No production figures exist, but the vehicles were sold all across the country in the first year.

Then Tudhope's factory burned down in 1909, and production stopped. Since the high-wheeler fad had passed by this time, Tudhope took another route. While rebuilding his facilities (with a $50,000 bonus from the City of Orillia to keep him from relocating)[47] Tudhope made a deal with the U.S. automakers Everitt and Metzger, two-thirds of the E-M-F partnership whose cars had recently become very popular in the United States but whose operations had just been taken over by Studebaker. They had already shown an interest in penetrating the Canadian market, having built an E-M-F branch plant in Walkerville just prior to the Studebaker takeover, so they willingly entered the partnership with Tudhope. This was not to be just an assembly arrangement. Tudhope resolved to build the cars completely, to the American company's specifications, at his own shop, and at great expense he installed a full machine shop in his new plant to do so. This would free him from paying any duty on the components of his car and allow him to sell a quality car at a competitive price.

Tudhope's cars — called Everitts at first, then Tudhope-Everitts — came out late in 1910. They were fine cars, but their price (about $1,500) was still fairly high in a market increasingly dominated by low-cost Ford Model Ts. Sales were moderate, but with such a massive investment moderate was not enough. Sales were also hurt by mechanical problems with the first axles, something that damaged the car's reputation, but even without that setback it would have been hard to sell enough cars. Tudhope persevered long enough to bring out new, improved models in 1912 and

1913, but the improvements raised, rather than lowered, the price and sales remained disappointing. The Metzger Motor Car Company, the U.S. source for his design, went bankrupt in 1912. Tudhope was independent enough to be able to stay in business, but with the bankruptcy the brand itself lost favour. The Tudhope Motor Car Company went bankrupt in 1913.

The similarity in these stories is striking. Both companies were carriage makers who came to the auto business with large-scale production and sales experience, a network of sales outlets, and family investment capital.[48] Both made bodies for mechanical parts imported from the United States. Neither, however, had machine shop backgrounds. And this brings up the first of two differences. In spite of his inexperience with machine tools, Tudhope took the big step into machine production by choosing to make his own parts in Canada. McLaughlin almost did but in the end did not. Tudhope's decision might have harmed his chances of success by raising his production costs, and perhaps the axle failures were the result of inexperience in the shop — certainly the big U.S. makers were beyond such basic difficulties by now — but this is hard to say for sure. Another much more obvious, and more significant, difference between the two is that McLaughlin tied himself to a successful U.S. car and Tudhope did not. This was the key to success in the Canadian automobile industry. There was little more to it than that.[49]

Themes in the Pre-war Industry

Taking the pre-1914 period as a whole, several features of the Canadian automobile industry deserve comment and analysis. Most important is the industry's close connection to the United States. A few Canadian automakers appear to have started production without a set U.S. connection, but this appearance might be due to a lack of appropriate historical sources, and in any case none of the firms that succeeded did so without such a link. A close U.S. connection was an essential element of the Canadian automobile industry, right from the start.

U.S. connections, however, could take several forms, a point often overlooked in superficial histories of the industry. Some Canadian auto manufacturers were little more than U.S. business ventures on Canadian soil, such as the Dominion — a car conceived and promoted by U.S. businessmen, to be built in Walkerville, Ontario, entirely of U.S. parts. It failed from lack of capital. The Schacht Motor Car Company of Canada was a slight variation — a fully Canadian business venture that built the American Schacht car at a plant in Hamilton, Ontario. In some cases the Canadian-built version of an American car was given a different name, such as the McKay (a replica of the U.S.-built Penn) and the Galt (the Alpena, made in Alpena, Michigan). The Clinton Motor Car Company of Clinton, Ontario, had yet another approach, apparently designing its own car from U.S.-made components.[50] Still another was for a Canadian company to hire an experienced American automotive engineer to design an original car and set up Canadian production, which would probably mean all U.S.-made parts. This is how the Oxford was started in Maisonneuve in 1913 by the Pontbriand family of Sorel, Quebec (the name being chosen to create an "English" image).[51] Sam McLaughlin also considered this approach. Perhaps the most extraordinary effort of this type was a scheme to build a vehicle called the Canadian Standard in Moose Jaw, Saskatchewan, in 1913. City boosters convinced A. R. Walton, a truck maker in Fort Wayne, Indiana, to bring his parts and production machinery to Moose Jaw to make cars. He brought the equipment but never made a car.[52]

These different types of U.S. connection, varied though they were, all point unmistakably to one fact: Canada lacked a sophisticated machining and metalworking industry, with tradesmen capable of working at the high level of skill and precision required by the automobile industry. The shops that spawned the machinist/entrepreneurs of the early U.S. industry — such as Leland, Ford, and the Dodges — seem never to have existed in Canada, as evidenced by the fact that, with the exception of Russell, Canadian auto manufacturers all turned to the United States for automotive engineering expertise, whether in the form of people, production machinery, or finished

Figure 9. *This nearly lost vehicle — on a bridge over Rosedale Ravine in Toronto in 1912 — is a Rauch and Lang electric, imported and sold by the McLaughlin Carriage Company in 1911. McLaughlin planned to do with these what it did with Buicks, import the chassis and build its own body, but dropped the plan when electric cars fell out of favour (Durnford and Baechler,* Cars of Canada, *121).*
(City of Toronto Archives, Fonds 1244, Item 1575)

components. And even Russell, whose history is a little fogged by nationalist sentiments, seems to have relied on imported parts to a degree.

There is a tendency to think of the modern automobile industry, particularly after it adopted the Fordist principle of high-volume production, as a rather unchallenging, robotic business utilizing unskilled workers to make cheap mass-produced goods. But this is simply not true. Successful automobile manufacture was a technical achievement of a very high order, and Canadians evidently could not do it on their own. The consequences of this dependence were, of course, quite profound, as the experience of several Canadian makers whose U.S. supplier/partner ceased production or lost popularity reveals. But it is important to recognize that this notorious dependence and vulnerability of the Canadian auto industry was due more to a lack of Canadian mechanical engineering expertise than to any competitive disadvantages for Canadian firms or to aggressive expansion of U.S. interests.[53] It is also important to keep in mind that when a U.S. partner hit gold — as in Gordon McGregor's Model T or Sam McLaughlin's Buick — their Canadian partners shared in the riches.

The U.S. connection also took the form of true branch plants — Canadian-incorporated companies set up and controlled by a U.S. firm for the sole purpose of making their products in Canada — but these were not yet the norm. Ransom Olds tried again in 1909, setting up the Reo Motor Car Company at the same Packard Electric factory in St Catharines that his original Oldsmobile company had just abandoned. E-M-F incorporated a Canadian company and set up a factory in Walkerville in 1909, which was subsequently taken over and run by Studebaker of Canada with considerable success just before the war. Studebakers were the third most popular car in the United States from 1912 to 1914, and their popularity spilled over the border. Studebaker produced three thousand cars in Canada in 1913, the first truly successful branch plant.[54]

Figure 10. *The Hupp Motor Car Company plant at Giles Boulevard and McDougall Avenue in Windsor, seen here in 1913 just after its completion, was one of many new automotive plants built in and around Windsor during the boom years prior to the First World War (Windsor on Wheels, Windsor Public Library).*

(Archives of Ontario, neg. RG 9-7-5-0-81)

Another aspect of the U.S. connection was the tie to advertising, image, and fashion. Cars popular in the United States were popular in Canada too. This point was made in comparing Tudhope and McLaughlin, but it can be taken further. Ford, Buick, and Studebaker were the most popular cars in the United States in these years (Willys-Overland was popular too but had not yet made a mark in Canada), and not surprisingly they were the popular brands in Canada too.[55] Canadians early in the century were subject to much of the same mass media that Americans were, so naturally they wanted the cars that Americans wanted. One wonders if the Russell Motor Car Company, the only truly Canadian automaker, had any hope of success, even if it had overcome its technical problems, without a popular U.S. logo on its car.

One final detail about the association with the U.S. industry is that, because the Canadian industry was essentially the U.S. industry in Canadian territory, the American style of automobile — low-priced, mass-produced — became the Canadian style as well. Whether there was any alternative, which is to say whether this development was a product of Canada's free choice or of Canada being forced this way by American interests, is a perplexing question. It has been argued that Canada's national style in these years was more European, more artisanal, and it is true that some Canadian makers leaned this way — such as Russell with its fine Russell-Knight cars or the lesser-known Comet. But it is hard to see this as a universal Canadian trait. McGregor and McLaughlin were Canadian too, as were the thousands of Model T buyers in Canada. And there were Russell-like companies in the United States too, all of whom lost out to the Fordist manufacture just like Russell did. Sam McLaughlin is said to have visited Richard Pierce's Pierce-Arrow factory in Buffalo when he was considering possible U.S. partners in 1908. Pierce, who made quality cars in the European artisan tradition, told McLaughlin to keep clear of this kind of production in North America, and McLaughlin took his advice. Although, admittedly, this is a complex question, in the case of automobiles the evidence is that Canadians simply did what they wanted to do, and in doing so acted like the "Americans" they were.[56]

Beyond the multi-faceted relationship with the United States, there are four other general observations

to make about the Canadian automotive industry in this pre-1914 period. One is how widely dispersed around the country automobile entrepreneurship was, a point that runs contrary to other analysts' claims that the early Canadian industry was centred in southern Ontario from the start.[57] The difference, of course, comes from considering entrepreneurs separately from successful, economically significant companies. Entrepreneurs were everywhere. The majority, not surprisingly, were from southern Ontario, where industry was well developed and Michigan so close, but not all were. Automobile entrepreneurs could be found in Kentville, Saint John, and Maisonneuve, as well as in southern Ontario. Furthermore, even within southern Ontario automakers were not concentrated in a single region. Cars were made in Brockville, Orillia, Oshawa, Toronto, St Catharines, Galt, London, and Chatham, as well as in the Windsor–Walkerville area, where the largest number of plants were situated.[58] The geographic concentration evident at the end of the period, say 1914, should not mask the fact that *during* the period automobile entrepreneurship was fairly dispersed. Enduring success came only to those in certain locations (perhaps because of location), but significant efforts to succeed were made in many others.

A related, but really quite distinct, aspect of the dispersal of the industry at this stage is its spread into the west, not of manufacturers but of sales agents from the Ontario manufacturers. Saskatchewan and British Columbia are the two western provinces whose early adoption of the automobile has been studied, and in both provinces the period from 1909 to 1913 is critical in establishing both the use of motor vehicles and the pattern of their manufacture and sale.[59]

Figure 11. *This delivery of Ford Model Ts to Castor, Alberta, in 1912 — the first such delivery the town had seen — seems to have brought out the employees of Traders Bank to see for themselves. Ontario-made Fords were shipped west by the thousands as the farms and towns of the west were settled in the years before the First World War.*

Signs of increasing motorization of the west are everywhere in these years. The Vancouver business directory shows four entries under automobiles in 1906, thirty in 1911, and forty-nine in 1914. The first Regina Motor Club was formed in 1910. Hotels in British Columbia, both on the coast and in the interior, began to transport guests from rail terminals and boat docks to their hotels by motor vehicles in 1909 and 1910. In both provinces, land agents in these years made frequent use of vehicles in their promotion and sales. The RCMP in Regina bought $30,000 worth of Ford Model Ts in 1914. All of this was of course built on the great wave of population and economic growth in the west prior to the First World War. Automobile registration in the three western provinces totalled only 10 percent of the Canadian total in 1908; six years later, in 1914, the figure was 29 percent.[60]

Along with this increasing use of vehicles came a closer tie to the eastern manufacturers. Whereas the early dealers and agents tended to be local men, often acting as agents for several different manufactures, from 1911 to 1913 the Ontario companies themselves began to establish western sales offices.[61] George McLaughlin (Sam's brother) tried to drive a McLaughlin-Buick from Winnipeg to Victoria in the summer of 1911 to bring attention to their car. He got only as far as Edmonton but managed to establish sales offices in Winnipeg and Regina along the way.[62] McLaughlin had opened western sales offices for its carriages in 1899 and had used them for automobiles as well, but these 1911 offices were exclusively for their automobiles.[63] Tudhope built a splendid garage and showroom in Vancouver at Granville and West Fifteenth in 1912.[64] Ford of Canada opened sales offices in Winnipeg in 1910, Saskatoon in 1912, and Calgary and Vancouver (in Tudhope's premises after its bankruptcy) by 1913. Ford also restructured its company in 1911, replacing the Ontario-chartered firm with a Canada-wide firm capitalized at $1 million.[65] Here is one further aspect of the central Canadian domination of western affairs that was established in the pre-war boom, and it can be added to better-known aspects such as banking, farm implement sales, and political parties.

A third observation is the role of the tariff in fostering and shaping the industry. The essential point here is that, contrary to what has often been assumed, the protective tariff gave cars made in Canada from imported U.S. parts only a slight advantage over those imported fully built.[66] The Canadian automobile industry is often described as an assembly operation for U.S.-made parts, but in these years this is not true. Straight Canadian assem-

Figure 12. *Canadian Commercial Car, likely the first Canadian firm dedicated to commercial vehicle manufacture, started up in 1910, a year before this advertisement. It made a variety of body styles to suit the needs of its customers — a "semi-custom" style of manufacture that remained the basis of the commercial vehicle industry for years.*

(Courtesy Windsor's Community Museum)

bly of U.S.-made parts was barely worth it, as Oldsmobile concluded in 1907 when it ceased Canadian production. Not surprisingly, few tried.

It was the tariff on *parts* that had the greatest impact on the industry, for it gave a strong incentive to use as many Canadian-made (and thus duty-free) parts as possible. All the early makers followed this strategy. A 1912 warranty from McLaughlin excludes "tires, rims, coils, batteries, and parts not made by us." Ford even began to make engines at their Walkerville plant in 1913. This was as true for U.S.-owned branch plants as for Canadian-owned companies. Reo, for example, moved in this direction in 1910 when it began to buy wheels from a local supplier and make more mechanical parts in its own machine shop.[67]

As a result of this tariff, a Canadian auto parts industry began to take shape, right from the start. The presence of small auto parts makers, such as coil and tire manufacturers, in Toronto in 1906 has been noted, but there is other evidence. *Ward's Canadian Automotive Yearbook* for 1960 lists 143 automotive parts manufacturers, 14 of which started business before 1914. Not all are exclusively automotive suppliers (Algoma Steel, for example), but many are (Dominion Forge, Kelsey Wheel, Canada Motor Lamp). The value of parts production was not recorded by the Dominion Bureau of Statistics before the 1920s, but export records show Canadian-made parts being exported as early as 1912 with a value of roughly 5 percent or 10 percent of vehicle exports.[68] One essential component that auto manufacturers could consistently make in Canada, and thus avoid paying any duty on, was the car's body. Canadian machine shops might have been in short supply when the automotive industry was born at the start of the twentieth century, but Canada did have a prosperous carriage and wagon

Figure 13. *Ford of Canada's premises expanded faster than anyone could have imagined when the business began in 1904. The dark, sloped-roof building facing the street is the original wagon works. Behind it, mostly obscured, is the 1910 addition. Obscuring it is a newer two-storey office building, and behind them all, along the riverfront, is the huge 1913 addition.*

(Industrial Canada, June 1913)

manufacturing industry.[69] Here was a source of skill and experience that manufacturers could tap with confidence, and it appears that all Canadian companies and most U.S. branch plants did so. Thus, on account of the tariff, a Canadian automobile body-making industry emerged from a declining wagon and carriage manufactory.

One final point about this early period of the industry is the critical importance of the export market. This is a key, but often overlooked, aspect of the industry's foundations (the emphasis usually being on export sales in the 1920s). Ford was the only significant exporter, but its volume was so high that it was important to the industry as a whole. Exports had been part of the company's plan from the outset, as noted, and McGregor and Ford followed the plan with great success. In 1906, in its second year of production, Ford exported twenty-six of the ninety-nine cars it made. This proportion rose fairly steadily through the boom years as the Model T took hold. In 1913, Ford of Canada produced 12,485 vehicles and exported 5,932 of them, 47.5 percent. The company was in an enviable position in developing export sales. Although McGregor travelled to Australia to set up a sales office there in 1909,[70] most of the sales development was done by the U.S. company. The latter employed agents in New York to make sales connections all over the world; yet if the vehicles went to a part of the British Empire, it was Ford of Canada that got the sales regardless of who had drummed up the business. As well, since demand for the cars was slower in Canada than in the United States, especially in winter, Ford of Canada had more cars to sell to countries in the southern hemisphere whose demand was strongest when Canadian demand was weak. Ford of Canada was selling two or three times as many vehicles abroad as Ford U.S., while producing only one-tenth as many.[71]

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To sum up, when the First World War broke out in 1914, Canada undoubtedly had an automobile industry. It was not large (production in 1914 has been estimated at 24,000 units) but it was growing. It had evolved fairly rapidly, from the pioneer-tinkering stage at the turn of the century through to commercial production in only about ten years, and showed signs of continuing development. The industry was closely tied to the U.S. industry, as it had been from its inception, particularly regarding the design and manufacture of mechanical parts. None of the cars in commercial production at the end of the period could be termed Canadian in design or manufacture; the Russell had been at first but was no longer. Many of the cars made in Canada, however, did have domestically produced bodies, and in some cases these bodies differed from those on similar U.S. models, making some of the Canadian cars, superficially at least, distinguishable from U.S. cars. The U.S. connection did not at this time take the form of branch plants owned by large U.S. automakers. There were in fact few such concerns in Canada during this period, and what few existed had not done well. This absence of U.S. branch plants illuminates an important point about the early Canadian auto industry — the initiative to establish ties with the U.S. industry came not from the United States but from Canada, and it was a product not of U.S. business expansion but of Canadian automobile entrepreneurs trying to develop a viable Canadian industry.

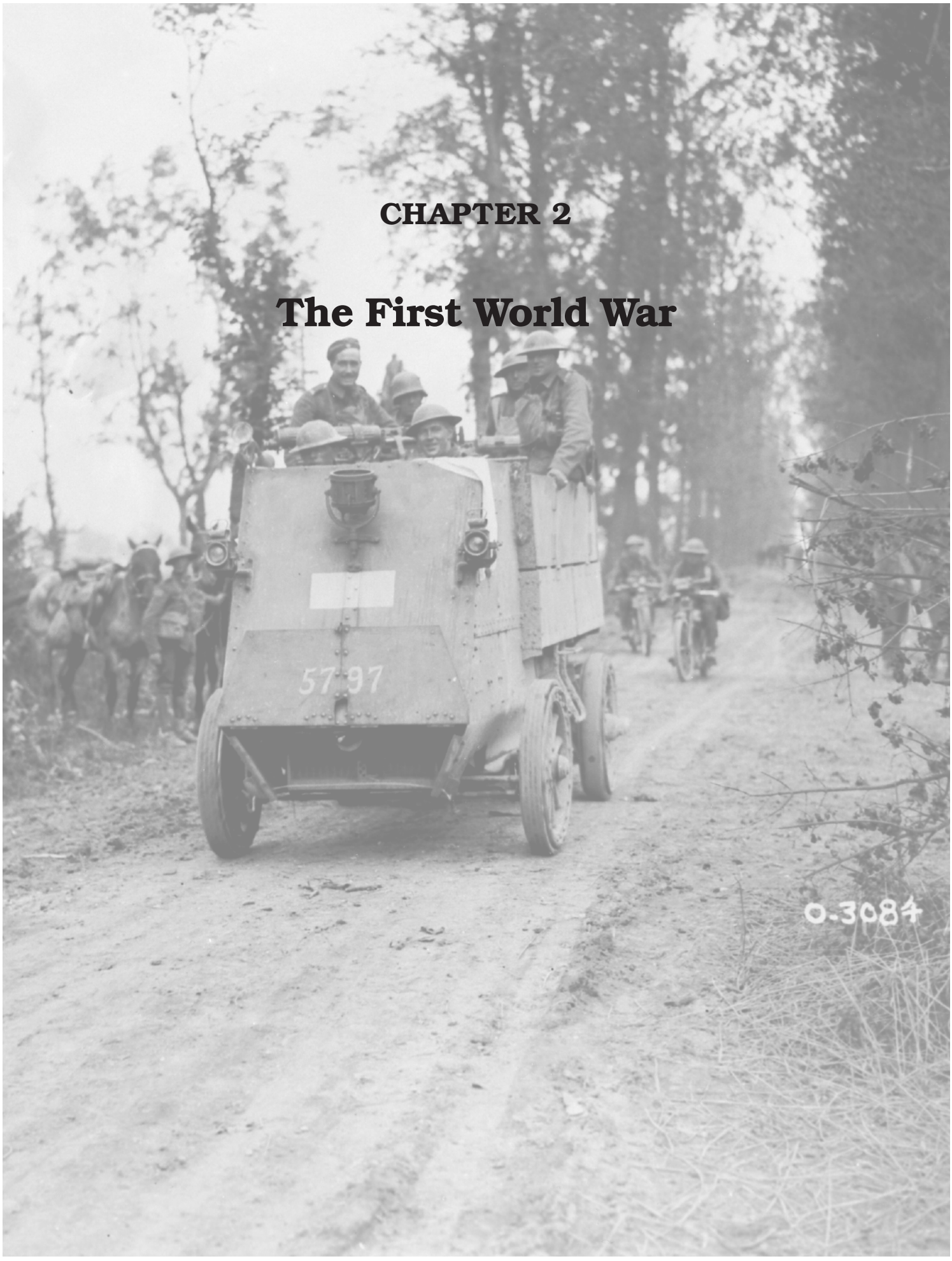
The industry was dominated by Ford of Canada, which, not coincidentally, made a car that was the most popular car in the United States. Ford produced well over half the cars made in Canada in 1914. The Reo and Studebaker branch plants made a significant number of cars at the very end of the period, as did the McLaughlin Motor Car Company (maker of Buicks). The Russell Motor Car Company had been a significant producer and was still in business but by the outbreak of war appears to have ceased production. Several small Canadian companies were making vehicles in 1914, but their production was small and their future dim.

Notes

1. Canada, Royal Commission on Canada's Economic Prospects, *The Canadian Automotive Industry*, by Sun Life Assurance Company of Canada (Sept. 1956), 2; Canada, *Report of the Royal Commission on the Automotive Industry* (1961), 5.
2. John B. Rae, *The American Automobile Industry* (Boston: Twayne Publishers, 1984), 11–20 (15 for claim of 1897); James J. Flink, *The Automobile Age* (Cambridge: MIT Press, 1988), 1–22; Gerald T. Bloomfield, *The World Automotive Industry* (Newton Abbot: David & Charles, 1978), general reference.
3. David Hounshell, *From the American System to Mass Production, 1800–1932: The Development of Manufacturing Technology in the United States* (Baltimore: Johns Hopkins University Press, 1984), general reference; Monte Calvert, *The Mechanical Engineer in America: Professional Cultures in Conflict* (Baltimore: Johns Hopkins University Press, 1967), general reference; Flink, *The Automobile Age*, 45–6; author's unpublished research on the early development of electrical appliances.
4. Flink, *The Automobile Age*, 26.
5. Daimler employed 1,700 production workers and made fewer than 1,000 cars in 1901; Flink, *The Automobile Age*, 33–5, 42–3, quotation 33.
6. Hugh Durnford and Glen Baechler, *Cars of Canada* (Toronto: McClelland & Stewart, 1973), 28–45.

7. Augustus Bridle, "Automobile Industry in Canada," *The Canadian Graphic* 5, no. 12 (7 April 1906): 5.
8. Durnford and Baechler, *Cars of Canada*, 71–9; James Dykes, *Canada's Automotive Industry* (Toronto: McGraw Hill, 1970), 14, for a photograph of a Still electric used by Parker's Dye Works; Robert Collins, *A Great Way to Go: The Automobile in Canada* (Toronto: Ryerson Press, 1969), 1–15.
9. Michael Bliss, *Northern Enterprise: Five Centuries of Canadian Business* (Toronto: McClelland & Stewart, 1987), 337–8; Durnford and Baechler, *Cars of Canada*, 84–8.
10. Durnford and Baechler, *Cars of Canada,* 80–2.
11. Ibid., 80, 82, 83, 100.
12. Rae, *The American Automobile Industry*, 21–2; Flink, *The Automobile Age*, 36 and 41.
13. Some details of this are explored in Robert E. Ankli, "Missed Opportunities: The Early Canadian Automobile Industry and Machine Tool Industries," *American Review of Canadian Studies* 19, no. 3 (1989).
14. David Roberts, *In the Shadow of Detroit: Gordon M. McGregor, Ford of Canada, and Motoropolis* (Detroit: Wayne State University Press, 2006), 21.
15. Canada, Dominion Bureau of Statistics (hereafter DBS), *Motor Vehicle Manufacturers*, 1930 (DBS Catalogue 42-209), Table 28; Durnford and Baechler, *Cars of Canada*, 88; Mira Wilkins and Frank E. Hill, *American Business Abroad: Ford on Six Continents* (Detroit: Wayne State University Press, 1964), 20; Roberts, *In the Shadow of Detroit*, 17–21.
16. Tom Traves, "The Development of the Ontario Automobile Industry to 1939," in *Progress without Planning: The Economic History of Ontario from Confederation to the Second World War*, ed. Ian M. Drummond (Toronto: University of Toronto Press, 1987), 209; Durnford and Baechler, *Cars of Canada*, 222; Robert Craig Brown and Ramsay Cook, *Canada 1896–1921: A Nation Transformed* (Toronto: McClelland & Stewart, 1974), 20–1.
17. Wilkins and Hill, *American Business Abroad*, 14–9; Durnford and Baechler, *Cars of Canada*, 232–44; William Gray Papers, MU1150, William Gray speech notes, 3 Nov. 1956, Archives of Ontario; Roberts, *In the Shadow of Detroit,* 24–5, 27–9.
18. Wilkins and Hill, *American Business Abroad*, 18; Roberts, *In the Shadow of Detroit*, 27–9; William Gray Papers, MU1150, Ford file, letters, McGregor to Gray, 16 July 1904 and 18 Oct. 1905, Archives of Ontario; there are slight inconsistencies among these various sources.
19. William Gray Papers, MU1150, Ford file, prospectus typescript, Archives of Ontario.
20. Robert E. Ankli and Fred Frederiksen, "The Dodge Brothers in Canada," *Vintage Vehicles of Canada* 2, no. 2 (Sept./Oct. 1980): 7–10; the authors refer to the brothers' association with the typography company but do not mention the company being Ford's engine supplier.
21. William Gray Papers, MU1150, Ford file, prospectus typescript, Archives of Ontario; Wilkins and Hill, *American Business Abroad*, 20; the latter make no mention of the Dominion Typography Company, and their sources (correspondence with Canadian Customs officials, among others) are such that had McGregor actually used the Canadian firm, they would likely have noticed. Roberts, *In the Shadow of Detroit*, 31, states that Dodge chassis came directly from Michigan and that a duty was paid on them.
22. William Gray Papers, MU1150, Ford file, financial statements, Archives of Ontario; Durnford and Baechler, *Cars of Canada*, 232; Wilkins and Hill, *American Business Abroad*, 21–2; Roberts, *In the Shadow of Detroit*, 38, 43–4; the number of employees comes from a photograph of the entire 1907 workforce (see Figure 4). This image was displayed in the Windsor Public Library exhibition Some Assembly Required: A History of Auto Work and Workers in Windsor and can still be seen on the exhibition website, http://209.202.75.197/digi/sar, where some of the workers are identified; the original image is held in the Ford of Canada Archives.
23. Durnford and Baechler, *Cars of Canada*, 244–5; one wonders if there could be some connection between this 1905 venture and Olds's visit to the LeRoy plant in 1904; also Norman R. Ball and John N. Vardalas, *Ferranti-Packard: Pioneers in Canadian Electrical Manufacturing* (Montreal: McGill-Queens University Press, 1994), 59–64, which has reproductions of several excellent photographs of Packard's Oldsmobile operations.
24. Jaroslav Petryshyn, "*Made Up to a Standard": Thomas Alexander Russell and the Russell Motor Car Company* (Burnstown, Ont.: General Store Publishing, n.d.), 21–5; Durnford and Baechler, *Cars of Canada*, 88–9, quotation 88; *Canadian Motor*, Feb. 1906, cover photograph and caption; no actual production figures are given; Michael Bliss, *A Canadian Millionaire: The Life and Business Times of Sir Joseph Flavelle, Bart., 1858–1939* (Toronto: Macmillan of Canada, 1978), 211.
25. Hounshell, *From the American System to Mass Production*, 189–216.
26. *Canadian Motor*, Feb. 1906, 28–33, quotation 32; CCM tended to play up the extent of its Canadian manufacture.
27. Bliss, *Northern Enterprise*, 330–9.
28. Durnford and Baechler, *Cars of Canada*, 89–91; Petryshyn, "*Made Up to a Standard*," 39–42.
29. Canada, DBS, *Motor Vehicle Manufacturers*, 1930, Tables 28 and 29.
30. *Canadian Motor* , Feb. 1906; "A Canadian Automobile Show" and "Automobile Industry in Canada" in *The Canadian Graphic* 5, no. 2 (7 April 1906): 27; *Motoring* Sept. 1906.
31. Stephen J. Davies, "Ontario and the Automobile, 1900–1930: Aspects of Technological Integration" (PhD diss., McMaster University, 1978), 16, 36, 211–5.
32. Rae, *The American Automobile Industry*, 36; Durnford and Baechler, *Cars of Canada*, 17.
33. Canada, DBS, *Motor Vehicle Manufacturers*, 1930, Table 28; Canada, Royal Commission on Canada's Economic Prospects, *The Canadian Automotive Industry* (Sept. 1956), 5, cited in Bloomfield, "Elements of the Canadian Motor Vehicle Industry to 1929," unpublished report to the Historical Atlas of Canada Project, vol. 3, July 1984.
34. James C. Mays, *Ford and Canada: 100 Years Together* (Montreal: Syam Publishing, 2003), 15, says Model Ts were produced at Walkerville in October 1908, but he provides no source; Roberts, *In the Shadow of Detroit*, 55–7, says March 1909, citing the shipping records.
35. Flink, *The Automobile Age*, 36–9; Wilkins and Hill, *American Business Abroad*, 20, 41, 42, and 442 (Appendix 6); Roberts, *In the Shadow of Detroit*, 41, 55–7, 64–75.

36. Based on the material in Durnford and Baechler, *Cars of Canada*, 100–52.
37. Durnford and Baechler, *Cars of Canada*, 230–73.
38. Ibid., 100, 128–38.
39. Durnford and Baechler, *Cars of Canada*, 95; Lloyd A. Brown, "Willys-Knight in Canada," *Vintage Canada* 3, no. 3 (March 1997): 4–6, for the Knight engine; Petryshyn, "*Made Up to a Standard*," 61, 69–72, 95, 128–9; Petryshyn makes the important point that Russell's decision to move decisively toward expensive, European-style automobiles was a questionable business strategy for the time, and that this must be considered one of the reasons why the car failed.
40. Durnford and Baechler, *Cars of Canada*, 127, 130, 134, 141.
41. Flink, *The Automobile Age*, 41; Rae, *The American Automobile Industry*, 28–9.
42. The following account is derived from Durnford and Baechler, *Cars of Canada*, 111–22; Collins, *A Great Way to Go*, 29–43; and Heather Robertson, *Driving Force: The McLaughlin Family and the Age of the Car* (Toronto: McClelland & Stewart, 1994), 100–15.
43. Robertson, *Driving Force*, 112–3, for this point; Flink, *The Automobile Age*, 61, for Durant and Buick.
44. "GM in Canada: The Early Years," *Vintage Canada* 1, no. 3 (March 1975): 16, for production figures; McLaughlin's (and Buick's) lack of a low-cost vehicle to compete with the Ford Model T was limiting its sales in the period from 1910 to 1914, when Ford's sales took off; the solution to this problem was the Chevrolet, covered in the next chapter.
45. Flink, *The Automobile Age*, 61.
46. Durnford and Baechler, *Cars of Canada*, 102–11; Collins, *A Great Way to Go*, 26–8.
47. Collins, *A Great Way to Go*, 27.
48. One might note that Gordon McGregor of Ford of Canada, though a wagon maker of sorts, did not have the long history and family background in the industry that both Tudhope and McLaughlin had.
49. Donald F. Davis, in "Dependent Motorization: Canada and the Automobile to the 1930s," *Journal of Canadian Studies* 21, no. 3 (Fall 1986): 112–3, comes to a similar conclusion, although he is inclined to fault Canadian manufacturers for not being astute enough to bet on the right car, which seems a little overcritical.
50. Durnford and Baechler, *Cars of Canada*, 127, 128, 134.
51. Ibid., 146.
52. Ibid., 142–3.
53. This subject is thoughtfully explored by Davis in "Dependent Motorization"; most of his conclusions are consistent with those offered here.
54. Durnford and Baechler, *Cars of Canada*, 247, 249–50, 254, 268–9.
55. Flink, *The Automobile Age*, 64.
56. Robertson, *Driving Force*, 104; Davis, "Dependent Motorization," 120, argues that the Canadian tendency was toward European artisanal production and that the U.S. industry "helped to democratize the Canadian automobile."
57. See, for example, Traves, "The Development of the Ontario Automobile Industry to 1939," 208, and Donald Kerr and Deryck W. Holdsworth, eds., *Historical Atlas of Canada,* vol. 3, Plate 7, various tables and maps, based on the points made by Gerald. T. Bloomfield in his "Elements of the Canadian Motor Vehicle Industry to 1929."
58. Durnford and Baechler, *Cars of Canada*, geographic details.
59. Gerald T. Bloomfield, "Motorisation on the New Frontier: The Case of Saskatchewan, Canada, 1906–1934," in *The Economic and Social Effects of the Spread of Motor Vehicles*, ed. Theo Barker (London: MacMillan, 1987), 165–93.
60. Collins, *A Great Way to Go*, 45; Canada, DBS, *Motor Vehicle Manufacturers*, 1930, Table 29; Bloomfield, "Motorisation on the New Frontier," covers the phenomenon more generally.
61. Note the early automotive dealers described by G. T. Taylor, *The Automobile Saga of British Columbia, 1864–1914* (Victoria: Morriss Publishing, 1984), in Victoria, 106, and Vancouver, 69.
62. Robertson, *Driving Force*, 141–5.
63. Bloomfield, "Motorisation on the New Frontier," 176–8.
64. Taylor, *The Automobile Saga of British Columbia*, 94.
65. Wilkins and Hill, *American Business Abroad*, 41 and 42.
66. The conventional view regarding the tariff differential is well put in Tom Traves, *The State and Enterprise: Canadian Manufacturers and the Federal Government* (Toronto: University of Toronto Press, 1979), 101–2.
67. Wilkins and Hill, *American Business Abroad*, 42; Robertson, *Driving Force*, quotation 147.
68. Durnford and Baechler, *Cars of Canada*, 247; *Ward's Canadian Automotive Yearbook* (1960), 42–55.
69. Carriage makers were still doing well in these early years of the auto age; when Tudhope rebuilt his plant after the 1909 fire, he built a carriage factory with a capacity of 25,000 carriages annually (Durnford and Baechler, *Cars of Canada*, 104), while the McLaughlins were still making 15,000 per year in these years (Robertson, *Driving Force*, 104); such figures suggest a highly developed sales network as well.
70. Roberts, *Driving Force*, 59–61.
71. Wilkins and Hill, *American Business Abroad*, 21, 44, 442 (Appendix 6); see export figures in Roberts, *In the Shadow of Detroit*, 68–72.



CHAPTER 2

The First World War

The First World War

The First World War had surprisingly little effect on the Canadian automobile industry. One might expect, considering Canada's substantial participation in the war and the increasing importance of mechanized transport in the military, that the Canadian industry might have been a major supplier of military vehicles. But not so. Most of the motor vehicles used by Allied forces were purchased by the British and later the American military, not the Canadian, and neither Britain nor the United States was inclined to buy Canadian vehicles. Even the few vehicles the Canadian militia did buy, for its own use in Canadian camps and for special purposes overseas, it bought from U.S. makers.

Why this was so is hard to say. There were certainly plenty of Canadian-made vehicles available in 1914, and several of them were tried, but in the end the Canadian military settled on U.S.-made vehicles. They had no commitment to buying and using Canadian-made vehicles. The result was that the Canadian automotive industry was left, with the notable exception of Ford, largely unaffected by wartime demand for vehicles. That is not to say the industry was untouched by the war. Consumer demand was altered, and some manufacturers found it more profitable to shift to wartime munitions production, so the war did have an effect. But the impact of the war itself was less than one might suppose, and the important developments in the Canadian automobile industry from 1914 to 1918 — and there were several — had little directly to do with the war.

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At the root of the continuity with pre-war years was the still growing demand for motor vehicles. The motorization of North America was underway, and the war was not going to halt it. The number of vehicle registrations rose steadily through the war, from 89,944 in 1914 to 275,746 in 1918. So too did domestic vehicle production and vehicle imports.[1] Expansion of the industry into the west, especially the prairie west, continued as before the war. In fact, the growth of car sales in the west exceeded growth in the rest of the country. High wheat prices brought prosperity and buying power to the wheat farmers of the prairies, and many bought cars with their new cash. The new demand spurred Ford to open a Winnipeg assembly plant in 1916. In his study of motorization in Saskatchewan, G. T. Bloomfield shows that it was during the war that a mass market for motor vehicles was fully established there. By 1918, Saskatchewan and Alberta ranked second and third in motor vehicle registrations among the provinces, Ontario being first.[2]

The wave of pre-war entrepreneurship in the industry continued into the war as well, at least into the early years of the war. Seven new car makers started business in 1914 — one each in Walkerville, Galt, and Porcupine (later moving to Toronto), Ontario; two in Montreal; one in Maisonneuve, Quebec; and one in Saint John, New Brunswick. The pattern of close ties to the U.S. industry remained for most of the new ventures. Some tried a different approach, but without success. The Saint John concern, called the Dominion Car Company, was an attempt to build a Canadian car from imported British auto parts (although by U.S. businessmen with U.S. capital), but none were ever made. One of the Montreal efforts was by the Ledoux Carriage Company, an established concern catering to wealthy Montrealers that had recently turned to manufacturing automobile limousine bodies; it engaged H. E. Bourassa to design and build a car, which he did, apparently making all the parts himself, but none of these cars were ever made for sale either.

Those with closer U.S. connections were a reborn Galt, a reborn Tudhope (assembled in Walkerville by a new company named Fisher, which had bought the Tudhope assets in Orillia after its bankruptcy), the Bartlett (designed by a brilliant young northern Ontario millwright of that name and backed by northern Ontario mining capital, which used U.S.-built engines, transmissions, and axles), the Canadian Baby Car of Montreal (a small "cycle car" of which little is known), and the Maisonneuve-based Oxford (mentioned page 16), designed by a U.S. engineer. Unfortunately for these entrepreneurs, but not surprisingly, the pattern of failure persisted. The Bartlett was the only one to even get into production, and no more than one hundred cars were ever built. None of these firms was still in business when the war ended.[3] This entrepreneurship did not carry far into the war. Only two new companies began in 1915, just one in 1916, and none in 1918. The enthusiasm of 1914 was obviously a continuation of the pre-war boom, rather than any response to wartime circumstances.

One of the two firms that began business in 1915, Gray-Dort Motors of Chatham, Ontario, deserves

special attention, for it was an unusually successful Canadian car maker. The company survived not only the war years, but the post-war recession too, remaining in business until 1925.[4] The firm was established by William Gray, son of Robert Gray, the proprietor of the Gray family's carriage works in Chatham, whose involvement in the automotive industry went back to their investment in, and supply of bodies to, Ford of Canada in 1904. Gray had also taken out a Ford sales agency in 1907, which he operated until 1914, when he resolved to go into the business himself. Modelling his venture after McGregor's and McLaughlin's success, Gray went looking for a rising U.S. automaker to partner with and settled on Dallas Dort of Flint, Michigan, whose newly introduced small Dort car had received a good response at recent car shows. Dort was a former carriage maker too, and apparently the two men got on well and quickly came to terms. Together they formed a new company in the fall of 1915 — Gray-Dort Motors Limited — with Gray putting up the entire capital of $300,000 (evidently supplying bodies to Ford had been quite profitable) and Dort being granted about one-quarter of the shares and a royalty on every car made.

Figure 14. *Retail car sales were not at first handled by dealers connected to particular makers but by agents who carried a variety of brands and often provided a variety of automotive services. But Western Ontario Motor Sales, in Galt, Ontario, obviously had a close relationship with the Willys-Overland brand when this photograph was taken in 1915.*

(Library and Archives Canada, neg. PA-143239)

The car was successful immediately, at least by the standards of small-scale, independent production. More than three hundred of the 1915 models were sold, all across the country. The first cars were imported complete from Flint, but within a few months assembly and then some production began at the Chatham works. As new Dort models were introduced each year, Gray brought them out in Canada, sometimes modifying them slightly. Like Ford and McLaughlin, Gray also began to draw on local suppliers for his parts, and thus to reduce his import duties. Even more than McLaughlin, Gray was able to use his network of carriage dealers to sell his cars. He had been a pioneer in developing a sales network in the west, having formed a partnership with a Chatham farm implement maker, Manson Campbell Company, in 1907 to set up western sales offices. The Gray-Dort's success was remarkable. In the early 1920s it was outselling several popular U.S. makes. The Canadian Gray-Dort was considerably more popular than the Dort in the United States.[5]

Yet another pre-war feature of the Canadian industry that continued into the war was the new and growing interest of U.S. firms in setting up Canadian branch operations. Studebaker had been the first to fully succeed in this way, just prior to the war, and its Walkerville assembly plant continued to prosper through the war, producing thousands of Studebakers annually. The Willys-Overland Company, by 1911 the second-largest producer of cars in the United States,[6] moved into Canada in 1914, incorporating Willys-Overland of Canada Limited and buying the inactive Schacht plant in Hamilton. Operations there were short-lived, for the following year the company merged with the Russell Motor Car Company and moved its operations to the fully equipped Russell factory in Toronto. It built its 1916 models in Toronto. Wartime conditions curtailed its operations, though, and by 1918 the company had dropped automobile production in favour of manufacturing aircraft engines for Canadian Aeroplanes Limited. The Briscoe, a new venture by the experienced U.S. automaker Benjamin Briscoe, had found favour in the United States just before the war, and in 1915 Briscoe set up a Canadian company and began building cars, with some success, in a former carriage factory at Brockville. The Chalmers Motor Company set up a Canadian branch and factory in Walkerville in 1916, as did the Maxwell Motor Corporation in Windsor the same year. Both did poorly, the latter taking over the former in 1917. (Both were taken over by Chrysler after the war.) U.S. branch plants, even when well connected to successful "parent" firms, were by no means guaran-

Figure 15. *An early advertisement, from March 1917, for the new low-priced Chevrolet, first produced at the McLaughlin facilities in Oshawa the year before. The car was the Chevrolet 490, but since the Canadian price was well above $490, that model name was rarely used in Canada.*
(CSTM/de Bondt Collection)

teed success in Canada, as the experience of Schacht, Chalmers, and Maxwell suggests. The Reo Company, quite successful in 1911 and 1912, abandoned Canadian production in 1915.[7]

Probably the most important development in the industry during the war, in the United States as well as Canada, was the introduction of the Chevrolet. The Ford Model T had been alone in the mass-produced, low-priced field for several years, and it was only a matter of time before a competitor emerged. That competitor was the Chevrolet 490, introduced in 1915. The Chevrolet Motor Company had originally been organized by William Durant in 1911 to manufacture and promote a car designed by the well-known French racing driver Louis Chevrolet. Not an impressive or practical car, the original Chevrolet sold poorly. Durant then reorganized the company in 1913 and brought out two lower-priced cars that did much better; they did well enough, in fact, to establish Chevrolet as an important newcomer to the industry and to allow Durant to introduce an even cheaper car — the Chevrolet 490. The direct challenge to Ford shows in the model name: the announced price, $490, was just under the prevailing Model T price of $500.[8]

Durant knew the importance of the Canadian market. To reach it he planned to set up an assembly plant in Toronto in the premises of the Dominion Carriage Company, which he had just bought for that purpose. As things turned out, however, Durant instead made another deal with Sam McLaughlin, and Chevrolet's Canadian production began as a new branch of the McLaughlin operations at Oshawa. Together Durant and McLaughlin formed a new company, the Chevrolet Motor Company of Canada, with Durant as the major shareholder. The first Canadian Chevrolets were made in Oshawa in December 1915 and the car was in full production the following year, after the McLaughlin family sold off their carriage operations to Tudhope to gain space and capital for the new venture. The inability of the Buick to compete with the Model T had been an increasingly serious problem for the McLaughlins as they watched Canadian Model T sales soar, so this step into Chevrolet production was just what they needed. In 1916, the company's first full year of production, McLaughlin made 7,796 Chevrolets (obviously full-scale assembly line production technology was brought into the McLaughlin's new plant right from the start), almost three times its production of 2,859 Buicks.[9]

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What of the war? The effect of the war on Canada's overall industrial production is widely recognized by historians. Did the war not have some effect on the country's automotive industry? In a word, yes, but because it is a subject historians have not paid much

attention to — automotive historians have written little about the war, and military historians have tended to overlook the motor vehicle — the picture remains incomplete.[10] As the Ford historians Wilkins and Hill write, frustrated in their efforts to determine the role of Fords in the war, "although there was no question as to the accomplishments of the motor vehicle, it got astonishingly scant recognition from either battle historians or government agencies. One might have assumed that horses, mules, and railroads were the sole means of transportation available."[11] There are, however, a few unexplored sources from which a sketchy picture of the war's effect on the industry can be drawn.

First, financial statements for the Canadian government's Militia Department show expenses on "motor trucks, ambulances, and other vehicles" totalling about $1.8 million for each of the years ending 31 March 1915 and 1916, $2.3 million to March 1917, $2.1 million to March 1918, and $1.2 million to March 1919. This is not much more than 1 percent of government war expenditures, and for 1917 barely over 4 percent of the industry's output, by value, but a significant sum nonetheless to the suppliers who received it.[12] It remains difficult, however, to break down these aggregate figures.

One useful bit of information on record concerns T. A. Russell and his appointment, immediately after the war broke out, as special purchaser of vehicles. Being president of the Russell Motor Car Company, Russell responded by ordering seven Russell touring cars and fifty-one U.S.-built Jeffrey and Kelly-Springfield trucks (for which he was the Canadian agent), to be sent overseas with the first Canadian contingent being assembled at Valcartier, Quebec. This feathering of his own nest (which might well have saved his faltering company) prompted considerable derision when it became known, and a committee of parliament was formed to investigate whether it had been an appropriate course of action. It is for this reason that the orders are on record.[13] After reviewing the matter, however, the committee felt Russell had not acted improperly and the matter was put to rest. He was, after all, given only three weeks to fill the order and can be forgiven for relying on familiar equipment.[14]

Also on record is the purchase of trucks for the second overseas contingent, which followed the first by only a few months. In December 1914, the government contracted with three U.S. firms — Kelly Springfield, Packard, and White — to provide fifty three-ton trucks each by February 1915. (Packard and White ended up not meeting the terms of the order, and Kelly Springfield supplied the whole 150.) The order was for chassis only; the bodies were to be built and the tires bought in Canada. To this end, three Canadian firms had been engaged to each provide fifty truck bodies — Massey-Harris, McLaughlin, and Oxford Motors of Maisonneuve. When the bodies were delivered, however, they were found to be for two-ton trucks, not three-ton as required. Another order was quickly placed with the Nova Scotia Steel Company of New Glasgow for bodies of the proper size and the trucks were finished and shipped overseas, though not until after the troops had departed. The government was apparently trying to spend some of its money in Canada. These truck bodies, however, cost only $150 each, a small portion of the total $3,000 cost of each truck.[15]

Trucks appear to have been the main vehicle expenditure throughout the war. Reports of the War Purchasing Commission, the Canadian government agency in charge of war purchases, show expenditures for the period from June 1915 to October 1916 (the period of the war for which records are most complete) of about $850,000 on motor vehicles. Exact figures are not available for all purchases, so precise calculations are not possible, but roughly 75 percent of this sum was for U.S.-built trucks — about two hundred trucks in all, mostly of the three-ton Kelly variety. Only a small portion of the truck expenditures went toward trucks made in Canada.[16]

A total of 119 automobiles was also purchased over this 16-month period, with a value of about $160,000. Most were intended for use at the camps in Canada, but some were explicitly described as intended for overseas service. None were Russells. The first orders were for Fords, then Briscoes, then McLaughlins, then Cadillacs, then Chalmers. The

Figure 16. *A Canadian-made armoured car behind the lines during the Battle of Amiens, August 1918. These armoured cars, made in Toronto by the Russell Motor Car Company from mostly U.S.-made truck components, saw limited service during the war.*
(Library and Archives Canada, neg. PA-003015)

commission was evidently trying to determine which model best suited their needs, for which they deserve some credit. The car they settled on was the Cadillac (an independent U.S. company, which did not have a Canadian plant); more Cadillacs were bought than all other brands combined. One large order for 55 Cadillac cars on 15 July 1916 superseded a previous order for 7 Briscoes and 10 McLaughlins, with an explanation that the Cadillac was best suited for overseas service on several accounts. The remainder of the vehicle purchases in this period were for 11 Cadillac chassis to serve as the base for custom-built ambulance bodies, the latter being supplied and fitted by Canadian body makers.[17]

There was also some manufacture of armed military vehicles (as distinct from conventional vehicles adapted for military transport uses), but nothing of much significance. Russell was at the heart of this activity. His automobile company received an order for forty large armoured cars, along with nine support vehicles, right at the start of the war, the entire order totalling $290,540.93. These vehicles were designed and built through the winter of 1914 to 1915, tested (and photographed) on the streets of Toronto, and sent overseas in November 1915. They were used for training in Britain that winter, but having been deemed unsuited for intensive service on the front, they eventually found their way to India, where they were used in military actions quelling civil unrest on the Afghan border. One should note that various countries developed, tested, and discarded such vehicles in the early years of the war, the first in which mechanized transport was employed. Russell's unsuccessful effort was not unusual.[18] Drednot Motor Trucks of Montreal is also on record as building a large armoured car in 1915, but apparently the only sale was a large order to Czarist Russia. The Ledoux Carriage Company built gun carriages early in the war.[19] There might well have been more such vehicles developed for military service, but no published record of them came to light. But even considering these initiatives, production of military vehicles by the Canadian automotive industry amounts to very little.

Another entirely different part of the story is the Ford Model T. We know, as noted above, that the Canadian military purchased only a few and found them unsuitable, but we also know that the Model T was "the most prominent motor vehicle on World War I battlefields." Estimates are that 125,000 Model Ts were used by the Allied forces during the war. Ford in the United States supplied many of these, as exports to England and France and for their own military after U.S. entry to the war.[20] The Ford Motor Company of the U.K. also produced about 50,000 of these vehicles. But another major supplier was the Ford Motor Company of Canada, not through Canadian government or military channels but by direct exports to British forces, particularly in East Africa and the Middle East. The historians of Ford's international business claim that of the 41,288 Fords shipped abroad by Ford of Canada during the war, nearly all went to Allied military forces. McGregor reported to Ford of Canada shareholders in 1918 that the company had just supplied 2,790 cars to the British in Mesopotamia and India. This explains the huge jump in Canadian automobile exports during the war, from 5,238 in 1915 to 17,283 in 1916. It also partly explains the extraordinary increase in Ford of Canada's vehicle production over the course of the war, from 15,657 in 1914 to 46,914 in 1918, although domestic demand for Fords was rising in the war too. Clearly Ford of Canada experienced a huge boom in production by supplying the Allied forces.[21]

There is much more to the story of Ford of Canada's wartime experience than this, most of which cannot be explored in this study. But two important points need at least to be mentioned. Henry Ford was a well-known, and very vocal, American pacifist during the First World War, and such views did not sit well with patriotic Anglo-Canadians. Canadian public opinion turned decidedly against Ford and his cars. This put McGregor, and his Canadian company, in an awkward position, having to distance himself from Henry Ford's anti-war position while at the same time remaining appropriately deferential to his superior. And one can surmise what Ford thought of Ford of Canada's role as vehicle supplier to the Allied side. It was a tense time for all involved.

The war also saw important changes in Ford of Canada's labour relations. The huge boom in production and sales gave McGregor both the profits and the incentive to introduce a $4, eight-hour day in the spring of 1915, putting him nearly in line with Ford Detroit's labour policies and drastically reducing worker turnover — the latter, of course, being the main purpose of the wage hike. But labour relations were by no means settled for good. Tensions rose along with wartime inflation and production pressures as the war ran its course. By 1918, amid the bitterness that plagued Canadian industrial relations in the later war years, McGregor faced an intransigent workforce, many of whom had joined the International Association of Machinists, demanding further wage increases. (Henry Ford had by now granted $5 a day to his workers in Detroit.) McGregor responded by shutting down the plant, effectively locking out his workers. The lockout lasted a month, and tensions ran high, but McGregor eventually reopened the plant and granted the $5 day.[22]

One final aspect of the Canadian automotive industry in wartime that deserves mention is the industry's

conversion to munitions production, though this was a development that hindered rather then helped the auto industry. Canada was an important supplier of munitions during the war, and the British government established the Imperial Munitions Board (IMB) to manage this critical production. Hundreds of supply contracts were let by the IMB, for a great variety of components and materials, and many were given to automotive manufacturers — though it is not easy to find out which firms did or made what, or to draw a complete picture of the phenomenon. The Reo automobile factory in St Catharines, for example, is one plant that converted to munitions production.[23] But the best-known firm to do so is Russell. Russell had tried to lead his company into the supply of military vehicles but without much success. In 1916 he took a new tack, selling out his automobile operations to Willys-Overland and turning his company — still called the Russell Motor Car Company — entirely to the production of fuses for artillery shells. Fuse-making was no easy job, and it took several months, and a trip to England by his partner Lloyd Harris, to master the production of these sophisticated devices. But by the fall of 1916 the company was supplying them at a great rate, and it continued to do so until the end of the war. The war thus had one important effect on the Canadian automotive industry: it prompted Canada's only independent automotive manufacturer to abandon automotive production, for good as it turned out.[24]

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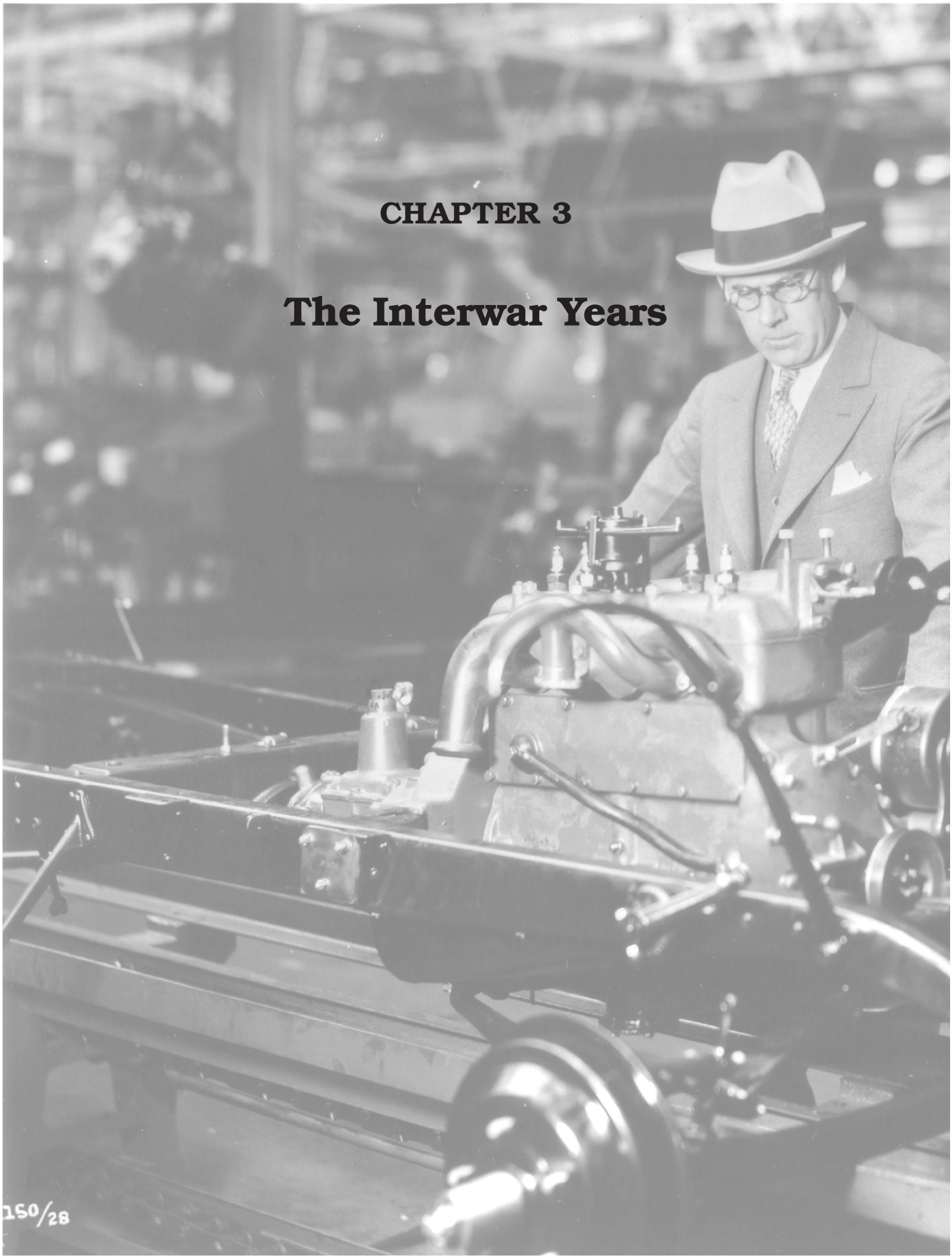
So a general picture of the Canadian automobile industry in the First World War can be tentatively sketched out. The war was not a big stimulus to the production of motor vehicles in Canada. The Canadian military's purchases consisted largely of U.S.-built truck chassis, along with a few U.S.-built automobiles, direct from their U.S. makers. A number of Canadian carriage and wagon makers were called upon to supply truck and ambulance bodies, but this was low-value work, not true automotive manufacture. The few Canadian companies that made motor vehicles when the war began — McLaughlin, Russell, Gray-Dort after 1915, and perhaps Brockville Atlas or Tudhope, whose production facilities were probably still intact at the outbreak of war — gained next to no benefit from wartime supply contracts. Ford, of course, was the one great exception; but it was through its own export channels, not the Canadian government or military, that Ford of Canada was able to supply the war effort.

It has sometimes been assumed that the reason nobody benefited from war contracts for motor vehicles was that T. A. Russell, with his close connection to the inner circle of government men who controlled military purchasing, kept the spoils for himself.[25] This is not correct. Despite his close ties to government, Russell gained little. The best he did was his big contract for armoured cars, but the cost of developing such a complex machine was enormous and without any follow-up orders might well have exceeded what he got in return. Nor did he profit as the agent of Kelly-Springfield trucks; the hundreds of trucks purchased by the government were, after the first order, bought direct from the U.S. maker in order to save the cost of a Canadian agent's commission.[26] Russell almost certainly profited from making fuses during the war, but he likely made next to nothing from motor vehicles. No wonder he left the industry in 1916. With the exception of Ford, any Canadian automakers who prospered between 1914 and 1918 did so in spite of, not because of, the war.

Notes

1. Canada, Dominion Bureau of Statistics (hereafter DBS), *Motor Vehicle Manufacturers*, 1930 (DBS Catalogue 42-209), Tables 1, 28, 29; there was a slight decrease in imports from 1914 to 1915; pre-1917 estimates are again from Gerald T. Bloomfield, "Elements of the Canadian Motor Vehicle Industry to 1929," unpublished report to the Historical Atlas of Canada Project, vol. 3, June 1982.
2. Canada, DBS, *Motor Vehicle Manufacturers*, 1930, Table 29; Gerald T. Bloomfield, "Motorisation on the New Frontier: The Case of Saskatchewan, Canada, 1906–1934," in *The Economic and Social Effects of the Spread of Motor Vehicles*, ed. Theo Barker (London: MacMillan, 1987), 165–93, general reference.
3. Hugh Durnford and Glen Baechler, *Cars of Canada* (Toronto: McClelland & Stewart, 1973), 144–51.
4. Ibid., 152–63.
5. The Gray-Dort in the 1920s is considered in chapter 3.
6. James J. Flink, *The Automobile Age* (Cambridge: MIT Press, 1988), 69.
7. Durnford and Baechler, *Cars of Canada*, 254, 96, 257, 268, 248; Jaroslav Petryshyn, "*Made Up to a Standard": Thomas Alexander Russell and the Russell Motor Car Company* (Burnstown, Ont.: General Store Publishing, n.d.), 126–7; Michael Bliss, *A Canadian Millionaire: The Life and Business Times of Sir Joseph Flavelle, Bart., 1858–1939* (Toronto: Macmillan of Canada, 1978), 311 and 377.
8. Flink, *The Automobile Age*, 66–8; John B. Rae, *The American Automobile Industry* (Boston: Twayne Publishers, 1984), 47–8.
9. Heather Robertson, *Driving Force: The McLaughlin Family and the Age of the Car* (Toronto: McClelland & Stewart, 1995), 154–60; Durnford and Baechler, *Cars of Canada*, 123; "GM in Canada: The Early Years," *Vintage Canada* 1, no. 3 (March 1975): 16, for production figures.
10. The role of the war is not mentioned in, for example, Canada, Royal Commission on Canada's Economic Prospects, *The Canadian Automotive Industry*, by Sun Life Assurance Company of Canada (Sept. 1956); Canada, *Report of the Royal Commission on the Automotive Industry* (1961); or Tom Traves, "The Development of the Ontario Automobile Industry to 1939," in *Progress without Planning: The Economic History of Ontario from Confederation to the Second World War*, ed. Ian M. Drummond (Toronto: University of Toronto Press, 1987).

11. Mira Wilkins and Frank E. Hill, *American Business Abroad: Ford on Six Continents* (Detroit: Wayne State University Press, 1964), 75.
12. Canada, *Sessional Papers*, 1916 (Paper No. 35, Statement 12), 1917 (Paper No. 35, Statement 11), 1918 (Paper No. 35, Statement 11), 1919 (Paper No. 35, Statement 11), 1920 (Paper No. 36, Statement 10); the value of output for 1917, vehicles and parts, was about $54.4 million (Canada, DBS, *Motor Vehicle Manufacturers*, 1930, Table 1).
13. Canada, *Sessional Papers*, 1915, Paper No. 119, not printed but synopsized in vol. 28 (1915), 21; Durnford and Baechler, *Cars of Canada*, 313.
14. Canada, *House of Commons Debates*, 30 Jan. 1917, 280, speech of Thomas White.
15. Canada, *House of Commons Debates*, 17 March 1915, 1146, speech of Sam Hughes; 18 March 1915, 1187, speech of Sam Hughes; 6 Feb. 1917, 558, speech of Sam Hughes; Canada, *Report of the War Purchasing Commission*, vol. 4, Orders in Council, Order No. 1127, 21 May 1916.
16. Calculated from *Report of the War Purchasing Commission*, vol. 4, Orders in Council, using index entries for motor vehicles and other related equipment.
17. *Report of the War Purchasing Commission*, vol. 4; the big Cadillac purchase is Order No.1433.
18. Durnford and Baechler, *Cars of Canada*, 316–7; Desmond Morton, *Wheels: The Car in Canada* (Toronto: Umbrella Press, 1998), 24–5; Denis Bishop and Chris Ellis, *Vehicles at War* (London: George Allen & Unwin, 1979), 16–63, for a full illustrated analysis of the development of mechanical transport during the war.
19. Durnford and Baechler, *Cars of Canada*, 316, 148.
20. Flink, *The Automobile Age*, 74–5, quotation 174.
21. Wilkins and Hill, *American Business Abroad*, 78–80, citing a 1918 issue of *Ford Times* for the order to Mesopotamia and the Middle East; Canada, DBS, *Motor Vehicle Manufacturers*, 1930, Table 26; David Roberts, *In the Shadow of Detroit: Gordon M. McGregor, Ford of Canada, and Motoropolis* (Detroit: Wayne State University Press, 2006), 116–7.
22. Roberts, *In the Shadow of Detroit*, 122–4, 130–3, and 177–9.
23. Durnford and Baechler, *Cars of Canada*, 248, for the Reo conversion.
24. David Carnegie, *History of Munitions Supply in Canada, 1914–1918* (London: Longmans, Green, 1925), 82, 144–6; Bliss, *A Canadian Millionaire*, 259, 284, 305.
25. This is insinuated, rather than openly stated, in Durnford and Baechler, *Cars of Canada*, 314, and Robertson, *Driving Force*, 152; the former, however, do note the government's general indifference to Canadian producers and the harm it caused — "A great native industry was being lost as the country was winning its nationhood on the battlefields of Europe."
26. Canada, *House of Commons Debates*, 6 Feb. 1917, 558, speech of Sam Hughes.



CHAPTER 3

The Interwar Years

The Interwar Years

For Canadian industries that had geared up for war production, the ending of the war in late 1918 brought a sudden, quite traumatic decline in business. This was the case, for example, with the Nova Scotia steel industry. But the Canadian automobile industry, which had not experienced much of a wartime production boom, did not suffer a concomitant drop in production. Carried along by steadily growing consumer demand, which was if anything spurred by the war, the industry entered and rode through the post-war years as prosperous as ever. Production and sales did decline somewhat in the recession of 1920 to 1921, but after that the industry headed into a period of extraordinary growth that ended only with the onset of the Great Depression in 1930.

If there is a golden age of the Canadian auto industry, this is it. In the 1920s Canada became the second-largest producer of automobiles in the world. Tens of thousands of Canadians came to make their living in this industry and its many upstream and downstream connections. The string of Ontario "Border Cities" across the river from Detroit became a "Motor City" to a degree that few today seem to realize. The phenomenon is a central part of Canada's economic history. It is ironic that, while the cultural nationalists of English Canada were finding Canada's national essence in its untouched northern lakes and forests, the grinding machines and rigid workplace discipline in the country's most southern tip were doing so much to build the national economy.

General Motors and Ford

To observe the birth of modern automobility, the 1920s is the decade to study, when so many features of the automobile age took their familiar form. More and more people owned cars, for one thing; by 1930 over

Figure 17. *The Chevrolet and the Ford Model T — the two leading competitors for the title of "car for the masses" after the First World War — here meet side by side in the middle of a Saskatchewan farm field. This scene might well have been staged for a documentary film.*

(Library and Archives Canada, Canadian Government Motion Picture Bureau, C-029454)

one million passenger cars were registered in Canada, one car for every 9.5 Canadians. Auto clubs, service stations, and dealerships all proliferated, as did traffic jams and parking lots. Novelties such as motels and drive-in restaurants made their first appearance. To serve the great demand for motor vehicles, both in Canada and abroad, the Canadian automotive industry expanded very rapidly in the 1920s. Production, both by number of vehicles and by value, rose every year from 1918 to 1929 (except 1927, when Ford's shutdown for part of the year reduced annual output). Capital investment, number of employees, materials consumed: all increased steadily.[1]

One way to begin analysing these years of expansion is to examine the evolution of the vehicle-manufacturing corporations, and the first important development in this regard was the formation of General Motors of Canada in Oshawa in 1918. The force behind the creation of GM Canada — in contrast with the original McLaughlin company — came from the United States, and the man largely responsible was William Durant. Durant's success with Chevrolet in 1915 had allowed him to regain control over General Motors U.S., a company he had founded in 1908 but been ousted from in 1910. Renamed president in June 1916, Durant embarked the company, as was his style, on an aggressive program of takeovers. Among his acquisitions were the remaining shares of the two Canadian firms making GM products in Canada — Chevrolet Canada (makers of Chevrolet) and the McLaughlin Motor Car Company (makers of Buick) — both of which the McLaughlin Carriage Company still partly owned. For this GM paid the carriage company 50,000 shares of GM stock. GM then formed a new company, General Motors of Canada, to own the newly acquired Canadian Buick and Chevrolet operations. Sam and George MacLaughlin were named president and vice-president of this new holding company, but it was founded and entirely owned by General Motors.[2]

This purchase and reorganization of the McLaughlin enterprises ended the closest thing Canada has ever had to a successful automobile manufacturer. One might wonder why the McLaughlins sold out when they did, just as the automobile industry was set to boom and so many others were getting into it. It would appear that they saw no future for themselves in the industry, boom or no boom. They had done well from their 1908 Buick contract with Durant, no question, but the fifteen-year deal was due to end in 1923 and there was no hope of it being renewed. It was a product of an earlier time, when Buick and Durant were unproven. But GM no longer needed McLaughlin to make their Buicks in Canada. GM could do it themselves. And without their Buick and Chevrolet arrangements, the McLaughlins had no place in the industry. They had no car development capacity themselves. Their business was solely to make Durant's cars in Canada.[3] So they cashed in their hand. They did extremely well by it. Soon after making the deal with Durant they sold all but 6,000 of their 50,000 shares of GM to the Du Pont corporation, already a major investor in GM, for $6.5 million. This sum was dispersed among the owners of the carriage company, most of whom were McLaughlin family members, and the family fortune was secured.[4]

For a time, the McLaughlin brothers were active in the affairs of GM Canada, but that ended with the demise, yet again, of Durant. The U.S. company fell into a crisis during the recession of 1920 to 1921, largely due to Durant's overambition, and the shareholders, under the leadership of Du Pont, removed Durant and replaced him with Alfred Sloan. Sloan was of another generation and another bent entirely, and the McLaughlin brothers never travelled in his circle. As president of GM Canada, Sam still exerted some influence on cars they made, and their Buicks were called McLaughlin-Buicks until 1923, but his influence waned. He had been named to the board of General Motors U.S. after the buyout, and he regularly attended the board meetings in New York, but he was a Canadian outsider, far from the centre of power. General Motors of Canada was the Canadian branch of a U.S. company, not a Canadian business.[5]

For the plant itself and its production, this was no loss. After surviving the crisis of 1920 to 1921, GM in the United States emerged with a dynamic new strategy of marketing its various cars to specific levels of status — Sloan's famous "car for every purse and purpose" — that would prove to be successful indeed, making it the largest producer of cars in the United States and Canada before the end of the decade. The Canadian operations at Oshawa, fully integrated with the U.S. company, were carried along for the ride. Production of the Oldsmobile and the Oakland, both of which were intended to find market niches between the Chevrolet and Buick, began at Oshawa in 1921 and 1922, respectively. Production of the Cadillac started at Oshawa in 1923 and the newly developed Pontiac in 1926; the La Salle, a new model to sit between Buick and Cadillac, was first made in the United States and at Oshawa in 1927. The low-cost Chevrolet continued in production as GM's biggest seller; Canadian production in 1927 was 46,309 cars, surpassing Ford of Canada's annual production for the first time.[6]

This increasing production brought other business developments. A GM subsidiary called Canadian Products Limited was organized in Walkerville in 1919 to manufacture engines and axles for the Oshawa plant; this company was incorporated into GM

Figure 18. *The GM Oakland, a six-cylinder model first made at Oshawa in 1922, epitomized the new GM philosophy of devising a car specifically for its market niche. With a 1923 price of $1,525, the Oakland was positioned just below the established six-cylinder Buick ($1,625) but well above the four-cylinder Chevrolet ($710) (Durnford and Baechler,* Cars of Canada*, 356–61).*
(CSTM/de Bondt Collection)

Canada in 1928. GM's independent supplier of gears and radiators since 1925, McKinnon Industries of St Catharines, was bought by GM Canada in 1929, and the same year a GM Canada assembly plant opened in Regina.[7]

The Ford Motor Company of Canada did equally well in the decade after the First World War, but its story has some different details. Ford had been the one Canadian maker to benefit from war production, so it had faced something of a slump at the war's end, although nothing that shook the company very badly. Production fell from 58,857 in 1917 to 39,638 in 1918, but this was simply a return to the pre-1917 pattern of steadily rising output. The recession of 1920 to 1921 brought some reduction in Ford of Canada's production, but all in all the transition into the 1920s was fairly smooth for the Canadian company. This was not at all the case for Ford U.S., which had to contend with a substantial factory conversion away from military trucks in 1919. And the parent Ford Motor Company, like GM, also barely scraped through the recession — which it entered carrying a huge debt for constructing the new Rouge River plant — but Ford of Canada, still a fairly independent firm, had no such trouble.[8]

Through to the mid 1920s the Ford Model T, the only car Ford made, was still by far the most popular car in Canada (as in the United States). About half the cars registered in Canada were Fords. And just like GM Canada, Ford of Canada grew along with the success of the car it made. Ford of Canada's only immediate post-war expansion was the purchase in 1920 of the Dominion Forge and Stamping Company, a nearby manufacturing firm whose facilities included a sheet metal plant, a frame plant, and a full machine shop, and which had likely been supplying Ford with many of its body parts. Ford of Canada did not at the time include a body-making plant, so this acquisition was a step toward bringing greater production under its own control. There were plans for further expansion; in July 1920 the board of directors approved an expenditure of $2.5 million, but as sales began to slip that fall, McGregor chose to delay the program. Two years later, after McGregor had died and the recession had passed, the company went ahead, even further than originally planned, spending $10 million over two years. The result was a threefold increase in production space, including a new full machine shop and body-making facility. The company, just twenty years old, was now a huge industrial concern with assets of $25.7 million and some 3,400 employees in the Windsor–Walkerville area alone. Assembly plants had been set up in Montreal, Toronto, and Winnipeg (a plant in London, Ontario, was closed as part of the 1923 expansion program) and sales offices established in Calgary, Regina, Vancouver, Saint John, and London.

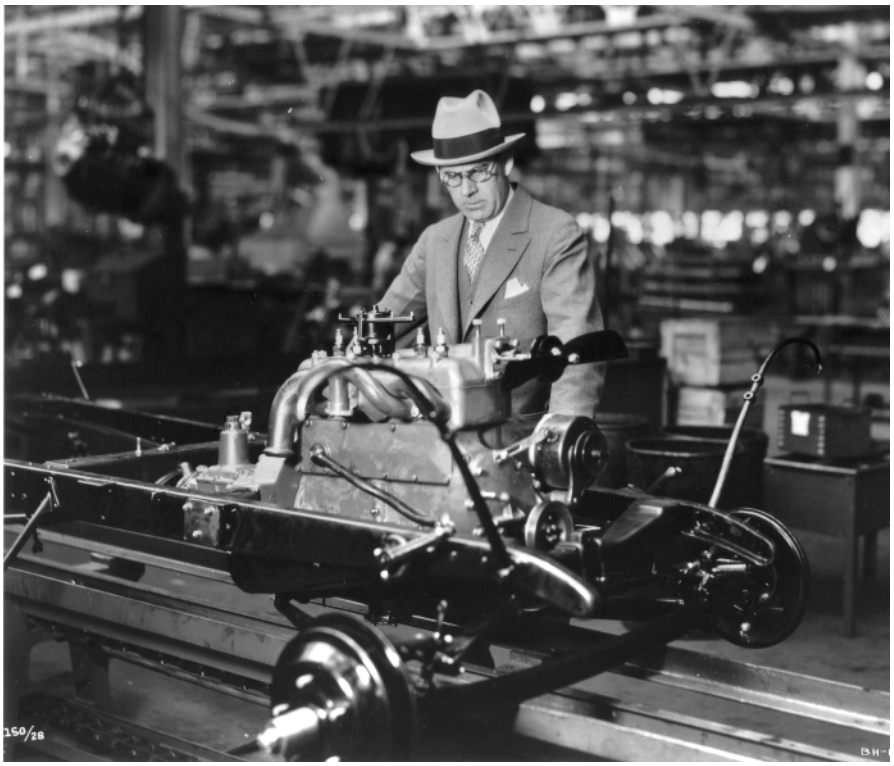


Figure 19. *The Big Suits rarely came into the plant, and when they did it was usually for an important occasion. Here W. R. Campbell, president of the Ford Motor Company (U.S.), pays a visit to the Walkerville plant in late 1927 or early 1928 to observe assembly of the plant's first Model As.*
(Library and Archives Canada, neg. PA-800847)

With production now capable of reaching 800 cars in an eight-hour shift, and with Model T prices still falling ($445 in 1923), Ford of Canada was well positioned for the automobile boom of the 1920s.[9]

Ford's dominance of the North American industry, as complete as it was, would not last much longer. Automobiles in the 1920s were changing in the way they looked, the way they worked, and the way they were marketed, and Ford was not keeping up. For example, although the electric starter had been introduced before the war and had become the industry standard by the 1920s, you could still buy a cheap Ford with a starter crank. The Model T was becoming something of an antique in its styling and mechanical design in the rapidly evolving auto industry of the 1920s.[10] GM, on the other hand, with its new notion of marketing a range of cars to different social levels, and with several cars such as Buick and Oldsmobile in the middle to upper price levels where the Ford did not compete, was having good success. GM's Chevrolet, larger and better equipped than the Model T, was not much more expensive than the venerable Ford and was quickly gaining popularity. GM had also begun to introduce annual model changes in 1923, so new GM cars were always "new," no matter how cosmetic the novelty. The old Model T was hard-pressed to keep up and was losing market share in the United States by the middle of the decade.

In response, in a closely watched event, the Ford Motor Company ceased producing the Model T in 1926 and introduced its new Model A, certainly not a revolutionary new car but one that was at least up to date.[11] Ford of Canada had no choice but to go along. Had they had a choice, they might not so hastily have given up on the old Model T. Unlike in the United States, the Model T was still dominating the market in Canada, outselling Chevrolet three to one and GM overall two to one in 1926, and probably would have been worth keeping in production a few years longer.[12] But such decisions were made in Detroit, not Walkerville, and without the U.S. plant making critical parts (the carburetor was always imported complete),[13] the Canadian Model T would not have been able to survive. Ford of Canada closed its operations in mid 1927 for several months for a complete retooling, and not until December 1927 did new Model As start coming off the line.[14]

The new car, a worthy successor to the Model T, was an immediate success in Canada as well as in the United States. Ford's overall Canadian production in 1927, about a half-year's worth of Model Ts made before the shutdown, was well below GM Canada's Chevrolet production, but with the Model A in full production the following year, Ford of Canada regained some of what it had lost. Ford sales surpassed Chevrolet by 1929, although never again in this period would Ford outsell all of GM Canada's models combined, which it had been doing consistently before 1927. Had Ford not changed over to the Model A, the company would probably have suffered more in the long run, but the changeover caused a loss of market share that it never recovered. By the end of the decade, although still a huge, profitable enterprise, Ford of Canada had lost its leading role in the industry.[15]

Another loss in this decade, similar to the experience of GM Canada, was Ford of Canada's autonomy. Henry Ford had always been the president of Ford of Canada, an arrangement Henry Ford and Gordon McGregor had struck in 1904, and the Ford was a purely American car, its parts interchangeable with

those made in Detroit — though the Model A is said to have used Roberston, not slot, screws.[16] Nevertheless, McGregor had been the man who ran the company, and his management had had an effect. The most visible was his commitment, wherever possible, to use Canadian suppliers; perhaps more important was his ability to do so while still maintaining the necessary standardization and quality. Some 75 percent of the parts put into Canadian Model Ts, even before the expansion of 1922 to 1923, were made in Canada, probably the highest of all major automakers at the time.[17] This benefited the local economy, no doubt, but it also benefited Ford of Canada's shareholders, because using Canadian-made parts kept duty payments down and profits up. But this local control did not survive McGregor's death (in 1922) or the company's new growth. The expansion in the early twenties was done with U.S. capital, much of it from the Ford family, including Henry Ford himself and his son Edsel. By 1926, although Ford U.S. had no stake in Ford of Canada, Ford family interests owned 31.2 percent of Ford of Canada. A new stock issue to bring in capital for a 1929 expansion raised the Ford family's stake to more than half. Although the Ford of Canada experience was quite different from that of the McLaughlins, the outcome was much the same. Ford of Canada was losing control over its affairs.[18]

The Smaller Corporations

General Motors and Ford were Canada's leading vehicle producers in the period, as they had been since large-scale production began early in the century. Together, they made close to 80 percent of Canada's motor vehicles between 1918 and 1926; in 1921, the year of their greatest domination, their combined production totalled 87.4 percent, after which there was a slow decline in their proportion of production.[19] There were other producers, however, and small though their market shares were, their affairs are a part of the history of the period.

A few Canadian entrepreneurs were still trying to make it up the steep hill of success in the automotive industry. No new companies appear on record in the immediate post-war years, but in 1920 one firm was incorporated in Montreal, the Forster Motor Car and Manufacturing Company, with plans to make a quality European-style car for export to England. None were ever made. Five new Canadian automakers were incorporated in 1921; the only one that made any cars was London Motors of London, Ontario, which made a car called the London Six. It was designed and developed by William Riley Stansell, a "baker and automobile salesman," who had tried unsuccessfully to launch the Brock Six in Amherstburg, Ontario, earlier the same year. Finding more capital and more municipal support (likely financial bonuses) in London, Stansell moved there, built his new car, and introduced it at the local auto show in 1922 with its new name. Overall, the car was his own design, and several of its features were quite novel, although it used axles and engines imported from a U.S. manufacturer. Bodies were made at the nearby Ingersoll Casket works. Stansell himself reported having made a total of ninety-eight cars.[20] In 1922 new firms were established to make the Canadian (in Walkerville), the Gilson (Guelph), and the Parker (Montreal); in 1923 there arrived the Lavoie (Montreal), the Duplex (Montreal), and the Fleetwood-Knight (Kingston). None of these cars reached production.[21]

The next year, 1924, the Brooks Steamer was introduced in Stratford, Ontario. Although steam cars were an outdated technology by this time, this car met with some success, and a total of 180 were made over the next few years. Oland J. Brooks was not a car man but a financial entrepreneur, from Buffalo, New York, who had come to Toronto in 1920 and set up a firm dealing in second mortgages. For reasons that appear not to be on record, he entered the automobile business, and with good financial connections he raised capital without difficulty. He set up his company, Brooks Steam Motors Limited, in Stratford because the City gave him a deal on an unused factory. The city also yielded a good supply of skilled labour, for the Grand Trunk Railway was laying off machinists at the time Brooks was starting production. It seems possible that this skilled labour supply might have influenced his decision to set up in Stratford, or perhaps even his decision to use steam rather than internal combustion engines, although this is not mentioned by historians who have studied the venture. In any case, using a mix of imported and their own factory-made parts, and with bodies made by American Auto Trimming of Walkerville, the company brought out its first car in 1924. The car, rather like the Stanley Steamer experiencing a vogue in the United States, was good, although like all steamers it was expensive and not simple to operate. Brooks promoted the car widely, setting up his own taxi companies in Stratford and Toronto to raise the car's profile, but the company sold few cars and made little money. By 1927, his shareholders were unhappy with the lack of profit and forced the company to cease operations. It went into receivership in 1929.[22]

The experience of Brooks — 180 vehicles made, with an unknown number sold — was as good as it would get for the independent automotive manufacturer starting business in Canada in the 1920s. The gifted Montreal engineer Henri-Emile Bourassa, who had made a car for the Ledoux Carriage Company in 1914, built a prototype vehicle of his own in 1926 that he called the Bourassa Six but was unable to raise capital to put it into production. James A. Wright of

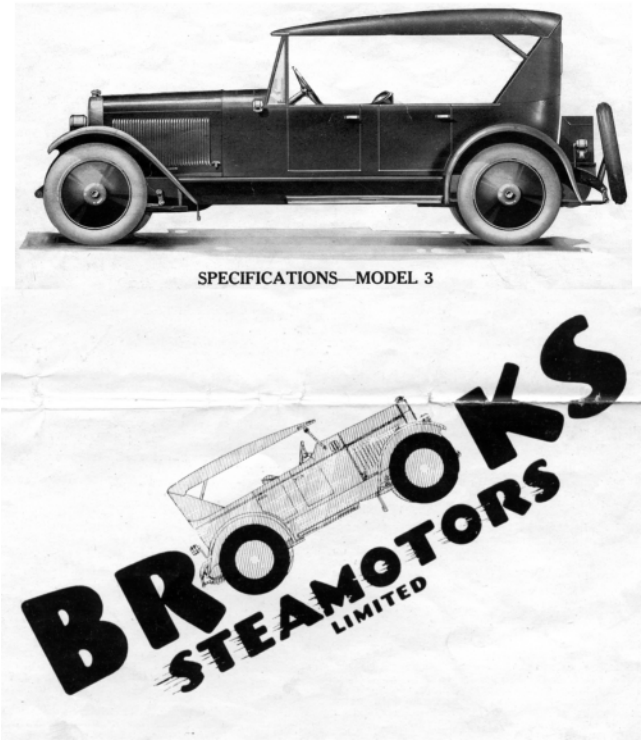


Figure 20. *Possibly hoping to be carried along by the popularity of the Stanley Steamer in the United States, Oland J. Brooks offered the world the Brooks Steamer in 1924, one of the most unusual attempts by an independent entrepreneur to enter the automobile market in the early 1920s.* (CSTM/de Bondt Collection)

Montreal tried to get into business making a car with the novel Wright-Fisher suspension system (this Wright being a cousin of the entrepreneur), but he too was unable to raise capital.[23]

The Gray-Dort, conceived and first built in Chatham, Ontario, in 1915, was the one Canadian vehicle that flourished in these years. Gray was following a well-worn path, allying himself with an established U.S. producer from whom he imported his principal mechanical parts. But where Gray's experience differed from most others is that he succeeded despite being partnered with an only modestly popular U.S. car. Dort was a well-respected and well-connected man in the automotive industry, having been a partner of William Durant's in their carriage-making years, and his car was well regarded, but the name Dort never gained the profile or appeal of Ford or Buick. Gray sold plenty of cars nonetheless. Annual production figures are not available, but they must have been well up in the hundreds, because export records from 1918 to 1919 show Gray exporting three hundred of his Model 11 Specials to the United States, a Dort car with a deluxe body and interior for which there was no U.S.-made equivalent. The company survived the 1921 recession, then expanded production in 1922 to 1923 with new plants and machinery. By this time, the company was valued at $1.25 million and production was being carried out by 800 workers at three separate plants — sheet metal, body-building, and assembly. They also had some 300 dealers across the country selling their cars, an arrangement built by Gray from his network of carriage dealers. It seems unlikely that Gray was using full assembly line technology — an extant photograph of his plant shows stationary production of automobile bodies — so production volumes could never have matched those of the big U.S. makers, but they appear to have been substantial.[24]

The Gray-Dort's demise came about not from Gray's inability to compete with the big names. Somehow the Gray-Dort held its own against Ford and General Motors. Perhaps its price, ranging from the $1,200s to the $1,600s for its basic models, well above Ford and Chevrolet but below most Buick models, placed it at a market level where competition was not yet so severe. Perhaps its being Canadian-made appealed to Canadian consumers; the company certainly promoted this aspect of its car. Or perhaps Gray's dealer network was the key. Whatever the reason, Gray was still prospering in 1924 when Dort decided to cease production in the United States. Canadians quickly learned of Dort's decision, and the car's sales fell immediately. Nobody wanted a car whose engineering source had closed up shop. Gray was left with an unsaleable inventory and ongoing overhead costs. By the time he stopped production, as he recalled it, the company had a debt of $1.25 million "and the final chapter on the Gray-Dort had been written." It was a sudden and sad end to a surprisingly successful business.[25]

Several U.S. manufacturers other than Ford and GM were making cars in Canada in the 1920s as well, some with substantial production capacities. They were responsible for most of the 10 percent to 15 percent of vehicles not made by Ford and GM. Studebaker in Walkerville had done well through the war and continued to do so, surviving the recession of 1920 and enlarging its plant that year to an annual capacity of 12,000 to 15,000. The parent company's success began to run out in 1927 with the introduction of an unpopular new car, the Erskine, and the ill-advised purchase of Pierce-Arrow, a U.S. luxury car maker well past its prime that became a burden on Studebaker. Studebaker organized a Pierce-Arrow Corporation of Canada in 1928, which operated an assembly plant in Walkerville until 1931, but its production was never significant.[26] Willys-Overland began making a new car called the Overland at its Toronto plant in 1919. The car

Figure 21. *The Gray-Dort was perhaps the closest thing ever to a Canadian car — a blend of U.S.-made mechanical components with a Canadian-made body and accessories that was just what Canadians wanted. The car, for some reason, was more popular in Canada than its U.S. partner, the Dort, ever was in the United States.*
(CSTM/de Bondt Collection)

did very well in the United States, but only moderately so in Canada — well enough, however, that the company kept up its Toronto operation and introduced several new models of Overlands through the early 1920s. Willys-Knight also imported Willys-Knight cars that it made in the United States; this was another attempt to use the Knight sleeve-valve engine Russell had used before the war, the rights to which Willys-Overland had obtained when it bought Russell. After 1926 Willys-Knight replaced the Overland with the Whippet and added the previously U.S.-made Russell-Knight to its Toronto production. These two cars caught on, prompting an expansion that included a new in-house body plant. Production in 1928 was a company record of 20,000 vehicles.[27] Although not now a well-known brand, Willys-Overland was a major presence in the Canadian auto industry in these years.

Another important U.S. maker was the unstoppable William Durant. Immediately after being removed from General Motors in 1920 he organized a company of his own to make, first, the Durant and then, in 1922, the low-priced Star. Durant set up a Canadian branch company right from the start, which bought the premises of a former munitions plant at Leaside, near Toronto, and began producing both models in 1922. At first Durant's Canadian company imported its mechanical parts from the United States but, as so many makers did, soon began to buy more parts locally and to make its own bodies in the Leaside plant. The Star was successful in Canada — 13,507 vehicles made in 1922 — and the company expanded its production facilities to a capacity of 40,000 vehicles annually. By 1924 Durant was the third-largest Canadian producer, behind only Ford and GM.[28]

The other U.S. manufacturer that rose to prominence in these years was the Chrysler Corporation. Walter P. Chrysler already had a long record of success in the U.S. auto industry in the 1920s. A self-taught locomotive engineer, Chrysler had been recruited into the Buick division of General Motors shortly after Durant's first expulsion in 1910, and he had risen to president of that division by 1912. He remained there doing excellent work until 1919, when, unable to endure the return of Durant, he moved on. He served briefly as vice-president of Willys-Overland in 1920, but then in 1921 began managing the Maxwell Motor Corporation. Maxwell had bought Chalmers during the war but had subsequently gone into receivership. Chrysler reorganized the defunct Maxwell, increased its capital, took on its presidency in 1923, and had a new masterfully designed car named after himself, the Chrysler Six, on the market in 1924. The next year he reorganized the company again, this time giving it his own name, the Chrysler Corporation.[29]

When Chrysler took over the management of Maxwell in 1921, the company had two facilities operating across the Detroit River in Canada — the Maxwell plant in Windsor and the former Chalmers plant a little farther east in Walkerville. Chrysler consolidated operations in the Maxwell plant, and there he assembled Canadian Maxwells and, beginning in 1925, his new Chrysler Six. That same year, the Chrysler Corporation of Canada was born. The company was relatively small at the start. Their 1925 output of 5,206 vehicles from the old Maxwell plant represented just 3.2 percent of Canadian production, behind Durant, Willys-Overland, and possibly Studebaker as well as Ford and GM, of course, but the company

was becoming established.[30] Three years later, it took a big step by acquiring Dodge Brothers. John and Horace Dodge, like Chrysler, had a long history in automobile manufacturing and engineering, having been associated with several of the early automobile producers, and they had been making their own Dodge Brothers vehicles since 1914. They had had Canadian operations since 1921, with a simple assembly facility at Windsor, a larger plant in Walkerville (1924), and soon after that, in 1925, a full factory in Toronto where they made Dodge Brothers cars and Graham Brothers trucks. The brothers themselves had died by this time, however, and the company's future was uncertain. In 1925 it was sold by the brothers' widows to a banking house, which in turn sold it to Chrysler in 1928. With the Dodge facilities incorporated into its operations, Chrysler had the capacity for further expansion, which it utilized immediately by introducing a new low-priced vehicle called the Plymouth to compete directly with Ford and Chevrolet.[31]

Chrysler of Canada was expanding as well, having acquired Fisher Brothers in Windsor, its body suppliers, in 1927, and of course the Dodge premises in Windsor and Toronto as part of the U.S. purchase of Dodge. The company kept both Dodge plants operating for just a year, ceasing production in Toronto in 1929 when it opened a vast new consolidated plant outside Windsor where it could make the full line of Chrysler products — Chrysler, Dodge, Plymouth, and the new higher-priced De Soto. Chrysler was doing everything right and by this time had become the third-largest producer of cars in the United States and probably also in Canada, where its 1929 production of 26,497 vehicles was 10.1 percent of the total Canadian output.[32]

Exports and Tariffs

Canada was the second-largest automotive manufacturer in the world through most of the 1920s, but the Canadian market alone could not absorb the production of such a burgeoning industry, and much of Canada's production was exported. The portion exported was more than one-third every year from 1922 to 1929, reaching a peak of 47.5 percent in 1923. The greatest portion of these vehicles went to countries in the British Empire: 72.2 percent in 1924, with Australia, New Zealand, and the United Kingdom itself being the largest markets.[33] Canadians are not accustomed to thinking of themselves as great exporters of manufactured industrial products, but in the case of automobiles in the 1920s, this was indeed the case.

Ford had been first to develop the export market — exports had been part of their business plan from the start — and Ford remained the leader, exporting close to 50 percent of its output in some years of the decade. The company went so far as to organize plants of its own in South Africa (1923), Australia (1925), and Malaya and India (1926) for assembling and finishing vehicles once they arrived from Canada.[34] Other makers did not go so far as to establish branch plants, but they did pursue similar markets. General

Figure 22. *The design revolution of the 1930s was still a few years away in 1930 when this Chrysler Six came off the assembly line at Chrysler's new East Windsor plant. The new one-storey factories provided a far more pleasant work environment, with high ceilings and plentiful natural light.*
(Library and Archives Canada, neg. PA-800831)

Figure 23*."Knocked down" Model T Fords packed for shipping overseas in the late 1930s. The Commonwealth export trade, which had been so important to the industry in the 1920s, was already declining, and after the war it would simply disappear.*
(Library and Archives Canada, neg. e007914401)

Motors established an export headquarters at GM Canada in 1921 and, like Ford, gave the entire imperial market to the Canadian company. Studebaker did a good export business, as did Chrysler once it was established later in the decade. Durant Motors of Canada made an arrangement with its U.S. parent company in 1925 to develop exports and the following year exported 5,000 vehicles. The export market was by this time an obvious opportunity for auto manufacturers in Canada, and they all tried to exploit it.[35]

The key to profitability in the export market was the imperial tariff, as had been the case since the industry began. Goods manufactured in Canada were admitted to other countries in the British Empire with an import duty lower than that on goods from elsewhere, including the United States. This was the general guideline; specific arrangements varied from country to country. New Zealand's tariffs gave Canada its greatest advantage over the United States, for Canadian vehicles entering New Zealand paid 10 percent and U.S. vehicles 25 percent. Australian duties gave much less advantage. Unassembled chassis were dutied at 7.5 percent if from Canada, 12.5 percent if from the United States. (They were duty-free only if from the United Kingdom.) India and South Africa provided no imperial preference.[36]

This tariff advantage might have been the key, but it does not explain everything, and its importance may well have been exaggerated. One can note that several of these imperial countries were, like Canada, sparsely populated but growing frontier countries with rising standards of living, just the sort of place where automobile demand was greatest.[37] People in these countries also wanted mass-produced, American-style cars, and no other country's auto industry — such as that of the United Kingdom, which also had imperial preference — was set up to provide them. The Canadian auto industry benefited from an unusual conjunction of international circumstances in the 1920s, the imperial tariff advantage being just one element.

Another tariff affected the Canadian auto industry: the tariff applied by the Canadian government on vehicles and their component parts entering Canada from the United States. As noted earlier, this tariff had two aspects: (1) the differential between the tariff on imported finished cars and that on imported parts, which, on its own, might or might not have been enough to justify Canadian branch plant production; and (2) the substantial tariff on parts, which encouraged automakers to avoid duty by making their parts in Canada. The latter, though this is not always adequately appreciated, appears to have been more significant. C.H. Aikman, who sees the whole matter more clearly than most modern historians, described it this way in 1926: "The underlying idea was thus to allow a small bonus to assembling plants and a large subsidy to the complete manufacturer."[38] This Canadian tariff is generally thought to have been responsible for the existence of an automotive industry in Canada to serve the Canadian market (although the truth is nobody knows how many U.S. makers would have set up Canadian operations had there been no imperial tariff as well).

In the early 1920s, however, the Canadian tariff was coming to be viewed by the Canadian public not so much as something that protected a domestic industry but as something that raised domestic prices — which of course it did, since raising the price of imports was how the government protected domestic manufacturers. U.S. cars were much more expensive in Canada than in the United States, their prices from 29 percent to 54 percent higher in the mid 1920s. The government of the day, Mackenzie King's Liberal administration, was being pressured to lower the tariff on automobiles in order to reduce domestic prices. At first King was disinclined to take such action, but after being returned to power in 1925 with a parliamentary minority that depended for its survival on support from the low-tariff National Progressive Party, his government finally lowered the tariff quite substantially. Imported vehicles under $1,200 (about 75 percent of all cars bought in Canada) would be subject to only 20 percent duty; on vehicles over that value, the duty would be 27.5 percent. Duties on parts would remain unchanged. But for vehicles with half or more of their parts made in the British Empire (effectively, in Canada), manufacturers were eligible for a 25 percent drawback (or "remission") on the duty paid on their imported parts.[39]

Canadian manufacturers opposed this move and let the government know. They issued public statements, took out print advertisements, and staged large demonstrations of workers protesting the changes. They claimed, and perhaps sincerely believed, that importing whole vehicles would now be cheaper than importing parts and assembling them in Canada, and that the Canadian assembly industry would die. The government did make some concessions, reducing an excise tax and lowering the Canadian content threshold for the parts duty drawback to 40 percent for a year, but otherwise they held fast. As it turned out, the consequences were not as dire as the manufacturers had threatened. No plants closed as a result of this tariff change, which is not surprising, since the manufacturers' position was a little alarmist and their arguments a little spurious. For one thing, exports, which were close to half the country's production, were not affected. The duty paid on imported parts being put into exported vehicles (which were, technically, not being imported into Canada) had always been 99 percent refunded, and it continued to

be so. Furthermore, importing whole vehicles was not as simple as the manufacturers claimed; shipping costs were higher, for one. So the Canadian assembly of U.S.-made parts continued.

Some changes in the pattern of production did occur, but the connection between these changes and the tariff revisions is by no means clear. Imports as a percentage of vehicles sold in Canada rose quite steeply, from 14.9 percent in 1925 to 18.0 percent in 1926 and 23.2 percent in 1927, a change that might be due to lowering the import duties on finished vehicles. But with an industry expanding so quickly, other factors were at work. A new manufacturer, or an existing manufacturer's new model, might require imports for a time before Canadian suppliers could be lined up. Ford's changeover to the Model A, as an example, necessitated the import of complete chassis (which for duty purposes were classed as finished cars), something that had not been necessary on the Model T for years.[40] Similarly, the new Chrysler Six (1924) or some of the new GM models, such as the Oakland (1924) and the Pontiac (1926), might have been imported complete for a time. The average price of cars did fall 10 percent, according to figures from the Dominion Bureau of Statistics, but this is hard to attribute entirely to tariff changes. Ford, GM, and Willys-Overland still charged 25 percent to 30 percent above U.S. prices for their Canadian cars, as they always had.[41] The decline in the average price might be due to the sale of more low-priced cars.

It has been argued that another consequence of this tariff reduction was an increase in the production of Canadian auto parts, the claim being based on the fact that by 1928 all Canadian automakers were eligible for the 25 percent drawback of their parts duties, meaning their vehicles were at least 50 percent Canadian content. But without knowing exactly where matters stood in 1926, it is impossible to connect this increase to the new tariff. (And since the manufacturers had no need to calculate what proportion of their parts were Canadian-made before the 1926 content regulations were imposed, it is unlikely anyone will ever have the data needed to settle this matter conclusively.) The fact is that under the old tariff, automobile manufacturers were already being spurred toward the use of Canadian-made parts, and this situation continued — which is to say that the main advantage to using Canadian-made parts lay more in not having to pay a duty on that part than in potentially lowering duty paid on other parts that were imported. Surely most manufacturers who were not at the 50 percent threshold in 1926 were almost there, as the temporary lowering to 40 percent suggests. Ford, after all, was at 75 percent.

Another important change in the industry that has been viewed as evidence of the new tariff stimulating the Canadian industry is a doubling of Canadian parts production, by value, from 1925 to 1929. But when put against the increase in overall vehicle production over the same five years, 66 percent by value, the significance of this doubling is reduced. Complicating matters even more, there was a 400 percent increase in the value of parts imported over the period, suggesting that by offering a drawback on duties paid on imported parts, the new tariff might well have stimulated the use of non-Canadian parts for makers who met their Canadian content quota. (U.S.-made parts, without a duty applied, were generally considered preferable to Canadian-made parts,[42] although the point made earlier about the need to use imports for newly introduced models could be applicable to parts as well.) Taking all these percentages together, however, suggests something quite different. Since the value of parts, both imported and domestic, increased faster than the value of whole vehicles, perhaps manufacturers increased production during this boom more by using outside suppliers than by expanding their own facilities, although this goes against a production trend observable in other data (explored below).[43] The effect of the 1926 tariff on the automotive industry is obviously a complex matter, and only a specialized quantitative study could offer a definitive conclusion. However, the analysis given here does lead one to question the claim that it stimulated the production and use of more Canadian parts.

The Industry in the Great Depression

By any measure, the Depression of the early 1930s hit the Canadian automotive industry very hard. From 1929 to 1932, manufacturing output fell 77 percent, from 262,625 to 60,789 vehicles, and employment in the industry fell 54 percent. In 1932 the industry was using only 15 percent of its capacity and produced fewer vehicles than it had in any year since 1915. The spectacular growth in the industry during the 1920s was wiped out. No manufacturers were immune. Ford production fell from 87,389 in 1929 to 25,214 in 1932, and GM Canada's fell even more drastically, from 104,198 to 19,565 over the same three years.[44]

Put in historical perspective, such a precipitous decline is not entirely surprising. The Canadian automotive industry had expanded quickly — total capital invested had more than doubled, from $40 million to $98 million over the decade[45] — but it had done so on the sales of a relatively expensive product, barely within reach of Canadian consumers. Since people had

not yet become as dependent on the car as they would be two generations later, the great demand fuelling the industry's growth could easily fall off when personal incomes fell, which of course they did after 1930. Not just domestic sales, but export sales fell as well in the early 1930s, since most countries to which Canadian automakers exported in the 1920s also experienced the Depression. The decline occurred in number of vehicles exported (from 101,711 in 1929 to 12,534 in 1932) as well as in percentage of production exported (from 38.7 percent in 1929 to 16.7 percent in 1931).[46] The export market actually shrank more than the domestic.

The onset of the Depression brought no major changes in the manufacturing corporations and their production facilities. Other than GM Canada closing its Regina plant in 1931, no high-profile closings occurred. Willys-Overland ceased Canadian production in 1933, but all others soldiered on, Studebaker Canada in spite of its parent company going into receivership in 1933. One new Canadian automaker was born in 1931 — Dominion Motors of Leaside, Ontario — but it was formed when the Canadian branch of Durant Motors cut itself free from the sinking Durant parent company, so, although a new company, it was not truly a new manufacturer. The U.S. Durant firm had overextended itself in the late 1920s and defaulted on its loans when sales declined. Durant Motors of Canada, in contrast, was still flourishing, and its owners and managers organized Dominion Motors to buy Durant Motors of Canada, and the legal right to make Durant cars, from the U.S. company. The Canadian company began making Durant Stars under the very Canadian name Frontenac in September 1931. Sales were only in the hundreds, however, and the sound financial position the company had begun with quickly eroded as the Depression deepened. Production ceased in September 1934.[47]

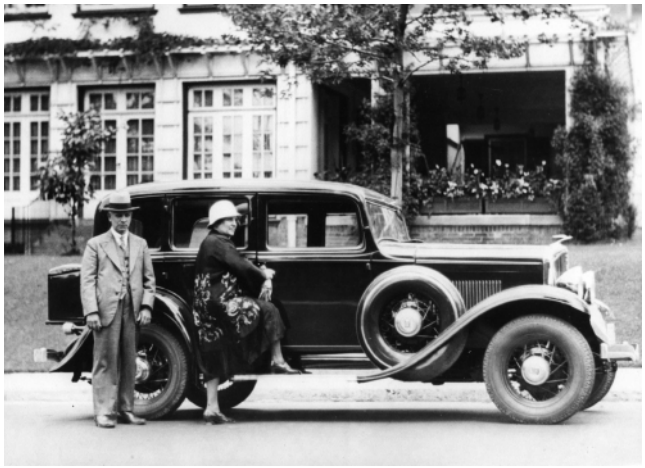


Figure 24. *The Canadian-made Frontenac, produced by Dominion Motors, near Toronto, was the last gasp of the Durant Motor Company of Canada. Despite the grand home and the stylish get-up of its apparent owners, the Frontenac was no luxury car. This 1932 or 1933 model sold for about $1,000, roughly the same as a Pontiac.*
(City of Toronto Archives, Fonds 1244, Item 2510)

Public arguments about the tariff continued. Many manufacturers remained unhappy about the 1926 changes and felt that a return to greater protection would help the Canadian industry survive the shrinking markets. In R. B. Bennett, Conservative prime minister since 1930, the industry had an ally who was both more sympathetic to the industry and more inclined toward tariff protection than his predecessor Mackenzie King had been. Industry lobbying paid off in 1931 when Bennett's government raised the tariff on imported vehicles (by raising the percentage of the retail price on which the tariff was imposed). Then in 1932, in an effort to strengthen imperial ties, Bennett took the reverse tack by agreeing to remove all import tariffs on British cars, but since there were so few British cars entering Canada, this was considered barely significant.[48] As with the 1926 changes, the impact of this 1931 revision is difficult to ascertain. Imports fell off drastically as a percentage of consumption, from 21.8 percent in 1929 to 2.9 percent in 1932, but this is almost certainly because imports tended to be the higher-priced cars in Canada anyway, rather than because of the increased tariff. Four U.S. makers — Hupp, Hudson, Graham-Paige, and Packard — did establish branch plants in Canada between 1931 and 1932, quite likely because of the tariff increase, although other factors must have been at work too.[49]

By the mid 1930s the industry began to experience a return of demand for motor vehicles. Production was back up to 172,000 in 1935, and it remained over 150,000 annually for the rest of the decade. The high levels of production attained in the final two years of the twenties (close to 250,000 annually) would not be reached again until after the Second World War, but output was respectable from 1935 on, and employment was back up to nearly pre-Depression levels from that point on too. The industry, after falling farther than most other industries at the start of the Depression, actually returned to health in the mid-thirties faster than other industries.[50]

The new automotive industry was different, however. Domestically, Ford had lost and would continue to lose its dominant market share. New passenger car registrations in 1930 had been 32.9 percent Fords, but by 1939 only 20.8 percent were Fords. General Motors stayed at roughly the same level, rising through the first half of the decade from 31.8 percent to 40.0 percent,

Figure 25. *Car-making carried Sam McLaughlin, in a single generation, from a humble carriage works to the horse paddocks of the Upper Canadian gentry. On this day in 1934 McLaughlin graciously accepts a trophy from Lady Eaton and her son Timothy C. Eaton (Robertson,* Driving Force*, 209).*

(City of Toronto Archives, Fonds 1244, Item 8155)

then falling back to 36.1 percent. It was Chrysler that was gaining from Ford's loss. Chrysler rose from 11.5 percent of car registrations in Canada to 32.2 percent.[51] Through the Depression years Chrysler established itself as a major competitor of the two original dominant corporations and became one of what would later be termed the Big Three.

The world automotive industry was taking on a new form by the second half of the 1930s as well. The European industry had revived sooner than the North American and was on its way to becoming a major international force. Vehicle production in the United Kingdom even rose slightly from 1929 to 1932 and by 1937 had doubled its 1929 output. Production in Germany rose sixfold from 1932 to 1937. By the end of the thirties both these countries, and France, produced more motor vehicles than Canada. This did not have an immediate impact on Canada's exports. The Commonwealth countries continued to be good buyers of Canadian-made vehicles. But the growing British and European industries would soon have an effect. Sales to the United Kingdom began to decline after 1936 (from $3.6 million in 1936 to $0.9 million by 1939), and Britain began to gain a larger, and growing, share of the New Zealand market. Fortunately for Canadian producers, imperial preference, which had been reinforced in the Ottawa Agreements of 1932, meant that Britain's gain in New Zealand had been at the expense of the United States, not Canada, but clearly things were changing.[52] The fortuitous circumstances of the twenties that had allowed Canada to become a major supplier of motor vehicles to the world were passing.

Further changes in the tariff were made before the 1930s were over. Bennett's 1931 increase in protection had not fully satisfied the industry, and debate and confusion dogged the government for a few years. To try to settle the matter, the Bennett government

Figure 26. *By the 1920s, more and more people in cities were using automobiles to go about their daily life, but nobody knew what to do about all the cars. Eaton's department store used some of its land for a fenced "parking station," marking out lines on the unpaved surface to try to impose some order.*
(Archives of Ontario, F229-308-0, File 2445)

called on the Tariff Board to review the situation and recommend changes. But before its recommendations were brought forward, Bennett had lost the election (1935) and Mackenzie King, back in power, had made a Most Favoured Nation treaty with the United States that lowered the automobile tariff. The Canadian import duty on U.S. vehicles was set at 17.5 percent on cars under $1,200 value; 22.5 percent on cars valued between $1,200 and $2,100; and 30 percent on those over $2,100. Further changes were imposed after the Tariff Board reported, the most significant being a new system of applying duty on imported parts that allowed duty-free entry if the part was of a "class or kind not made in Canada." But still, overall, the result of these changes was a return to less protection.[53]

The main effect of Bennett's earlier tariff changes — the opening of more branch plants — was subsequently reversed. Hudson, Hupp, and Packard closed their Canadian plants within a few years (Graham-Paige had already done so), as did Studebaker. So too was the decline reversed in the percentage of Canadian vehicle consumption supplied by imports, which rose from 8.5 percent in 1936 back to 15.9 percent in 1939. The tariff thus appears to have been directly affecting the Canadian industry, although one cannot isolate its effects from larger changes, such as the decline of the export market and the return of domestic demand. The tariff on parts, meanwhile, was continuing to have an effect. The three largest Canadian producers had reached a point where, on average, 67.4 percent of the value of their overall output was Canadian-made by the end of the decade. Not surprisingly, the Canadian parts industry had grown; its output rose from $61 million in 1934 to $105 million in 1939. And the value of parts production as a percentage of total vehicle production rose steadily throughout the 1930s: from 18 percent in 1929 to 32 percent in 1932 and 36 percent in 1939. Parts manufacturing was becoming a very large element of the Canadian automobile industry.[54]

Themes in the Interwar Period

So far this chapter has concentrated on the rising and falling of production levels, the tariff and its impact, and the opening and closing of manufacturing and assembly plants. The balance discusses several additional important aspects of the Canadian automobile industry in the interwar years: the technical and stylistic development of the automobile, consolidation and centralization in the industry, the increasing significance of commercial transport vehicles, and the experience of the industry's workers. All four could be the subject of major studies but here are just covered briefly. Interestingly, most of them show only a moderate impact from the Depression, reminding us that for all the differences between the 1920s and 1930s, there is something to be said for viewing the interwar years as a single historical period.

Perhaps the place to begin, before exploring these themes, is with a reminder that underlying this whole period is the ongoing march of the automobile. The motorization of Canada, indeed of the industrialized world, runs through the entire interwar period, slowing only slightly for the Depression.[55] The slump in the industry in the 1930s was caused by falling production of cars, not by a drop in their use. Automobiles can last a long time when drivers cannot afford new ones. Though automobile production declined by some 70 percent from 1931 to 1933, automobile registration in Canada declined only 6 percent over those same three years.[56] Provincial revenue from gasoline taxes, an accessible and reasonably valid surrogate for vehicle usage, stayed steady in most provinces for the first few years of the 1930s and then began to rise quite significantly. In the three prairie provinces and Prince Edward Island, gasoline tax revenue actually rose continuously for the entire 1930s. Canadians liked their wheels, and once on them they were not going to give them up. Of course, rising gasoline tax revenues, quite apart from indicating vehicle use, were also having a profound effect on provincial government finances. By the late 1930s revenue from automobiles, mostly gasoline taxes and registration fees, ranged in most provinces from 20 percent to 30 percent of total revenue. Provincial government expenditures for roads and bridges also increased as a result of automobiles.[57] Government finance was one more thing that the automobile was transforming.

It is also clear, although hard to quantify without doing specialized research, that coinciding with this steady advance of the automobile was a steady advance of the automobile industry into the Canadian economy. Economic spinoffs from the industry were extensive and increasing. Resources such as iron ore, lumber, and coal; materials such as steel, glass, and synthetic fabric; and parts such as batteries,

Figure 27. *The economic spinoffs from the manufacture and use of automobiles were everywhere in the interwar years. Service stations such as this one in Quebec City, photographed in 1934, could be found across the country.* (Library and Archives Canada, neg. PA-133371)

radiators, and tires were all consumed in great quantities by the industry. To these one must add the sales and service industries spreading across the country. In the late 1920s an article in *Industrial Canada* claimed that the auto industry, if one included its many close relatives, had become the largest industry in the country, a claim that might not be provable but is likely not far off the truth.[58] Here, of course, one does see a slump during the Depression. The capital employed in the industry, which rose so sharply in the twenties, fell off considerably during the thirties and did not regain its 1920s levels until the Second World War. But overall the trend was upward, and the impact substantial. Even at its lowest point (1933) the industry was big, with over 8,000 employees and over $38 million worth of vehicle production, and output began to rise again after 1934.[59]

One of the reasons why motor vehicles were gaining popularity is that their function, comfort, and appearance were being improved. The interwar years, particularly the 1920s, were a time of steady technological development for automobiles. By 1939, except for the automatic transmission, the car had taken on its modern form. This is the first important theme from this period to consider.[60]

The increasing use of closed bodies stands out as the most important development in making cars more useful. It derived from a number of technical innovations, all of which came together through the 1920s. One was an improvement in the quality of sheet steel, which the steel industry had achieved early in the decade. Another was a new continuous process for manufacturing plate glass, yielding a better and cheaper product;

Figure 28. *This photograph of body-making at Durant in Leaside, Ontario, in the late 1920s shows the rather surprising persistence of wood in car roofs. Despite the greater use of steel in other body parts, roofs made of wood frames coated with waterproof fabric remained the standard until well into the 1930s (Flink,* The Automobile Age*, 213).*
(Library and Archives Canada, neg. PA-800818)

this was pioneered at Ford from 1919 to 1921. Together, these made the mass production of closed bodies possible for the first time. Automatic welding, introduced in 1925 and brought into full operation with the Ford Model A in 1927, allowed for steel panel joints to be made faster and more uniform, further reinforcing the trend. The first closed steel body was introduced by Dodge in 1923, and the technique spread rapidly. In 1920, only 10 percent of new Canadian cars had closed bodies; in 1929, 82 percent had them; in 1939, all cars (excepting convertibles and special-purpose vehicles) were closed. The change from open to closed bodies was completed in two decades.[61]

The introduction of closed bodies had several important consequences. Cars became more comfortable, since seats that did not have to face the elements could be made plusher. They also became more usable, as one could now drive in any weather and even in winter, since enclosed cars could be heated. This, together with better roads, underlies the greater use of automobiles, which is, of course, the foundation for greater production and consumption of vehicles. The increased use of steel contributed to another important development: a wider range of coloured finishes. The one kink in Henry Ford's mass-production process had always been the car's exterior finish, since only black paint dried fast enough to keep up with the production line. The breakthrough came with Du Pont and General Motors chemists who, over a few years in the early 1920s, developed a new quick-drying synthetic lacquer, and a method for spraying it, that could

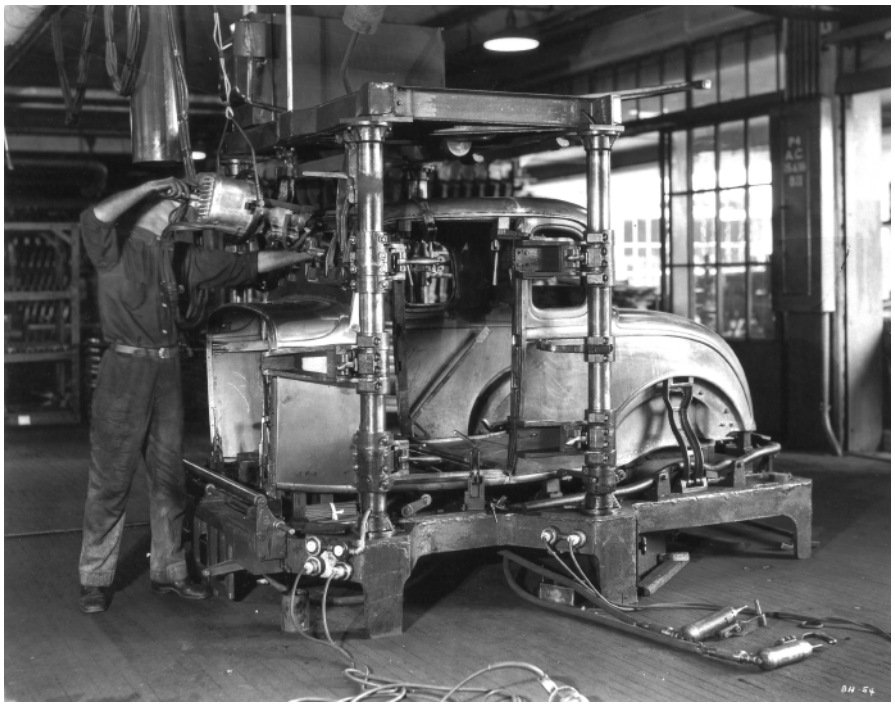


Figure 29. *Automatic electric welding, here being done on a Ford Eight at Walkerville in the early 1930s, was said to lower production costs, but the special-purpose machinery it required, such as this enormous jig to hold the body, and the welding equipment itself, represented a huge capital cost (Flink,* The Automobile Age*, 213).*

(Library and Archives Canada, neg. PA-800852)

hold any number of different colour pigments. This new Duco lacquer dried in only nine hours (if subjected to a heat that only steel bodies could withstand), as opposed to the several days that colour varnishes required. It was first used on the steel bodies of GM's 1924 Oakland.[62]

Several other smaller but important improvements appeared in the 1920s — low-pressure balloon tires that made for a smoother ride, tetra-ethyl lead gasoline that reduced engine knock and allowed the use of higher-compression engines, four-wheel brakes (hydraulic and mechanical), and synchro-mesh transmissions.[63] Additional improvements came in the 1930s.[64] Ford introduced a technique for casting V8 engine blocks in one piece in 1932, which reduced the cost of making bigger engines — for better or for worse — and began making the engines at its Canadian plant.[65] GM pioneered independent front suspension in 1934. Some automatic clutching devices began to appear in the 1930s, which started the evolution toward the automatic transmission. All of these inventions spread rapidly around the industry, owing to the cross-licensing of patents the National Automobile Chamber of Commerce had arranged after the Selden patent suit was settled in 1914.[66] There is no sign of these innovations being blocked at the Canadian border. Quite likely they were introduced in Canadian factories on the same models and at the same time, or shortly after, they were introduced in the United States.

The main thrust of innovation in the 1930s was in styling.[67] The leader here was GM, which set up an Art and Color Section in 1926 (renamed the Styling Section in the 1930s) to co-ordinate the styling of its vehicles, a critical part of its emphasis on brand distinction and marketing. The idea of stylish cars was not new. The Chrysler Six of 1924 had been attractively styled. And independent body makers had been designing and building custom bodies for those who could afford them for years. But the institutionalization of styling in the form of a corporate division was new. The first car styled by this division was GM's 1927 La Salle, built in fairly small numbers at GM Canada from the year of its introduction until 1935.[68] By the 1930s, nearly all passenger cars had a new look. The now universal use of all-steel bodies, as well as greater colour range and improved techniques for shaping the sheet steel in hydraulic presses, allowed for a transformation in automobile design. The most striking change was the introduction of curved lines. Cars had been boxy, angular machines until the 1930s; now they began to have a curved, aerodynamic look, with fenders incorporated into the overall car body. This was partly a practical concern, for it lowered air drag, but it was also something of a fad related to the popularity of aircraft and air travel in the 1930s. The leading example of this new look is the Chrysler Airflow of 1934 — which was too extreme for its time and was a commercial flop — but there were other classics, such as Ford's 1936 Lincoln Zephyr and the 1937 Hudson.[69]

Other important design changes also took place during this period. One was "drop frame" construction, in which the centre of the frame was made lower to accommodate the car's body; this lowered the passenger compartment to the position it occupies in most cars today and did away with the need for running boards to serve as a step up into the car. Several makers introduced this in the early 1930s. Cars were also made longer, allowing for greater room in the rear of the car, which began to be used to hold the spare tire and as a trunk; the 1932 Cadillac was the first to employ this design. Once again, signs are that all these

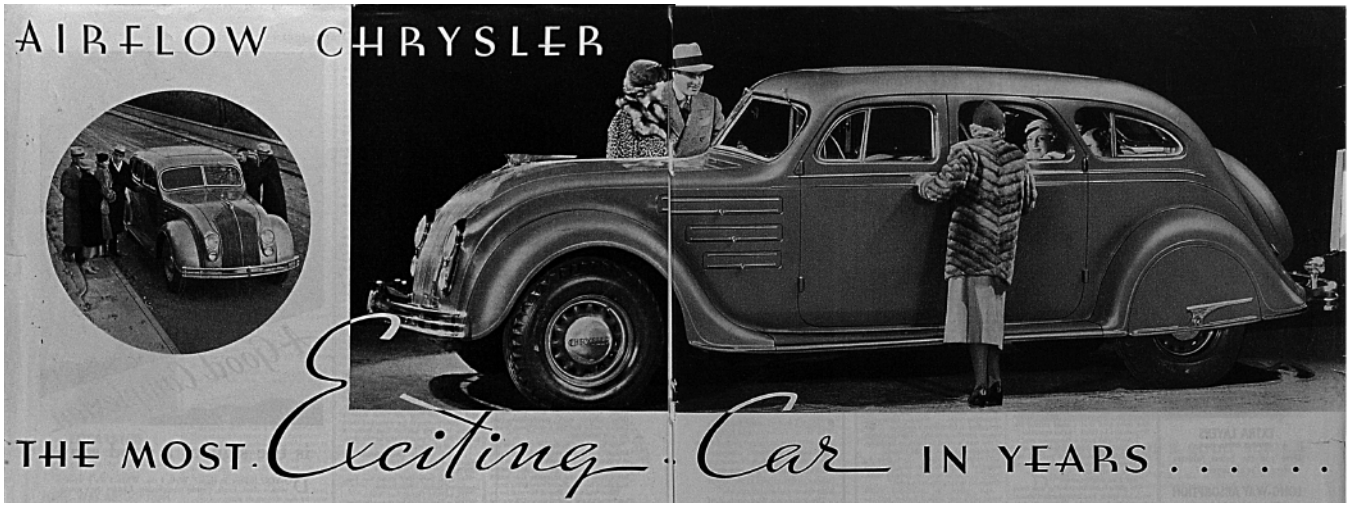


Figure 30. *The vanguard of the 1930s automobile style revolution, in which curved lines and an aerodynamic look became de rigueur, was the Chrysler Airflow, introduced by Chrysler in 1934 and made at Chrysler Canada's Windsor plant that first year. But it was a little too avant-garde. Sales were far below expectations, nearly bankrupting the company.*
(CSTM/de Bondt Collection)

stylistic novelties were introduced in Canada at about the same time as they were in the United States.

A second theme in the industry of the interwar period — more of a business than a technological or cultural development — is the changing structure of the industry as it went through a period of drastic consolidation. In the United States, the number of automobile manufacturers fell from 108 in 1920 to 44 in 1929 and to fewer still by the end of the Depression.[70] The forces behind this consolidation were many, but certainly the new emphasis on styling and annual model changes — Sloanism, basically — made it next to impossible for manufacturers of moderate size to keep up. Only the largest corporations had the capital and marketing power to succeed in the new business environment. This trend gained momentum in the 1920s, but several mid-sized manufacturers with good products held on until the market contraction of the Depression pushed them over the edge. Companies like Maxwell, Chalmers, Dort, Packard, Pierce-Arrow, Dodge, and Willys-Overland, to name only the better known, had ceased operations or disappeared altogether by the end of the 1930s, their market shares having been gathered up by the few surviving mega-corporations. Some of the struggling firms survived in reorganized form or were bought out by each other and saved for a time, but most would not last beyond the Second World War. This was a development of great importance in the U.S. auto industry.

Nothing of the sort happened in Canada, where there were no successful independent manufacturers to go out of business. The Canadian industry was, in essence, Canadian production of successful U.S. brands, so the smaller U.S. makers did not have, and really never had had, a Canadian presence. Of those sixty-some U.S. automakers that ceased production in the 1920s, few, if any, had a Canadian connection. Admittedly, consolidation in the U.S. industry did have some impact in Canada. When the more successful mid-sized makers, such as Willys-Overland or Dodge, began to topple in the 1930s, their Canadian branches went down with them. And Dort's demise brought down Gray-Dort, the closest thing to an independent Canadian manufacturer in these years. One could also, perhaps, see the demise of the McLaughlin enterprises as a result of the consolidation trend, although this development was a consolidation within GM's corporate structure more than the failure or joining together of independent manufacturers. But when one counts the number of Canadian automotive manufacturers at the start (10) and end (12) of the interwar period, one finds little change. The peak came in 1931 (26) and 1932 (25), when a combination of Bennett's tariff reforms and a belief that the Depression would soon be over combined to bring a few new Canadian branch plants into operation. This belief disappeared after Mackenzie King reversed the tariff reforms and, interestingly, prosperity returned.[71] The market share held by the Big Three makers did rise over the course of the 1930s, from about 76 percent to 88 percent, so they were increasing their dominance of the market, but consolidation of manufacturing firms was not a significant event in the Canadian automotive industry during the interwar period.[72]

Figure 31. *Most truck production, as here at the Gotfredson Corporation plant in Walkerville in the late 1920s, stuck with the older technique of workers carrying parts to the stationary vehicle, rather than the moving assembly line technique of workers with parts waiting for vehicles to come to them.*
(Library and Archives Canada, neg. PA-800837)

Some centralization of production, however, was. One of the basic features of the Canadian auto industry up to the twenties had been the use of Canadian-made bodies. Right from the start most Canadian manufacturers, whether Canadian or U.S. owned, deemed this the most advantageous way to operate in Canada. The system of using specialized body makers had been employed in the United States as well, before the First World War. Fisher Body, which became part of GM in the 1920s, was founded in Detroit in 1908 to make bodies for Ford, and Budd Manufacturing had made bodies for Oakland and Dodge.[73] But through the 1920s this system disappeared, in both Canada and the United States, swept away by the greater use of steel bodies (which were expensive and required different skills), the introduction of integral bodies, and the advent of annual styling changes. Making a car's body became part of the overall manufacturing process, and new body plants began to be added adjacent to existing manufacturing facilities. The last gasp of the body industry was the making of custom bodies for luxury cars, but this specialty did not survive the Depression.

This trend was especially significant in Canada because it threatened not just a specialized line of business, as was the case in the United States, but an especially Canadian component. In the construction of every new body plant by a big manufacturer in the late 1920s, one can probably read the demise of a Canadian body maker who had been supplying that manufacturer up to that time, although scarce documentation and an absence of research make demonstrating this next to impossible. Canadian components, of course, continued to be made and to find their way into Canadian-made cars. The tariff on imported parts made sure of that. Other parts replaced bodies as the main Canadian-made inputs. But it seems likely that the centralization of production pretty well ended the Canadian automobile body industry, which had itself been a curious vestige of the nineteenth-century carriage industry.

A third major development in the industry during the interwar years was the growing importance of commercial vehicle production. That is not to say that the commercial motor vehicle industry began in this period. Small trucks and buses (usually the two types of vehicles included in the classification "commercial") were being used in the earliest years of the industry. Some of Canada's first vehicles, such as the Still electric and the Massey-Harris tricycle, were used for commercial purposes. And nothing stopped an owner of a Russell or a Model T from altering a car's body to facilitate carrying light freight or a number of passengers, something of which the manufacturers were well aware. A 1906 trade magazine carries an advertisement for a Russell "commercial car," essentially a chassis with a platform but no body.[74] Nevertheless, after the First World War production of commercial vehicles grew to be an actual part of the automotive manufacturing industry, and this importance continued to grow throughout the period. The value of commercial vehicles as a percentage of the industry's overall production rose steadily, from 7.4 percent in 1919 to 28.3 percent in 1939.[75]

Some authors point to the war itself as a spur to this development. The military certainly used trucks during the war, so the war probably contributed both to refining their production and raising their visibility. James Flink adds that in the United States the long-distance movement of military trucks from Midwestern factories to overseas shipping points, done because of a shortage of rail freight cars, was the first long-haul truck travel in the country, and it demonstrated a whole new realm of possibility.[76] Be that as it may, circumstances after the war clearly made trucks and buses more popular as well. The improvements in vehicle technology mentioned above undoubtedly played a role. The drop-frame chassis allowed buses to be made lower, and thus more accessible for passengers and more stable on the road. Improved sheet steel techniques allowed for a wider range of truck body types. Pneumatic tires made rides smoother, just as they did for passenger cars.[77] Beyond the vehicles themselves were better roads and, perhaps most important, the

rapid expansion of business activities that could use commercial vehicles. One major economic development in Canada during the interwar years was the growth and diversification of urban service industries, and there may be no better illustration of this than truck catalogues, which show trucks being used for countless service and delivery purposes. Indeed, the urban delivery vehicle seems to be one of the visual hallmarks of the age.[78]

The manufacture of trucks and buses is somewhat different from the manufacture of passenger cars. Commercial vehicles cannot be mass-produced in quite the same way as cars. The chassis on which trucks are built can be mass-produced, but the bodies assembled upon these chassis must be made in a range of styles to serve a range of uses. Some specialized trucks for which demands are small must be nearly custom-made. This opens the possibility for small manufacturers, and this was in fact a feature of the commercial vehicle industry throughout the period, as it still is to some extent today. Truck makers of this type had to buy chassis from a large-scale vehicle manufacturer and thus depended on the primary auto industry for their essential mechanical parts, but the value of their own work is considerable, and a significant subset of the automotive industry.[79]

Canada did not have many such truck manufacturers before the First World War, as the Canadian reliance on U.S.-built trucks during the war attests. There were perhaps a dozen manufacturers who called themselves truck makers, but their output was small.[80] After the war this changed rapidly. The two major automakers, Ford of Canada and GM Canada, both began manufacturing trucks on a fairly large scale. Chevrolet trucks were introduced at the Oshawa plant immediately after GM Canada was formed; 675 trucks were produced in 1919, and output rose steadily, to over 27,630 in 1929. Numbers fell after 1930 but were back up to 10,000 by 1935. The GMC line of trucks was manufactured in Oshawa beginning in 1923, but output remained about 10 percent of Chevrolet truck production. Ford of Canada became a major supplier of trucks as well. Production figures are not available, but the company is on record as the largest Canadian producer of trucks in 1935, 1937, and 1938.[81] International Harvester, a U.S. farm machinery producer that had operated a wagon works in Chatham, Ontario, since 1910, and which had been making a two-cylinder "auto wagon" in the United States since 1907, converted part of its Chatham plant to motor vehicle production in 1922. International Harvester trucks sold very well in Canada from that point on. Chrysler Canada also produced trucks in Canada — Dodge Trucks from 1931, and Fargo Trucks from 1935.[82]

Among them, these four U.S. producers had an annual capacity of about 44,000 trucks in 1935, some 96 percent of the entire Canadian industry's truck-building capacity. The remaining capacity of 2,000 or so trucks rested with small specialty truck makers. Some were branch assembly plants of foreign firms, such as Thornycroft and Leyland (from England), which both had brief lives in Montreal in the 1930s, and Federal, Stewart, and Graham-Paige (from the United States), which also carried out Canadian production for a short time. Gotfredson Corporation, an American-owned company established originally in Canada, began operation in Walkerville in 1920 and survived until 1932. The White Motor Company of Montreal and the Four Wheel Drive Auto Company of Kitchener, Ontario, were two U.S. branch operations that survived the whole period and beyond.

There were also a few small Canadian truck builders. National Steel Car Company of Hamilton began building trucks as a spinoff from its railway car manufacturing business in 1915, but had to sell out to a U.S. company in 1919. It lasted until 1925 under the U.S. owners. Hayes Manufacturing and the Vancouver Engineering Works were two Vancouver companies that built trucks to serve western shipping and industry. Vancouver Engineering lasted only a few years in the early thirties, but Hayes, founded in 1922 as Hayes-Anderson, became a well-established west coast firm. By the 1930s it was a major supplier of heavy-duty logging trucks.[83] Several Canadian automobile body manufacturers, having been shut out by the trend toward centralized body production, found a niche in specialized manufacturing of commercial vehicle interiors for a generation or so. Among them were the Ledoux Carriage Company in Montreal, Tudhope's Orillia Carriage Factories, and Smith Brothers Motor Body Works in Toronto. The latter, whose affairs are well documented, built a great range of specialized commercial bodies — armoured cars, bookmobiles, and hearses, to name just a few — and remained in business into the 1970s.[84]

The bus business, like trucking, was also becoming established in this period, both for travel within cities (as an adjunct to street railways) and intercity travel on the growing highway network. At first, a bus was nothing more than a passenger compartment atop a truck chassis. The limits of this in comfort, safety, and public image were soon recognized, and by the middle of the 1920s special bus chassis were being made. One of the first companies to build bus chassis was a New York firm by the name of Fifth Avenue Coach (FAC), a transport company so unsatisfied with available buses that it designed and built its own. The Toronto Transit Commission (TTC)

Figure 32. *The Vancouver to Edmonton Greyhound bus stopped in Nelson, British Columbia, in the mid 1930s. This seventeen-passenger bus consisted of a Chevrolet chassis with a steel body built and mounted by a Calgary manufacturer, probably Western Steel.*
(Glenbow Museum, neg. NA-1227-2)

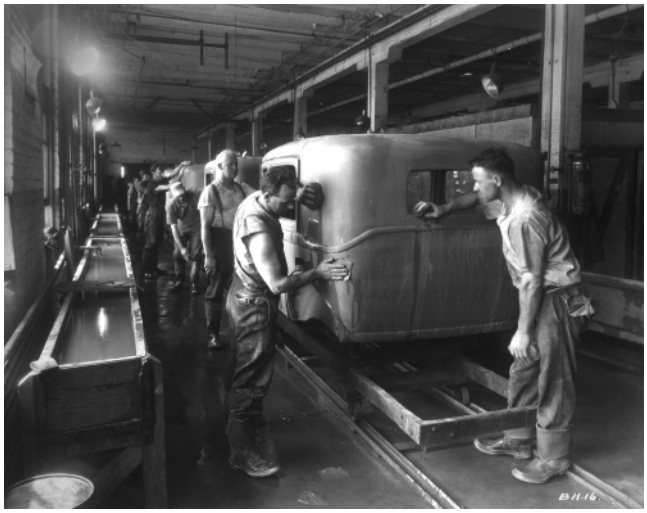


Figure 33. *A worker seems to be catching a few seconds' rest while sanding automobile bodies being prepared for lacquering at Chrysler Canada in Windsor in the late 1920s. One can imagine what a few shifts on this job, wearing no gloves, would do to one's hands.*
(Library and Archives Canada, neg. PA-800829)

bought two FAC buses in 1921. Truck makers generally made the chassis for buses (modified somewhat, it appears), and the U.S. truck maker White Transport moved from making chassis into the manufacture of complete buses. Whites were the biggest sellers in Canada early in the decade. Brewster Transport of Banff bought new Whites in 1923 and 1924 for their sightseeing tours. By mid-decade, though, the General Motors subsidiary Yellow Coach was becoming a major supplier of buses too. The TTC bought several Yellow coaches in the mid-twenties, as did Brewster. When the fledgling Greyhound business was getting started in Alberta and British Columbia in 1930, it bought three new Yellow coaches. One of the two founders of Greyhound in Canada, George Fay, had been a Vancouver Island sales representative for Yellow before starting the Greyhound business, so the Greyhound-Yellow connection was set from the start.[85]

Unhappy with the heavy weight of his Yellow coaches on the rough roads of western Canada, however, Fay set about trying to get a lighter bus made by local metalworkers. In this he succeeded, and by the mid 1930s he was using buses built by the Calgary firm of Western Steel on Hayes chassis. Soon after that, in need of more, larger buses, Fay made an arrangement with the Fort Garry Motor Body and Paint Works to develop a new bus. This partnership was the germ from which grew Motor Coach Industries, a large Winnipeg bus manufacturer that supplied many of Greyhound's coaches into the 1980s.[86]

One final important aspect of the industry in the interwar years that deserves mention is the experience of the workers in the plants, and the appearance of a union to support and defend their interests. This subject cannot be explored in much depth here, but it is an important part of the industry's development and should not be left entirely unmentioned.

Running parallel to expansion of the material side of the industry — its output, capital investment, and such — was growth of the industry's workforce, without which, of course, production could never have occurred. That Ford of Canada was able to increase its labour force from 118 workers in 1910 to 1,405 in 1914 and then to 4,988 by 1924 is remarkable,[87] as is the comparable growth of the McLaughlin and General Motors workforce in Oshawa. One should add the thousands of workers at other auto manufacturers like Hupp, Studebaker, and Chalmers, and at the component plants like Fisher Body, Kelsey Wheel, and Dominion Forge, all of which started up in the boom years just prior to the First World War and continued through the 1920s and beyond. Measuring the scale of this labour force is difficult, but reliable estimates put the number of automobile jobs — an

employment sector that did not really exist before 1910 — at about 15,000 by the end of the 1920s.[88] Much of this industrial expansion was concentrated in and around Windsor. One published source states that in 1926 Windsor and its vicinity had fifty-five auto and auto parts plants in operation. Another states that the population of the region increased fivefold from the year of Ford's founding to 1929, a large proportion of which was undoubtedly blue-collar workers. The Border Cities had become a Canadian "Motoropolis."[89]

Where these men — and they were almost entirely men in these years — came from has not been the subject of comprehensive research. Ford's original small workforce consisted mostly of established Canadians, many of them French Canadians.[90] As the workforce grew, many of the men would have come from the regional countryside, but research suggests that a significant number, especially at Ford, came from outside the country, since by 1929 some 25 percent of the population of East Windsor was of Eastern European origin. McLaughlin, in contrast, apparently preferred to recruit from the rural hinterland.[91]

Wherever they came from, the notorious drudgery of assembly line production is what most of them came to. Ford of Canada had been the first Canadian manufacturer to use assembly line production, in its 1913 plant, and from what we know all the major manufacturers who set up after that used similar techniques. Certainly any manufacturer who hoped to compete in the high-volume industry of the 1920s had to use assembly line technology. Many of the auto parts companies probably did not employ true assembly lines, since they did not actually assemble as the automobile factories did, but the pressure to keep production up to the pace of the line at the plant the parts were feeding into would have been strong. Assembly line production still required some skilled workers, something that is easy to forget. One labour historian suggests that 15 percent of jobs in the industry were skilled (though no specific date or plant, or source, is cited).[92] This seems plausible. Photographs from inside the plants show a fair amount of hand work being done preparing and testing components destined for the assembly line,[93] and the production machinery itself had to be made and maintained. But whether one is working on the actual moving line, like Charlie Chaplin in *Modern Times* (made in 1936), or at a stationary workbench fitting or testing parts, one is still on the line in a sense. All in all, it would have been hard to work in the auto industry any time after the First World War without working in an assembly line environment.

It is no secret that such work was hard to bear. The connection between labour and finished product — a worker's traditional source of satisfaction — had been lost, and the pressure to pick up the pace — and generate more revenue — never relented. Of course, assembly line technology and low-cost mass production were what had created these thousands of new jobs, but that did not make them any easier to do. Turnover, not surprisingly, was extremely high, as the many workers who found the conditions unbearable responded simply by quitting. Such a response seems perfectly reasonable. If workers were quitting, employers must have been hiring, so the job market was likely quite active. One could probably find another job. And many young workers, especially the Canadian-born, might not have been entirely wage-dependent. Manufacturers found the turnover rate unacceptable. Unskilled though much assembly line work was, workers still needed a few shifts to get up to speed, so a plant could not be run with workers all in their first week at the job. Henry Ford claimed he had to hire ten workers for every one that stayed,[94] perhaps an exaggeration, but he was bothered enough by the turnover rate that he introduced his now famous "five-dollar day" in January 1914, a huge step up for unskilled work, and immediately saw his turnover decline sharply. McGregor took a comparable step at Walkerville, offering a "four-dollar day" in April 1915, with similar effects. Work in automobile factories might have been hard to bear, but it paid well. It offered an unskilled worker a tradesman's standard of living, and that was not an easy offer to turn down.[95]

Primarily for this reason we see little in the way of organized resistance from the workforce in these years.[96] High wages bought compliance. Another reason for the absence of resistance, however, is that the workers had next to no institutional support from the Canadian labour movement. The labour establishment consisted of trade, or craft, unions whose membership, by and large, had no time for mass "industrial" unions of unskilled workers. The Communist Party of Canada did attempt some organization in the mid 1920s. In the later 1920s they organized an Automobile Workers Industrial Union that initiated and supported a number of small strikes, as well as a successful week-long strike against General Motors in Oshawa in 1928. But this initiative did not last, as the craft-based Canadian Trades and Labour Council was not prepared to accept an industrial union in its ranks.[97] Once the Depression hit, jobs became so scarce that any sort of labour resistance was unthinkable. Labour in the industry remained unorganized.

This changed suddenly, and irreversibly, from 1936 to 1937 as a result of two developments.[98] First was the organization, in 1936, of the United Automobile Workers (UAW) in the United States, an industrial union with close ties to the new, and quite radical, Committee of

Industrial Organizations (CIO). After a number of successful strikes in the United States, the UAW organized a local at the Kelsey Wheel plant in Windsor in December 1936, the first UAW local in Canada, and with the support of that local, Kelsey workers struck and won an agreement from their company. The Kelsey UAW local was not yet formally recognized, but the industrial relations landscape was undoubtedly changing. Then in February 1937, a major strike broke out at General Motors in Oshawa. The action was a direct response to the company speeding up its assembly line, from 27 to 32 units an hour, but the workers were already disgruntled after a series of pay cuts, and they were well aware of the UAW's recent activities in the United States and at Kelsey. Though not involved in initiating the strike at GM, the UAW quickly arrived on the scene and began signing up members — within a week they had over a thousand. The strike gained a very high profile. Ontario premier Mitch Hepburn was determined to fight the UAW's and CIO's incursion into his province at all costs and in doing so resorted to extreme tactics, some of which raised the ire of Prime Minister Mackenzie King. But Hepburn lost. The strike was settled after fifteen days with most of the strikers' demands met, and Ontario had its first industrial union. The UAW was in the Canadian automobile industry to stay.

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The Canadian automotive industry went through considerable change in the two decades after the First World War — expansion, contraction, restructuring, and what might be called, for lack of a better term, modernization. It became a unique industry — a parasite of sorts, based more than ever on the United States for its technology, design, brand names, and marketing, yet it was unmistakably a product of Canadian circumstances and Canadian laws. And despite its curiously dependent relationship with the U.S. industry, by the late 1930s it had grown to be of great economic significance in Canada, with countless, multifarious spinoffs throughout the industrial economy of the entire country.

Notes

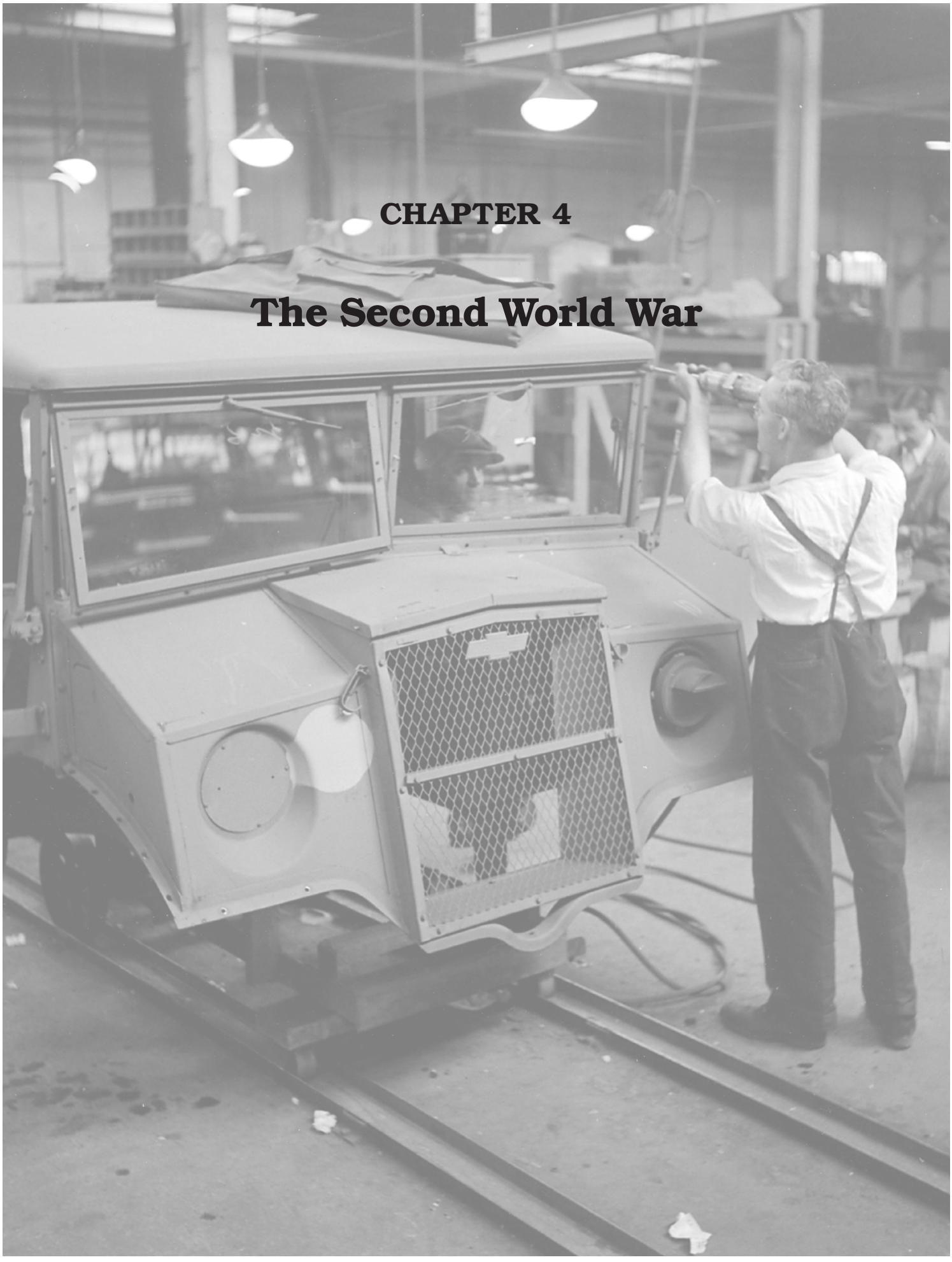
1. Canada, Dominion Bureau of Statistics (hereafter DBS), *Motor Vehicle Manufacturers*, 1930 (DBS Catalogue 42-209), Tables 1, 2, and 3.
2. James J. Flink, *The Automobile Age* (Cambridge: MIT Press, 1988), 65, 87; Heather Robertson, *Driving Force: The McLaughlin Family and the Age of the Car* (Toronto: McClelland & Stewart, 1995), 166–9; Ed Cray, *Chrome Colossus: General Motors and Its Times* (New York: McGraw Hill, 1980); Bernard A. Weisberger, *The Dream-Maker: William C. Durant, Founder of General Motors* (Boston: Little Brown, 1979), 142.
3. Donald F. Davis, "Dependent Motorization: Canada and the Automobile to the 1930s," *Journal of Canadian Studies* 21, no. 3 (Fall 1986): 113, points out that the McLaughlins seem to have made no effort over their ten-year association with GM to gain the engineering expertise or corporate know-how to set off on their own.
4. This follows Robertson, *Driving Force*. It is worth noting that the family fortune came not from making cars, but from selling its shares in one huge U.S. corporation to another; though, in a sense, the value of those shares had been created by ten years of successful car-making.
5. Robertson, *Driving Force*, 186–90; Hugh Durnford and Glen Baechler, *Cars of Canada* (Toronto: McClelland & Stewart, 1973), 259–65 (264 for name change).
6. Cray, *Chrome Colossus*, 195–200 and 245–8; Robertson, *Driving Force*, 222–4.
7. "GM in Canada: The Early Years," *Vintage Canada* 1, no. 3 (March 1975): 11–2, and 16 for production figures; Durnford and Baechler, *Cars of Canada*, 265.
8. Mira Wilkins and Frank E. Hill, *American Business Abroad: Ford on Six Continents* (Detroit: Wayne State University Press, 1964), table on 442; Flink, *The Automobile Age*, 81–6.
9. Flink, *The Automobile Age*, 81–6; Tom Traves, "The Development of the Ontario Automobile Industry to 1939," in *Progress without Planning: The Economic History of Ontario from Confederation to the Second World War*, ed. Ian M. Drummond (Toronto: University of Toronto Press, 1987), 218–9; Cecil Howard Aikman, *The Automobile Industry of Canada*, McGill University Economic Studies, no. 8 (Macmillan of Canada for the Department of Economics and Political Science, McGill University, Montreal, 1926), 12; Wilkins and Hill, *American Business Abroad*, 113–9; James C. Mays says 4,988 employees by the end of 1924 — *Ford and Canada: 100 Years Together* (Montreal: Syam Publishing, 2003), 44.
10. Flink, *The Automobile Age*, 229, citing Hounshell for the description of "antique"; the changelessness of the Model T is disputed by some historians, e.g., David A. Hounshell, *From the American System to Mass Production, 1800–1932: The Development of Manufacturing Technology in the United States* (Baltimore: Johns Hopkins University Press, 1984), 273–4, and Durnford and Baechler, *Cars of Canada*, 237.
11. Durnford and Baechler, *Cars of Canada*, 243; Flink, *The Automobile Age*, 228–9.
12. Wilkins and Hill, *American Business Abroad*, 442; "GM in Canada: The Early Years," 16; Ford figures are for all vehicles, including trucks, but GM lists trucks separately, making precise comparisons difficult.
13. Aikman, *The Automobile Industry of Canada*, 16.
14. Model As were not in full production for several more months — Mays, *Ford and Canada*, 49.
15. Wilkins and Hill, *American Business Abroad*, 442; "GM in Canada: The Early Years," 16; Traves, "The Development of the Ontario Automobile Industry to 1939," 219.

16. This might well be apocryphal, but the article that makes the claim sounds authoritative — Herman L. Smith, "The Canadian Model 'A' Ford," *Vintage Canada* 5, no. 2 (March/April 1978): 19.
17. Aikman, *The Automobile Industry of Canada*, 37.
18. Wilkins and Hill, *American Business Abroad*, 114–5, 131, and 200–201 (114 for interchangeability of parts); Dimitry Anastakis, "From Independence to Integration: The Evolution of the Ford Motor Company of Canada, 1904–2004," *Business History Review* 78, no. 2 (2004): 213–53, explores this matter more fully, explaining that Ford U.S., particularly Henry Ford's son Edsel, was not happy about the independence of the Canadian company and set about to change the arrangement in the 1920s.
19. Gerald T. Bloomfield, "Elements of the Canadian Motor Vehicle Industry to 1929," unpublished report to the Historical Atlas of Canada Project, vol. 3, June 1982, Table 3.
20. Durnford and Baechler, *Cars of Canada*, 163–8 (166 for London Six); Douglas Leighton, "Dreaming of What Might Be: William Stansell, London Motors and the London Six," *Automotive History Review* 36 (2000): 20–25.
21. Durnford and Baechler, *Cars of Canada*, 170–5.
22. Ibid., 175–80.
23. Ibid., 178–81.
24. Ibid., photograph on 159; the plant, however, was fairly extensive.
25. Ibid., 155–63, and price tables 338–70; William Gray Papers, MU1150, William Gray speech notes, 3 Nov. 1956, Archives of Ontario.
26. Flink, *The Automobile Age*, 83; Aikman, *The Automobile Industry of Canada*, 13; Durnford and Baechler, *Cars of Canada*, 249.
27. Aikman, *The Automobile Industry of Canada*, 13; Durnford and Baechler, *Cars of Canada*, 254; Lloyd A. Brown, "Willys-Knight in Canada," *Vintage Canada* 3, no. 3 (March 1997): 4–5, includes a detailed drawing showing the principle of the sleeve-valve engine.
28. Flink, *The Automobile Age*, 108–9; Aikman, *The Automobile Industry of Canada*, 13; Durnford and Baechler, *Cars of Canada*, 181.
29. John B. Rae, *The American Automobile Industry* (Boston: Twayne Publishers, 1984), 47; Flink, *The Automobile Age*, 70; a new comprehensive history of Chrysler is Charles K. Hyde, *Riding the Roller Coaster: A History of the Chrysler Corporation* (Detroit: Wayne State University Press, 2003), though it has almost nothing to say about Chrysler in Canada.
30. Durnford and Baechler, *Cars of Canada*, 269; Bloomfield, "Elements of the Canadian Motor Vehicle Industry to 1929," Table 3.
31. Durnford and Baechler, *Cars of Canada*, 269–72; Flink, *The Automobile Age*, 70; Rae, *The American Automobile Industry*, 65–6; Robert E. Ankli and Fred Frederiksen, "The Dodge Brothers in Canada," *Vintage Vehicles of Canada* 2, no. 2 (Sept./Oct. 1980): 10.
32. Durnford and Baechler, *Cars of Canada*, 269–72; Bloomfield, "Elements of the Canadian Motor Vehicle Industry to 1929," Table 3.
33. Tom Traves, *The State and Enterprise: Canadian Manufacturers and the Federal Government* (Toronto: University of Toronto Press, 1979), 102, has a convenient table of data drawn from DBS statistics; Aikman, *The Automobile Industry of Canada*, 31, 33; Canada, DBS, *Motor Vehicle Manufacturers*, exports by country, various years.
34. Wilkins and Hill, *American Business Abroad*, 120–30.
35. Robertson, *Driving Force*, 181; Traves, "The Development of the Ontario Automobile Industry to 1939," 216; Durnford and Baechler, *Cars of Canada*, 181; Aikman, *The Automobile Industry of Canada*, 33, says GM 40 percent, Chrysler 25 percent.
36. Aikman, *The Automobile Industry of Canada*, 32–3.
37. Flink, *The Automobile Age*, 130; Gerald T. Bloomfield, "Motorisation on the New Frontier: The Case of Saskatchewan, Canada, 1906–1934," in *The Economic and Social Effects of the Spread of Motor Vehicles*, ed. Theo Barker (London: MacMillan, 1987), 165, notes that Argentina, a similar frontier market, was served by the United States.
38. Aikman, *The Automobile Industry of Canada*, 27.
39. Traves, *The State and Enterprise*, 103–7, for all these tariff details.
40. Aikman, *The Automobile Industry of Canada*, 28; Wilkins and Hill, *American Business Abroad*, 159, state that many parts had to be imported at first for the Model A.
41. Calculated from table in Traves, *The State and Enterprise*, 102; also 112.
42. This is something Aikman speculated in his 1926 analysis, *The Automobile Industry of Canada*. He points out that when making vehicles for export, in which case both countries' parts are duty-free, manufacturers always prefer U.S.-made parts.
43. Canada, DBS, *Motor Vehicle Manufacturers*, 1930, Table 21 (DBS Catalogue 42-409), 28; Traves, "The Development of the Ontario Automobile Industry to 1939," 112–3; Aikman, *The Automobile Industry of Canada*, 39–40.
44. Canadian Automobile Chamber of Commerce (hereafter CACC), *Facts and Figures of the Automobile Industry*, 1940, 5; Canada, DBS, *Motor Vehicle Manufacturers*, 1930, Table 1; Bloomfield, "Elements of the Canadian Motor Vehicle Industry to 1929," Table 1 for pre-1917 production; Traves, "The Development of the Ontario Automobile Industry to 1939," 220; Wilkins and Hill, *American Business Abroad*, 442; "GM in Canada: The Early Years," 16, for production figures.
45. Canada, DBS, *Motor Vehicle Manufacturers*, 1930, Table 3.
46. CACC, *Facts and Figures of the Automobile Industry*, 1940, 9.
47. Durnford and Baechler, *Cars of Canada*, 181–7.
48. Traves, "The Development of the Ontario Automobile Industry to 1939," 117–8.
49. Gerald T. Bloomfield, "The Canadian Motor Vehicle Industry in the Depression," unpublished report to the Historical Atlas of Canada Project, vol. 3, June 1984, Table 2; Traves, "The Development of the Ontario Automobile Industry to 1939," 119.
50. CACC, *Facts and Figures of the Automobile Industry*, 1940, 5; Traves, "The Development of the Ontario Automobile Industry to 1939," 220.
51. Bloomfield, "The Canadian Motor Vehicle Industry in the Depression," Table 4.
52. Ibid., Tables 1 and 7; CACC, *Facts and Figures of the Automobile Industry*, 1934 to 1940, tables of exports, and 1940, 9, 10; Flink, *The Automobile Age*, 251–67, for European adoption of mass production.
53. Traves, "The Development of the Ontario Automobile Industry to 1939," 117–20; Canada, *Report of the Royal Commission on the Automotive Industry* (1961), 8–9.
54. Bloomfield, "The Canadian Motor Vehicle Industry in the Depression," Table 2. The value of parts pro-

duction varies depending on exactly what is included; total value of production cited here is from Traves, "The Development of the Ontario Auto-mobile Industry to 1939," 221, but the percentage of parts production is calculated from DBS data in CACC, *Facts and Figures of the Automobile Industry*, 1946, 17, where the value of parts production is usually lower than that given by Traves.

55. Flink, *The Automobile Age*, chapters 7–12, provides an excellent overview of the cultural phenomenon of automobility in the United States.
56. CACC, *Facts and Figures of the Automobile Industry*, 1940, 20.
57. Ibid., 1940, 48, and 1935, 38; Flink, *The Automobile Age*, 171; Kenneth Norrie and Douglas Owram, *A History of the Canadian Economy*, rev. ed. (Toronto: Harcourt Brace & Company, 1996), 327.
58. Norrie and Owram, *A History of the Canadian Economy*, 326–30, citing Traves, *The State and Enterprise*, for the *Industrial Canada* reference.
59. CACC, *Facts and Figures of the Automobile Industry*, 1940, 5 and 6; Bloomfield makes several observations about the growth of the automobile economy in "Motorisation on the New Frontier," 179.
60. T. P. Newcombe and R. T. Spurr, *A Technical History of the Motor Car* (Bristol: Adam Hilger, 1989), 50–1, for a good overview of technical development; Trevor I. Williams, *A Short History of Twentieth-Century Technology, c. 1900–c. 1950* (Oxford: Oxford University Press, 1982), 235–7, for a very concise overview.
61. Flink, *The Automobile Age*, 212–5; CACC, *Facts and Figures of the Automobile Industry*, 1940, 8, and 1935, 10.
62. Cray, *Chrome Colossus*, 228–30.
63. Flink, *The Automobile Age*, 212–4; James Dykes, *Canada's Automotive Industry* (Toronto: McGraw Hill, 1970), 35–40.
64. John de Bondt, *They Don't Make 'Em Like That Anymore: A Picture-History of Canadian Cars, 1932–47* (Ottawa: Oberon, 1987); with an antique car buff's eye, he sees significant improvements in styling "almost every year, during the thirties" (unpaginated).
65. Mays, *Ford and Canada*, 52.
66. Flink, *The Automobile Age*, 51–5.
67. Flink sees this as an indication of "technological stagnation" in the industry and suggests the emphasis on styling was due to a lack of technical improvement, since so many major technical improvements had been accomplished in the previous decade; for styling, Flink, *The Automobile Age*, 235–40.
68. "GM in Canada: The Early Years," 16.
69. The vehicles pictured in de Bondt, *They Don't Make 'Em Like That Anymore*, covering the period 1932 to 1947, demonstrate this clearly; Hyde, *Riding the Roller Coaster*, 87–101, for the disaster of the Airflow design.
70. Flink, *The Automobile Age*, 70–2, 217–8, 240.
71. CACC, *Facts and Figures of the Automobile Industry*, 1940, 6.
72. Manufacturers other than the Big Three held 23.8 percent of new car registrations in 1930 and 11.9 percent in 1940 — Bloomfield, "The Canadian Motor Vehicle Industry in the Depression," Table 4.
73. Flink, *The Automobile Age*, 213, 235; website of Windsor on Wheels, an exhibition sponsored by the Windsor Public Library, http://209.202.75.197/digi/wow, has details about numerous spinoff companies but gives no sources.
74. *Motoring*, Sept. 1906, Russell advertisement.
75. Calculated from Canada, DBS, *Motor Vehicle Manufacturers*, 1930, and CACC, *Facts and Figures of the Automobile Industry*, 1940, 5.
76. Flink, *The Automobile Age*, 78.
77. Rolland Jerry, "Buses and Bus Travel," *Vintage Canada* 5, no. 6 (Nov./Dec. 1978): 17.
78. "Vehicles Owned by Bell Telephone," *Vintage Canada* 2, no. 1 (Sept. 1975): 7–13; "International Harvester in Canada," *Vintage Canada* 1, no. 2 (Dec. 1974): 35–42.
79. Canada, *Report of the Royal Commission on the Automotive Industry*, 22.
80. Durnford and Baechler, *Cars of Canada*, 304–7.
81. "GM in Canada: The Early Years," 16; Wilkins and Hill, *American Business Abroad*, 301–2.
82. "International Harvester in Canada" and W. M. P. McCall, "The Chrysler Canada Ltd. Story," *Vintage Canada* 1, no. 2 (Dec. 1974): 7–12.
83. Canada, DBS, *Motor Vehicle Manufacturers*, directory of firms for various years; the 1935 directory shows production capacity; Rolland Jerry, "Let's Build Some Trucks? Many Canadians Did, Still Do," *Vintage Canada* 5, no. 5 (Sept./Oct. 1978): 13–9; Durnford and Baechler, *Cars of Canada*, 308–12.
84. "Smith Bros. Motor Body Works," *Vintage Canada* 2, no. 4 (June 1976): 7–13; the photograph on p. 6 shows a man hand-planing a curved wooden door frame, a technique obviously incompatible with mass production; Durnford and Baechler, *Cars of Canada*, 45.
85. Jerry, "Buses and Bus Travel"; E. J. Hart, *... And Leave the Driving to Us: A History of Greyhound Lines of Canada* (Calgary: Greyhound Lines of Canada, 1986), 9–16.
86. Hart, *... And Leave the Driving to Us*, 31, 78.
87. Mays, *Ford and Canada*, 16, 22, and 44.
88. Norrie and Owram, *A History of the Canadian Economy*, 327.
89. From the Windsor Public Library exhibition Some Assembly Required: A History of Auto Work and Workers in Windsor, website version, http://209.202.75.197/digi/sar, source not cited; Sam Gindin, *The Canadian Auto Workers: The Birth and Transformation of a Union* (Toronto: Lorimer, 1995), 16; Donald Kerr and Deryck W. Holdsworth, eds., *Historical Atlas of Canada*, vol. 3, *Addressing the Twentieth Century, 1891–1961* (Toronto: University of Toronto Press, 1990), Plate 13, for population of blue-collar workers; Roberts, *In the Shadow of Detroit*, chapter 6, for "Motoropolis"; Roberts frequently points to the interesting transborder nature of the phenomenon.
90. Website of Some Assembly Required, caption of photograph of 1907 workforce (from an unstated source) lists numerous French-Canadian names.
91. John Manley, "Communists and Autoworkers: The Struggle for Industrial Unionism in the Canadian Automobile Industry, 1925–36," *Labour/Le travail* 17 (Spring 1986): 112–3.
92. Gindin, *The Canadian Auto Workers*, 16–7.
93. Overall impression gained from the hundred or so National Film Board photographs in Library and Archives Canada, Accession 1971-271, BH Series, which document the automobile industry in Canada from circa 1925 to circa 1935.
94. Gindin, *The Canadian Auto Workers*, 18–9.

95. Flink, *The Automobile Age*, 120–1; Roberts, *In the Shadow of Detroit*, 122–3; Manley, "Communists and Autoworkers," 105–6, for the notion of the two standards of living.
96. The following is derived from Irving M. Abella, "Oshawa 1937," in *On Strike: Six Key Labour Struggles in Canada*, ed. Irving Abella (Toronto: Lorimer, 1975), 93–128; Gindin, *The Canadian Auto Workers*, chapters 1 and 2; Manley, "Communists and Autoworkers."
97. Abella, "Oshawa 1937," 93–4; Manley, "Communists and Autoworkers," 112–5.
98. Abella, "Oshawa 1937," and Gindin, *The Canadian Auto Workers*, chapter 3.



CHAPTER 4

The Second World War

The Second World War

The effects of the Second World War on the Canadian automobile industry differed, in nearly every way, from the effects of the First World War. Whereas preparations for the earlier war had included no plans for the military use of mechanical transport, preparations for the Second World War certainly did. Whereas during the First World War both the demand for and supply of civilian motor vehicles continued, and in fact increased, the production of civilian vehicles was prohibited by law from 1942 until the end of the Second World War. And whereas during the First World War vehicles used by the Allied forces were nearly all procured by and from the United States and Britain, in the Second World War Canada was one of the major suppliers of motor vehicles to the entire Allied side. Overall, whereas the industry passed through 1914 to 1918 largely unaffected by the war, the industry during the Second World War was enormously stimulated and thoroughly transformed.

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The reasons for the difference between the two wartime experiences are not hard to find. For one thing, military ideas about the importance of mechanization in warfare had advanced considerably over the twenty years since the end of the First World War. But even more important, by the start of the Second World War the U.S. automobile industry had become, in the words of automotive historian John B. Rae, "the greatest concentration of industrial capacity anywhere in the world,"[1] and it was thus bound to play an essential role in industrialized warfare. So too was its close relative the Canadian automobile industry.

The war's enormous stimulus to automotive production is evident with a glance at wartime production figures. The total value of Canadian motor vehicle production for 1939 was about $99.2 million, with wages and salary of about $20.6 million. In 1940, production reached $174.7 million and wages and salaries $31.1 million, and the following year production was $229.1 million and wages and salaries $44.8 million. And here it stayed, with only a slight decline, until the end of the war. On top of this, parts production rose from $39 million in 1939 to $184.5 million in 1942. Perhaps most important with regard to the overall development of the industry, from 1940 to 1945 inclusive, annual production exceeded the peaks reached in the late 1920s, something that had not once occurred during the entire 1930s.[2]

The industry's wartime experience started several years before the war. As part of preparations for possible war undertaken by the Mackenzie King government in 1937,[3] the Department of National Defence (DND) brought Ford of Canada and General Motors of Canada together to begin developing prototype vehicles for the Canadian military. Because of lingering British ties, and the expectation that in the event of a conflict the British and Canadian forces would be fighting side by side, the government specified that the vehicles basically be copies of British-designed vehicles, preferably with parts interchangeable with the British vehicles of which they were copies. At the same time, however, the vehicles were to be made of components that were being or could be made in Canadian automotive factories. A few prototypes were built and tested — the Ford vehicle was built on a "beefed-up 1-ton Ford V-8 chassis" — but nothing came of the scheme.[4]

When war finally did break out in September 1939, no Canadian military vehicles existed, so the first contingent of the Canadian army went overseas with what are usually called "modified conventional vehicles": standard cars and trucks already in production, altered to improve their safety and durability. Both Ford of Canada and General Motors of Canada, and perhaps others, supplied such vehicles to the first contingent in the fall of 1939.[5] This was not going to be enough, however, and everyone knew it. During the First World War, modified conventional vehicles had served the military adequately; a commercial truck chassis fitted with a special body was considered a military vehicle at that time. By the 1930s, however, military vehicles were a species of their own. So the Department of National Defence and the two major auto manufacturers, Ford and GM, pushed on with their earlier specialized vehicle development plan. The program was in fact revived in July 1939, just prior to the outbreak of war.[6]

Neither Ford of Canada nor GM Canada had true engineering departments. Most of the design and development for the cars they made was done by their U.S. parent firms. But at this time the United States was still neutral in the conflict, so the companies' engineering departments, as elements of U.S. companies, could not technically be involved in the war effort. And there were, of course, questions about what role Ford's foreign branches could or would play in military vehicle development. Such questions

had not stopped Ford U.K., or Ford-Werke in Germany for that matter, from building vehicles for the countries in which they were situated, in spite of their ownership by Ford U.S. Nor did it stop Ford of Canada from supplying vehicles.[7] But for the engineering departments, which were situated in the United States, to take part in the development of a new military vehicle — that was another matter. In order for the vehicle development program to go ahead, both Canadian companies had to expand their own engineering design activities, and they did. One author has recently gone so far as to say that "for the first time since 1918 General Motors of Canada was acting independently."[8] Although this might be an overstatement, it is true that the Canadian branches of Ford and GM took on engineering responsibilities beyond their customary level.

The guidelines for the new program were as they had been a few years earlier — British military vehicles as the overall model, but Canadian components wherever possible. The object was the development of a single basic vehicle with parts interchangeable between GM and Ford, so the work required full co-operation between the two corporate rivals, which was apparently attained without difficulty. Within a few months the teams of engineers had come up with a basic design that would normally have taken much longer. Production facilities were being tooled up by December 1939, and the first vehicles were available for testing in March 1940.[9]

The design phase was a frustrating experience, one engineer who worked on the project recalls, because of the need to conform to British standards. Both companies used existing production engines — Ford its Mercury 3.9-litre V8 and GM its 3.5-litre Chevrolet Six — and they found it difficult to fit these large North American–style engines into the British designs. They made a counter-proposal to the DND requesting permission to deviate from British standards, but the Canadian military refused. On one critical design problem — altering the drive train from rear-wheel to four-wheel drive, something considered necessary for all but the lightest service trucks — they were able to utilize American technology, but with a twist. For a few years Ford U.S. had had a relationship with the Marmon-Herrington company of Indianapolis, specialists in this drive-train conversion. In the 1930s Marmon-Herrington had set up a Canadian branch plant, called Canadian Traction, where they did business converting various Canadian rear-wheel-drive trucks to four-wheel drive. Ford of Canada arranged to have the Marmon-Herrington conversion system incorporated into the new Canadian military vehicle by having it done through the Canadian plant.[10] The close connection between the Canadian and U.S. auto industries made it difficult to draw a clear distinction between the two countries' military activities. This problem, of course, ceased when the United States entered the war in 1941.

Figure 34. *A man works on the windshield frame of a Canadian Military Pattern vehicle at the General Motors plant in Oshawa, 1942. The tracks under the vehicle reveal the use of assembly line mass production, an obvious necessity under the strains of wartime demand.*

(Nicholas Morant, National Film Board of Canada, Library and Archives Canada, WRM3369)

The standard design that emerged from this project came to be called the Canadian Military Pattern (CMP), and vehicles of this type were used throughout the war by the Canadian military and other Allies with only a few modifications. The CMP was built in four sizes: 8, 15, and 30 hundredweight (cwt) and, the most common, 3 ton (that is, 60 cwt). Of these different sizes there were several lengths as well, which permitted the vehicles to be put to various uses. On these various chassis were placed dozens of different bodies. There were CMP troop carriers, gun platforms, general cargo trucks, ambulances, portable laundries, water tankers, radio transmitters, and others. Both Ford and GM also made a tractor-drive artillery tractor on the 8-cwt chassis. These CMP vehicles — more than 400,000 were produced by the Canadian industry — were Canada's most widely recognized industrial contribution to the war.[11]

In spite of sharing a basic common design, Ford-made CMP vehicles differed from those made by GM in several ways. The different engines were the most important, but military vehicle aficionados report a long list of differences.[12] The two companies also

found it more efficient to specialize in certain types of vehicles. Only GM, for example, built the 8-cwt heavy utility vehicle (often referred to as the HUP). The bodies that were put on these CMP chassis, because of the wide variety, were made by small metal fabricators rather than the major automotive companies, following an arrangement long used in the commercial vehicle industry before the war. These fabricators joined together into the Steel Body Manufacturers Association in June 1940 to allocate and co-ordinate the work among themselves. No readily available record shows who belonged to this association, but a photograph of a row of Chevrolet-made trucks in front of the Metallic Roofing Company shops in Toronto, newly fitted with water tank bodies, gives an idea what sort of firms were involved.[13]

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Shortly after production of CMP vehicles began in April 1940, the dormant war on the Western Front suddenly came to life. German armies swept across northwestern Europe, defeating France and forcing the evacuation of British forces from the Channel port of Dunkirk. The war suddenly had a new urgency as Canada and Britain stood alone against German-occupied Europe. Among the many consequences of this turn of events for the Canadian war effort was a huge stimulus to the automotive industry. Britain had been forced to leave behind most of its vehicles during its Dunkirk evacuation, and the Canadian industry was now called upon to replenish the lost equipment. The British military placed an order in July 1940 for 20,900 vehicles, and "from then on all limits were removed from the automotive program."[14]

It was this new urgency that prompted the vast increase in Canadian automotive production from 1940 to 1941 and that made CMP vehicles so integral to the Allied war effort. It also brought the Canadian government into the industry. To aid the massive increase in production needed to meet this new demand, the Canadian government, from late 1939 until the end of 1940, provided the industry with $4.2 million for new tools, plant, and equipment. This was not the end of government aid. A further $6.9 million was provided in 1941, allowing production to reach record levels that and the following year. Canadian capacity was further expanded in 1942 when Chrysler Canada Corporation entered into the arrangement with the Canadian government.[15]

Canadian automotive production for the military was not limited to CMP vehicles. Modified conventional vehicles continued to form a large part of the companies' military production, overall about equal in number to the CMP vehicles. Chrysler in fact never made CMP vehicles, but contributed nearly 200,000 modified Dodge and Fargo trucks and Plymouth sedans.[16] The industry also produced a few armoured cars, although in much smaller numbers. Some 3,000 Lynx "scout cars" were built by Ford, more than 1,500 Otter light reconnaissance vehicles by GM, and 200 Fox armoured cars also by GM. Development of these vehicles, all Canadian versions of British designs, began late in 1940 in the rush to increase production after the Dunkirk losses. But they were not in production for over a year, by which time tactical requirements had changed and the United States had entered the war with its own equipment and standards, reducing the need for the Canadian vehicles. Ford was also called upon in May 1940 to develop a Canadian version of the British Universal gun carrier. Drawing in the expertise of six other firms and setting up a factory dedicated to this vehicle alone, Ford had its "Windsor" carrier in production by 1943, but it turned out to have mechanical faults that limited its use and consequently its production.[17]

Figure 35. *With the exception of a few specialized industries, spark plug manufacture being one, female workers were rare in the automobile industry until well after the Second World War. During the war itself, though, that was not the case. Here a woman works at Auto Specialties Limited in Windsor hand-assembling jacks for army vehicles, circa 1941.*

(Windsor Star Collection, courtesy Windsor's Community Museum)

The automotive industry was also involved in producing other war material, although not to the extent of the U.S. industry. GM's Regina plant, operated by an independent firm called Regina Industries Limited, was used to build anti-tank gun carriages in the summer of 1941. Production began in May 1942, and more than 3,500 carriages were made over the course of the war. GM in Oshawa built pedestals developed by the British Admiralty for the naval Oerlikon gun. Chrysler Canada was appointed manager of the big Sorel Industries gun plant at Sorel, Quebec, after the fall of France had ended Sorel's arrangements with the French firm Schneider Industries. Sorel manufactured large field artillery guns at the plant. Chrysler retired from this management early in 1942.[18]

The industry played no role in the development or manufacture of tanks. There had been some expectation that it would, for Canada was to be a source of British Valentine tanks, but the industry had neither the expertise nor the capacity when the orders came in June 1940. Tank production, as it was in the United Kingdom, was taken on by the railway locomotive industry. The Canadian Pacific Railway took the order for the Valentines, and Montreal Locomotive Works took the contract for the Ram medium cruiser tank at about the same time. Neither model saw service with Allied forces, however. By the time the Valentines were completed they were thought to be too light for their required tasks; nearly all were shipped to Russia, where they apparently gave good service. The Ram was deemed unnecessary before the order was even completed; new U.S. Sherman tanks were considered better at the same job the Ram would have done. The design work was used as the basis for an armoured self-propelled artillery vehicle called the Sexton, of which 2,000 were made by 1943.[19]

Nor did the industry play a big role in aircraft manufacture, as it most certainly did in the United States. GM Canada made plywood fuselages for the de Havilland Mosquito aircraft, but other than this none of the major automotive manufacturers appear to have contributed to aircraft production.[20]

Something else not made by the Canadian automotive industry during the war was passenger cars. The industry reached its production capacity late in 1940, and it became evident that if military commitments were to be met and maintained, strict controls would be needed. Accordingly, the government appointed, by Order in Council on 13 February 1941, a Motor Vehicle Controller to control all aspects of the production, sales, and export of motor vehicles and parts. Passenger car production was restricted but not prohibited at first, but by December 1941 the controller ordered it stopped; parts already made had to be assembled into vehicles and sold by 13 March 1942. To serve future emergency needs for passenger cars, a pool of 4,500 vehicles was to be set aside and made available on special application to the controller. From this point on, the industry's entire production was to be given over to military needs. Commercial civilian trucks were permitted in small numbers, but only for use on works of military significance. The controller influenced the industry in other ways too. In the interests of conserving industrial materials, whitewall tires (which consumed valuable zinc oxide) were banned, as was "bright work" containing copper, nickel, chrome, or aluminum.[21]

What this means for a chronicle of the industry's affairs is that there is little to report. In the years leading up to the war, most of the smaller manufacturers had ceased operations in Canada, for reasons that were explored in the previous chapter. Studebaker shut down in 1936, the truck makers Federal and Leyland in 1937, Hudson and Packard in 1939, and another truck maker, White, in 1940. So by the early years of the war the Canadian automotive industry consisted of just the three major U.S. makers — GM, Ford, and Chrysler — as well as Hayes Manufacturing in Vancouver and International Harvester in Chatham, Ontario. The industry was thus smaller, in number of firms, than it had ever been, but this was due to pre-war circumstances, not the war itself. Production capacity, however, was greater than ever, something directly attributable to the war.

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By the end of the war the Canadian automotive industry had produced more than 800,000 military vehicles. About half of these were CMP vehicles and half were modified conventional vehicles. This was a huge contribution to the war effort and a major force on Canadian economic life. The productive capacity of the industry, built up during the 1920s and underused through most of the 1930s, was finally utilized to its full extent. To this had been added increases in capacity provided by direct government aid.[22] The industry was a prosperous, highly developed one in 1945, no doubt, but several questions arose as the war came to an end and demand for military vehicles rapidly shrank.

The ban on civilian passenger car production was lifted in August 1945. Some two thousand civilian cars were made in the final few months of that year, but overall production for 1945 was 22 percent below that of 1944. Could there possibly be a civilian consumer market big enough to keep such a large industry in business? What of the export market that had carried the industry through the interwar years? International trade had been thoroughly transformed by the war, as had production capacities of all the

motor vehicle–manufacturing nations. Was there a place for Canada in the post-war international industry? And what would become of the smaller producers? GM Canada, Ford of Canada, Chrysler of Canada — already the Big Three before the war — had had their domination solidified in the war. Yet some of the smaller U.S. firms that had ceased Canadian operations before the war, such as Studebaker, Packard, and Hudson, had been given a new life supplying the U.S. war effort.[23] Could they re-establish themselves in Canada and challenge the monopoly of the three largest makers?

Notes

1. John B. Rae, *The American Automobile Industry* (Boston: Twayne Publishers, 1984), 87.
2. Canada, Dominion Bureau of Statistics (hereafter DBS), *Motor Vehicle Parts and Accessories Manufacturers*, 1954 (DBS Catalogue 4-209), Table 1; Canadian Automobile Chamber of Commerce, *Facts and Figures of the Automobile Industry* (United States), 1946, 17.
3. H. Blair Neatby, *William Lyon Mackenzie King*, vol. 3, *The Prism of Unity, 1932–1939* (Toronto: University of Toronto Press, 1976), 181–3.
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6. Lloyd A. Brown, "Canadian Military Vehicles of World War II," *Vintage Canada* 3, no. 1 (Sept. 1976): 5–19.
7. Mira Wilkins and Frank E. Hill, *American Business Abroad: Ford on Six Continents* (Detroit: Wayne State University Press, 1964), 322; James J. Flink, *The Automobile Age* (Cambridge: MIT Press, 1988), 273–4; the interesting role of Ford-Werke in developing the Nazi arsenal is briefly reviewed on 269–70.
8. Heather Robertson, *Driving Force: The McLaughlin Family and the Age of the Car* (Toronto: McClelland & Stewart, 1995), 300.
9. Kennedy, *History of the Department of Munitions and Supply*, 90.
10. Jerry, "Canada's Wartime Prototypes," 13–5; Georgano, *World War Two Military Vehicles*, 56, 59, 61.
11. Georgano, *World War Two Military Vehicles*, 57, 62 for tractor.
12. Ibid., 57; Brown, "Canadian Military Vehicles."
13. Jerry, "Canada's Wartime Prototypes," 12.
14. Kennedy, *History of the Department of Munitions and Supply*, 91.
15. Ibid., 91, 94; Ford invested millions of its own to increase its productive capacity — Wilkins and Hill, *American Business Abroad*, 322; no doubt GM did as well. To speed up the process of allotting the work, competitive bids were done away with in 1940. Ford and GM, and later Chrysler, had master agreements to cover all their war work, done under cost-plus contracts with profits limited to 5 percent of the contract's value, subject to government audit.
16. Georgano, *World War Two Military Vehicles*, 56–7; Brown, "Canadian Military Vehicles," 5–19.
17. George Forty, *World War Two Armoured Fighting Vehicles and Self-Propelled Artillery* (London: Osprey Automotive, 1996), 58–9; Kennedy, *History of the Department of Munitions and Supply*, 61–2; Brown, "Canadian Military Vehicles"; Wilkins and Hill, *American Business Abroad*, 323–4.
18. Kennedy, *History of the Department of Munitions and Supply*, 190, 193, 195–6; General Motors of Canada, *Achievement* (1943), 33.
19. Kennedy, *History of the Department of Munitions and Supply*, 97–100.
20. *Canada at War* no. 45, Recapitulation Issue (1945): 80–4.
21. Kennedy, *History of the Department of Munitions and Supply*, 139–44.
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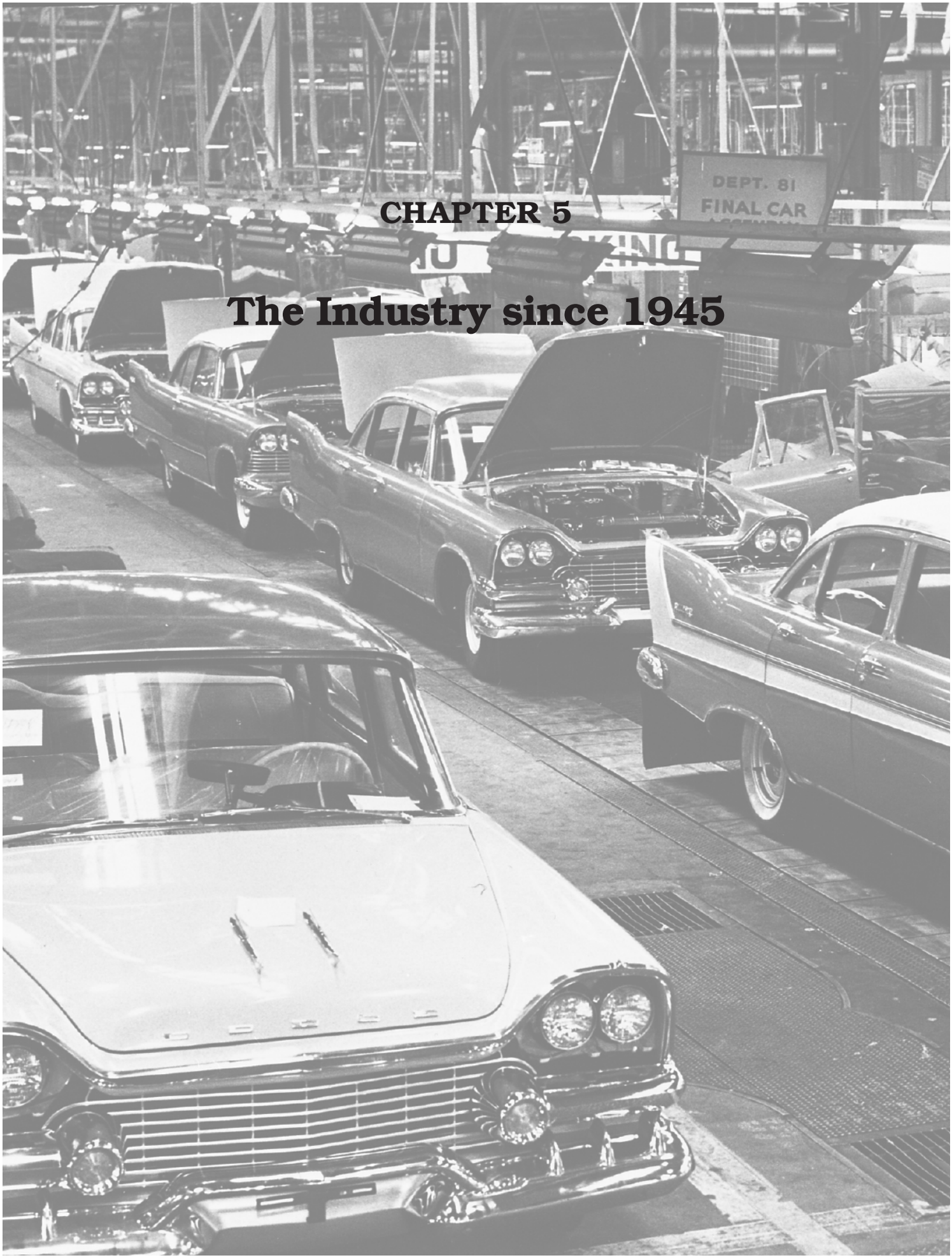
23. V. Dennis Wrynn, *Detroit Goes to War: The American Automobile Industry in World War II* (Osceola, Wis.: Motorbooks International, 1993).



CHAPTER 5

The Industry since 1945

The Industry since 1945

With the end of the war in 1945 and the corresponding end to wartime industrial production, the entire North American automotive industry faced an uncertain future. Unlike the transition to peace after the First World War, when an industry largely unaffected by the war was correspondingly unaffected by the war's end, the cessation of the Second World War was going to bring upheaval to the industry. Virtually all production for several years had been for the military. Capacity had been vastly increased, both for vehicles and for other war-related material, and consumer demand would not likely be able to match the great military demand that had prompted the expansion. The question was, how bad would the post-war recession be, and what place would Canada have in the reconstructed automotive industry?

Figure 36. *Ford's first entirely new post-war car had, as this advertisement claims, a "big car" beauty, with its V8 engine and plenty of interior room. At the same time its design is remarkably austere. Automobiles built in the immediate post-war period show much more continuity with the war years than with the excesses of the 1950s.*
(CSTM/de Bondt Collection)

The Golden Age Returns

As Canadian economic history now shows quite clearly, the anticipated post-war recession never occurred.[1] Fears that the pattern of unemployment and business failure that had followed the First World War would be repeated were for naught. Several factors contributed to this unexpectedly smooth transition to peace, some the result of effective government policies and others of international economic circumstances. In any case, the Canadian automotive industry, like the U.S. industry, moved into a period of profits and growth after the war. Civilian demand, it turned out, was able to consume much of the output of the expanded industry. The value of production slipped only slightly from 1945 to 1946, then began to rise steadily until 1953. The number of passenger cars produced rose from almost none at the end of the war to 193,000 in 1949; the following year, by which time all the major producers had new models for sale, that number reached 284,000, finally exceeding the 1929 peak of 203,000 vehicles.[2] After a generation interrupted by economic depression and war, the North American automobile industry was back to prosperity. The industry entered another golden age.[3]

Each of the three big producers in Canada followed a similar pattern of growth over the period — an immediate post-war expansion up to about the mid 1950s, then a levelling off. Ford's first post-war passenger car made at the Windsor plant was the 1946 Monarch, a restyling of the Ford Mercury, a mid-priced car Ford had introduced just before the war. Its first entirely new post-war model in the United States was the 1949 Model B-A, a car with a novel one-

piece body that set a new design standard in the industry. It was sold in Canada as the Mercury Meteor and was very successful.[4] Ford's production rose steadily after the war until 1953, fluctuated for a few years, then began a slow decline to the end of the decade. GM Canada had Chevrolets, Pontiacs, and Oldsmobiles back in production by 1946, but Buicks not until 1951. GM's production also peaked in 1953, fell, and then levelled off at below the 1953 peak into the early 1960s. Chrysler increased production steadily after the war to a peak in 1955.[5] Within the expanding market there was considerable competition for market share, with the winner being General Motors. From the end of the war to the early 1960s Ford's share declined from about 40 percent to 30 percent and Chrysler's from about 20 percent to less than 10 percent, while that of General Motors rose steadily from about 30 percent to nearly 50 percent. However, there were large annual fluctuations in market share; competition from year to year was still important. From 1954 to 1955, for example, GM's share dropped from 44.2 percent to 37.9 percent while Ford's rose from 28.7 percent to 35.7 percent.[6] A successful new model could reap considerable profit in such a large market.

Figure 37. *A new Ford convertible being unloaded at Moose Jaw, Saskatchewan, in August 1950 draws the attention of a few local boys. Kenosha Auto Transport, a U.S. company, was used by Ford of Canada to transport cars from its Windsor factory, but this specialty car might have been imported from the United States, with a substantial duty applied.*
(Glenbow Museum, neg. NA-3908-13)

Not surprisingly, this increase in production led to new investment in manufacturing facilities and several completely new plants. Ford moved in 1953 from Windsor to a big new consolidated plant in Oakville, to be closer to the rapidly growing Toronto-area market. Its Windsor plant was then dedicated to engine production and re-equipped accordingly, while its foundry was enlarged and also re-equipped — a $32.5-million investment in all. Ford moved its administrative offices to Toronto in 1954, then to a new building on the Oakville site in 1961. GM's plant expansions were confined at first to existing locations in Oshawa, where it opened the new south plant complex on the edge of the city in 1954, and in St Catharines, where it built a new engine plant on the Welland Canal. Not until 1964 did the company expand elsewhere, spending $120 million on new plants in Windsor and Ste Therese, Quebec, as well as in Oshawa. The Regina assembly plant, which had been reopened and used for gun carriage production during the war, was not converted back to automotive production after the war.[7] All of Chrysler's expansion was confined to Windsor, where it carried out major additions to its engine plant in 1949 and again in 1955, the latter allowing for production of their V8 engines in Canada for the first time. The main assembly plant was further expanded in 1963.[8]

To say that the U.S. automotive industry of the postwar years, despite its success, is not well regarded by automotive historians is something of an understatement. It is better known for excessive styling, high profits, and technological stagnation than for any achievements. James Flink's comment, that the industry "indulged in an orgy of non-functional styling that subordinated engineering to questionable aesthetic values," is not unusual.[9] U.S. cars were, more than ever, all the same — big, garish, and overpowered by large V8 engines. The engineering novelties of the age were power steering, power brakes, power windows, and good radios, rather than anything integral to automotive design. The whole package might have given drivers a sensation of luxury, but the increased weight and engine size made for dangerously long braking distances and imprudently high gas mileage. Innovations such as more efficient engines, independent suspension, disc brakes, fuel injection, and front-wheel drive were known, and were being used and refined in European cars, but the big U.S. makers had no need for them. And with profits in these boom years running well above profits in other industries, for all three big automakers, there was simply no incentive to change.[10]

The root of the matter is that the oligopoly of the Big Three manufacturers had become unassailable, at least by domestic competitors. In 1946, in addition to Ford, Chrysler, and General Motors, six other automakers were producing cars in the United States: Nash, Hudson, Studebaker, Packard, Kaiser-Frazer, and Crosley.[11] By 1955, only two of these remained, both the result of mergers: American Motors (from Nash and Hudson) and Studebaker-Packard, and together their market share of the industry was only a few percent.

Figure 38. *Final assembly is underway on 1958 Dodges and their close relatives the Plymouths in the Windsor Chrysler plant, 1957. Cars from the late 1950s do indeed, as one British author put it, resemble "mobile juke boxes" (Newcomb and Spurr,* A Technical History of the Motor Car*, 67).*

(Windsor Star Collection, courtesy Windsor's Community Museum)

Kaiser-Frazer, formed in July 1945 by the industrialist Henry J. Kaiser and the chairman of Graham-Paige Motors, Joseph W. Frazer, had looked like a good bet. It had raised substantial capital and procured a low-cost lease on the then unused Willow Run aircraft factory, and it did manage respectable sales for a few years, but by the 1950s the company was losing money, and it ceased passenger car production in 1955.[12] The enormous cost of producing cars in this era, which required sophisticated production machinery and extensive marketing campaigns, was beyond the means of any new manufacturer. Entry to the auto industry in the United States was now essentially closed.

This was the case in Canada as well. Ford, General Motors, and Chrysler dominated the Canadian industry as they did the American. This was not really new. GM and Ford had dominated the Canadian industry since its inception; Chrysler's significant share had been established in the 1920s, but it now dominated to a degree it never had before. As in the United States, some of the smaller independent makers had re-established operations in Canada after the war, and for a time they held small market shares; in fact, the share of industry output in the hands of independents in Canada rose from 1.2 percent to 6.1 percent from 1948 to 1949, largely on the strength of new efforts by Nash and Studebaker. But this share declined steadily over the next ten years and had fallen to 1.7 percent by 1960.[13] The oligopoly of the Big Three existed in Canada too, and with their dominance came the big, heavy cars those companies chose to make.

The story of the U.S. independents and their small role in the Canadian industry can be quickly told. Studebaker had produced cars in a Canadian branch plant in Walkerville until the tariff reductions of 1936 made this unprofitable. The company continued to sell cars in Canada as imports, actually increasing its market share.[14] After the war, in 1948, Studebaker re-established Canadian operations, this time in Hamilton, where it purchased a large government munitions plant then deemed surplus. The Hamilton plant did straight assembly, with all the major components being shipped in by rail from South Bend, Indiana. Studebaker produced more than 10,000 vehicles per year here until 1953, and from 5,000 to 10,000 annually for the next decade. It bucked the post-war trend toward bigness and instead produced compact, stylish vehicles with a distinctive European look. In doing so it found a small niche in the market, for a few years at least. Sales were steadily declining, however, and by the early 1960s the company was losing money badly. It elected to close down the Indiana plant in 1963 but to remain in business by consolidating North American operations at the Hamilton plant. This rather unusual turn of events occurred, so say the historians of Studebaker, to protect the company against lawsuits from its dealers for unsaleable "orphaned" vehicles while it wound down production; Canadian auto enthusiasts claim the Hamilton plant was used because it was more efficient. A new tariff drawback was also a factor (see below). Whatever the reason, Studebaker served the entire North American market from the Canadian plant for a time. With no capacity to produce engines, though, it resorted to purchasing Chevrolet engines from McKinnon Industries, the GM subsidiary in St Catharines. Production at Hamilton doubled to 17,000 in 1964, then 18,000 in 1965. But Studebaker stopped making motor vehicles once and for all in March 1966.[15]

The two halves of what became American Motors, Hudson and Nash, both had Canadian subsidiaries in operation in the post-war years. Hudson-Essex (later just Hudson) Motors of Canada had been in business before the war, since 1931, in Tilbury, Ontario. Its affairs both during and after the war, however, are obscure. The company appears to have introduced a new post-war model in Canada in 1950, but the company is not on record as a vehicle manufacturer after 1950, so perhaps this new model was imported.[16] Nash Motors, on the other hand, was new to Canada after the war (although its cars had been selling well as imports). It made its move in 1946, buying the old Ford assembly plant in East Toronto, at Danforth and Victoria Park avenues — which had also been used for military purposes during the war — and setting up production of the Nash Canadian Statesman in 1950. The same year, the U.S. company introduced the small Rambler car, which sold well in the United States but was not at first made in the Toronto plant. In 1954, Nash and Hudson in the United States merged into American Motors. In 1956 their Canadian companies did the same to form American Motors of Canada, and that company did manufacture Ramblers at the Toronto plant, along with the Nash Statesman, until it closed the plant in late 1957. In 1958 American Motors introduced a redesigned Rambler, a comparatively small car that sold very well in the United

Figure 39. *One of the more intriguing, albeit short-lived, success stories in Canada's automaking history is the post-war experience of Studebaker in Hamilton, Ontario. Here a small load of finished 1948 Starlight coupes is hauled away from the Hamilton plant (by a Studebaker truck).*
(Private collection of Paul Cronkwright)

Figure 40. *This formal "portrait" of the 1953 Nash Statesman — a vehicle made at Nash's Toronto plant from 1950 to 1957 — was taken by Toronto commercial photographer Gilbert A. Milne, on an assignment for the McKim advertising agency. Automobile assembly, even at branch plants, generated many local spinoffs.*
(City of Toronto Archives, Fonds 1653, Series 975, File 1591, 11)

Figure 41. *Organized labour remained an important force in the Canadian automobile industry throughout the post-war years, both by challenging employers for wages and working conditions — as was the case in this 1956 strike against the* GM *subsidiary Motor Products Corporation in Windsor — and by participating in most government reviews of the industry.* (*Windsor Star* Collection, courtesy Windsor's Community Museum)

States. This success prompted American Motors to invest in a large new Rambler plant in Brampton, Ontario, which opened in late 1960.[17]

So this was the Canadian auto industry up to about 1960 — vehicle manufacture dominated almost entirely by the Big Three makers, but with some production still by Studebaker-Packard and American Motors, and by Kaiser Jeep, which had begun to assemble jeeps in Windsor in 1954.[18] Beyond that were a number of specialized bus or truck body builders in the west and the east. Gone were the days of independent Canadian businesses that made a particular brand of U.S. car. Gone too were the less than huge U.S. automakers. It took close to a billion dollars to enter the industry now, and even that was no guarantee of success, as Kaiser could attest. Gone, as well, were assembly plants in the west and east of the country — ended, quite likely, by the increasing ease with which finished automobiles could be transported on modern highways.[19]

As for the "Canadian-ness" of the industry, R. W. Todgham, president of Chrysler of Canada, put it bluntly at an inquiry into the industry in 1960: "Like our major competitors, my company manufactures and markets exactly the same automobiles and trucks as our parent corporation, and in that connection I think it important to establish the fact that, in my opinion, there is no autonomous Canadian automotive industry."[20] Todgham was quite right. There was not a vehicle being made by the Canadian industry that could be called a Canadian car. (Perhaps there never had been, but that is another matter.) There was, nonetheless, still a large Canadian component, in terms of labour and materials, in all the cars these companies made; Canadian regulations still required a minimum Canadian content (varying from 40 percent to 60 percent, depending on the size of the manufacturer) in order for manufacturers to be eligible for duty-free import of certain parts from the United States, without which cars would be far more expensive.[21] Automakers could meet this requirement either by making parts at their Canadian plant or by buying parts from Canadian suppliers. American Motors and Studebaker reached their Canadian content limit by the latter method, using their Canadian plants for assembly only. Their production runs were too small for parts production to pay (since Canadian-made parts were of use only for Canadian-

made cars), so they imported components from their U.S. parent company up to their allowable limit and bought the rest from outside sources in Canada. Chrysler did much the same, although it tended to buy unfinished mechanical parts which it machined in its own plant, and it was beginning to make more of its own engines as it expanded its plants in the 1950s. Ford and GM, however, imported few of their parts from the United States. Between their local outside suppliers and their own production, most of the parts in their vehicles were Canadian-made. GM was the most advanced in this regard. Together with its subsidiary McKinnon Industries of St Catharines, GM Canada had the capacity to produce most of its own parts, and the Canadian content for the models it made in Canada (which was not the whole GM line) was very high.[22]

A notable change, however, was underway in how Canadian content regulations were being met. From the very early years of the Canadian auto industry, Canadian body and trim makers had usually provided the tops and interiors of Canadian-made cars. With the advent of steel bodies, this pattern broke down. The high cost of steel presses that made the curved steel body panels of the 1930s prohibited all but the largest manufacturer from being an auto body maker. The result was, as noted earlier, a move by the big automakers to incorporate body plants into their own operations. After the war this trend solidified, as even more advanced styling of steel bodies came to be expected, and to meet Canadian content regulations the automakers turned decisively to local supply of mechanical components, such as engines, axles, wheels, brakes, and transmissions. It was, as Walker of GM explained in 1960, something of a reversal from how things had worked in Sam McLaughlin's day. There was, nevertheless, still a large Canadian-made component in every Canadian-built car, and as a result a flourishing Canadian automotive parts industry.[23]

The Dawning of a Crisis

The levelling off of production growth in the second half of the 1950s was not the result of slower growth in the demand for vehicles. Car registrations were still increasing, in Canada and all over the world. The problem was that the Canadian and U.S. industries were no longer supplying this new demand. The world automotive industry was undergoing profound changes in the 1950s, and these changes were lessening the global dominance of the North American industry.[24] Equally troublesome was a growing automotive trade imbalance with the United States, especially in auto parts. Canadians in the industry — from industry lobbyists to the leaders of the United Auto Workers — had become extremely concerned about this, and they let the government know. The industry looked to be facing a serious threat, and the government of John Diefenbaker responded by establishing a Royal Commission to investigate the automotive industry. The commission, in the form of the one man V. W. Bladen, an eminent economist and dean of arts and science at the University of Toronto, held hearings in Ottawa in October 1960 and published a report of its conclusions in April 1961.[25] The recommendations contained in that report, although not all followed at first, set in motion a series of changes that led, within a few years, to sweeping changes in the structure and operation of the Canadian auto industry. To begin to understand these subsequent policy changes, one must start with the problems the industry faced at the end of the 1950s, the very problems the commission was called to examine.

The most critical was the loss of the export market. Since the start of the Canadian industry before the First World War, and certainly in the interwar years, the export of vehicles to other countries in the Commonwealth had been an industry mainstay. Exports ran at 30 percent to 40 percent of Canadian production, with Ford's percentage often higher. This level had been even higher through the war due to the export of military vehicles to Allied forces, but after the war exports fell back to their pre-war level. The Canadian industry still exported 38.9 percent of its output in 1946 and 25.8 percent in 1947 — a drop, but not at first an alarming one. Ford's figures for those years were 54.0 percent and 40.4 percent. But these post-war declines turned out not to be anomalies. They continued, until by 1950 only 8.7 percent of Canadian production was being exported. Exports picked up slightly over the next few years, probably replacing U.S. exporters who were providing military equipment during the Korean War, but by 1955 they were at just 7.0 percent, and they did not rise above that for the rest of the decade.[26] Even this minimizes the decline, for total vehicle production fell slightly from 1955 to 1960, partly because export sales were so poor, so the percentage of production exported does not show the amount of absolute decline. Post-war exports peaked at just under 80,000 vehicles in 1952, but by 1959 they had fallen to 11,763. They recovered to between 15,000 and 20,000 over the next few years, but by this time the damage had been done.[27] The Canadian automotive industry had lost its export market.

What had gone wrong? The most obvious cause was the imposition of import duties by two of Canada's customers, India and Australia. Australia had put duties on auto bodies before the war, successfully prompting an Australian auto body industry into existence. After the war, to foster more substantial manufacture, both Australia and India took the next

step of imposing tariffs on other parts, as Canada had successfully done for years, and the result was a steep decline in the number and value of exports to both countries. By 1953, India had fallen off the list of Canada's customers; Ford records show eight cars sold there in 1954, twelve in 1955, and none from that point on. This loss was not too serious; at most India had taken only a few thousand cars per year, mostly Fords. The Australian loss was more consequential. Australian purchases had always fluctuated, but 15,000 to 20,000 cars per year was not uncommon. The 1950 to 1952 annual totals all exceeded 20,000. Then came a sudden drop to the 1,000 to 2,000 range for the rest of the decade.[28] For these countries, the end of duty-free entry seems to have spelled the end of them as customers of the Canadian automobile industry.

Yet markets in the United Kingdom, New Zealand, Malaya, and South Africa were shrinking too, without any new tariff protection. The cause here, although it was not obvious at the time, was that the Canadian industry had lost its competitive advantage to British and European producers. Through the 1950s, mass-production technology came to be established in Britain, France, Germany, and Italy, and all these countries now had flourishing automotive industries that were well able to compete with North American producers. European wages were also much lower than North American wages, which gave European producers a competitive advantage, and European states, short of foreign currency after the war, were promoting exports. Equally important, Canadian manufacturers made nothing but big cars with V8 engines. Such cars had some appeal outside North America, but certainly not everybody wanted them. As two English auto historians have recently written, "To English eyes the [U.S.] cars were ghastly — they were far too big, smothered with chromium plating, and looked like mobile juke boxes."[29] British and European makers, on the other hand, produced small, nimble, cheap vehicles that were proving to be more popular than the North American behemoths. Thus the move to bigger cars and bigger engines, which had begun before the war and swept the entire North American industry in the 1950s, was another reason for the decline of long-standing export markets.[30]

Loss of exports was a serious blow, but it was only part of the problem. The Canadian automotive industry was also losing sales in its domestic market, as a result of a drastic rise in imports. Canadians had imported cars since automobiles first came into use at the start of the century. Even in the 1920s, when Canadian automotive production was at its pre-war peak, Canadians were still importing a large number of vehicles, from 30,000 to 40,000 per year in the boom of the late 1920s.[31] These were virtually all U.S.-made;

Figure 42. *The arrival of European imports was one of several developments that undermined the Canadian industry in the 1950s. Britain was the source of most imports, but the German Volkswagen began to catch on too. This dealer in Lethbridge, Alberta, in 1957, appears to be using these vans primarily for novelty appeal.*
(Glenbow Museum, neg. NA-5327-182)

some were vehicles made by companies without Canadian branches, like Packard, and others were models manufacturers chose not to make at their Canadian plants, such as GM Cadillacs after 1935. Imports from other countries were insignificant; imports from the United Kingdom totalled only 681 in 1939.[32]

After the war, however, this pattern began to change. Canadians began to buy an unheard-of number of imports, and for the first time they were buying British and European rather than U.S. cars. The first sign of change was a brief surge in imports, mostly from Britain, in 1946 and 1947, when Canadian and U.S. makers were not yet able to meet the sudden post-war demand. In 1946, 17 percent of Canadian car purchases were imports, and in 1947, 18 percent. This quickly fell to 9 percent in 1948 as domestic production returned, and it appeared that the old pattern was being re-established. But in fact the post-war shift was a sign of what was to come: the percentage of Canadian car purchases supplied by imports rose fairly steadily from 1947, to reach 28 percent in 1959.[33] The imports were from various countries, although Britain was by far the greatest source. In 1959, when imports were supplying 28 percent of Canadian consumption, Britain alone was providing nearly half of that, nearly 15 percent of all Canadian motor vehicle consumption. West Germany was supplying 24 percent of the imports, the United States 18 percent, and France 10 percent.[34]

The reasons for the popularity of British and European cars in Canada are largely the same as the reasons for their popularity in Australia and New Zealand — European makers offered a good-quality, low-priced, compact alternative to the North American car. In 1960, 76 percent of British imports to Canada were cars with engines under 1600-cc displacement, a size of engine that faced not one North American competitor. The smallest North American engine available at that time in Canada was about 2300 cc, and few engines that small were made and sold.[35] So the British and Europeans had that portion of the market to themselves. In the case of British imports, the tariff was also at work. Since 1932, British cars had entered Canada tariff-free. This had never been considered an important concession because Canadians had always preferred North American–style cars; but with the new popularity of small cars, this tariff concession was turning into a major British advantage, and it came to be seen as a cause of the rise in import sales. But this British tariff advantage should not be overemphasized, for German and French cars had no such advantage in the Canadian market and they were doing well too.[36]

Figure 43. *North American manufacturers did make some effort to produce small cars in the 1950s, but with limited success. The Nash Rambler, introduced in the United States in 1950, was one of the few models that had some success. But when American Motors introduced its new Rambler in the late 1950s, most models were fairly large.*
(CSTM/de Bondt Collection)

Often overlooked in this import boom is the role of the big auto companies themselves in bringing in imports. Before the war, GM and Ford had established British and European operations. Ford had done so by forming separate companies, Ford U.K. and Ford-Werke, among others, while GM had taken the route of purchasing existing firms, Vauxhall in England in 1925 and Opel in Germany in 1929. After the war Ford and GM quickly re-established production at these plants. Chrysler joined them by buying the French company Simca in 1958.[37] In the 1950s these cars — German and English Fords, Vauxhalls, Opels, and Simcas — began arriving in North America, where they competed with and began to undermine the sales of North American vehicles. So the big U.S.-based makers, insofar as they controlled their overseas possessions (which they did not entirely do), were partly responsible for their own troubles. Commissioner Bladen's interjection during the hearings: "Take out Ford and General Motors and we wouldn't be worried by the English imports!" was a playful overstatement, but he had clearly grasped the speaker's point.[38]

But plenty of English Humbers, French Renaults, and German Volkswagens were being imported as

well. Of the 96,000 vehicles imported from the United Kingdom in 1959, slightly less than half were brought in by Ford and GM from their British affiliates; the remainder were brought in from other U.K. manufacturers.[39] In the case of imports from West Germany that same year, General Motors brought in none and Ford only 2,000 of the nearly 40,000 German imports. Volkswagen, which set up a Canadian sales operation in 1952, was the main source of German cars in Canada; it imported and sold 32,000 vehicles in 1959, without tariff advantage or connection to a U.S. maker.[40] Clearly, the small, cheap car was popular in Canada, and the European makers were the ones who could provide it.

The trend toward small cars had not gone unnoticed by the North American industry. The Nash Rambler had had some success in 1950, the redesigned 1956 version had been popular enough that American Motors made it their only model in 1958, and in 1960 the company was building a whole new Canadian plant to make it. Studebaker had done reasonably well with its small cars, and it introduced the new Lark in 1959. In fact by late in the decade all the U.S. makers had committed to building smaller cars. However, development time being what it was, none were in production until 1960, so when the Royal Commission was conducting its inquiry, the impact of these small cars on the North American market was not yet known.[41] But it seemed unlikely that, in Canada anyway, they would be able to save the industry.

In the United States, the situation was different, for imports constituted only 7.6 percent of sales. Importing cars in such numbers was a new phenomenon in the United States, and it was perceived as a problem, but the number was low enough that the new small cars could conceivably allow the domestic industry to regain most of what it had lost. In Canada, however, imports were close to 30 percent of sales, and it seemed most unlikely that the new smaller American cars would be a sufficient solution. As well, in Canada, the new American small cars were going to cost considerably more in Canada than in the United States. This had always been the case for North American–made cars, whether they were made in and imported from the United States (in which case a tariff was applied) or made in Canada (where parts cost more to produce). This price difference would make it hard for any new American cars to underprice the small imports in Canada. GM Canada president Walker stated before the Royal Commission that in Toronto a Vauxhall Victor Super Four-Door Sedan cost $566 less than GM's newly introduced Chevrolet Corvair, while in Detroit that Vauxhall was $15 more than the Corvair.[42] For British imports, the price advantage was accentuated by duty-free entry, but even the Volkswagen, with an import duty applied, was priced well under the new American compacts. To be able to compete with the imports, the Canadian industry was going to have to lower its retail prices. This was easier said than done. The industry had been built on a protective tariff, which could not be removed without running the risk of destroying the industry entirely. What was to be done?

The consensus among economists now is that "because of its position as a high-cost duplication in miniature of the United States automotive industry," the Canadian automotive industry by the 1950s was bogged down in inefficiency.[43] This is what underlay its high prices and inability to compete, both internationally and domestically. Even with prices roughly 10 percent higher than in the United States, and with labour being paid 30 percent less, the Canadian industry was still not yielding as good a return on investment as the U.S. industry. It had been kept afloat since the 1920s by the absence of competition and by an advantageous position in Commonwealth markets, but by the 1950s, with both props gone, its uncompetitive position had been exposed. Only with production runs over 300,000 units, recent research has concluded, could a manufacturer have run efficiently.[44] This was the size of the entire Canadian market, which was fragmented among numerous makes and models of vehicles. Although this was not as clear to the industry then as it is to economists now, there was an inkling of the problem, and by the end of the inquiry Bladen recognized the economic forces at work.

The commission had the further challenge of trying to deal with the problem of shrinking Canadian content in Canadian-made vehicles or, put another way, the growing trade deficit in automobile parts with the United States.[45] By the end of the 1950s the increasing use of sophisticated production machinery was raising the price of "tooling up" a plant for production and, accordingly, raising the quantity of production needed for cost-effectiveness. This problem first appeared with body panel manufacture, with the consequence that body panel manufacture began moving to the United States to take advantage of production runs big enough for optimum use of the expensive production machinery. For some body panel stampings, optimum production was now as high as one million parts per year.[46] But this development was occurring with other parts too. The machining of pistons and engine blocks, which was becoming increasingly automated, was already at the stage that, for all the major automakers, optimum production exceeded their total Canadian requirements. This meant that if these components continued to be made in Canada, they would cost more than if made in the United States, but nobody wanted to raise Canadian prices even further. The easiest way to lower prices on such parts was

simply to end all Canadian production of them. Import duties were only applied to U.S.-made parts *for which there was comparable Canadian production,* so ending Canadian production meant ending the import duty and being able to serve the whole North American industry from a large, consolidated production plant.[47] This was a worrisome trend. A similar problem was emerging with automatic transmission, rapidly becoming standard equipment in the industry. None were being manufactured in Canada, so no import duty was being applied to them, and since optimum production volume exceeded the total Canadian market, no companies were planning to do so unless the tariff arrangements were changed.[48] Some industry observers spoke of trying to encourage their manufacture in Canada, but for now this new, quite valuable component of the modern car was effectively blocked from being made in Canada by the economies of scale.[49] The signs were that the trend toward specialized, high-priced production machinery was not going to end, so the Canadian content regulations in place since the 1930s would soon have to be rethought. From 1950 to 1960 Canada's trade deficit with the United States in auto parts had doubled; it sat at nearly $300 million, while the overall trade deficit in automotive production was some $400 million.[50] The great post-war growth in Canadian automobile production was evidently occurring with parts imported from the United States.

One final consideration about Canadian content was that, if the overseas imports were here to stay, might their makers be induced to set up assembly or parts-manufacturing plants in Canada? The response to this at the inquiry was a categorical no. Warner Jansen, managing director of Volkswagen Canada, stated that Volkswagen assembly operations would provide very little employment in Canada. Only by actually manufacturing in Canada would there be any Canadian economic gain, but the company would not consider this. Workers at its German plant had developed such skill and worked for such low wages that the company would never move its manufacture abroad, he testified.[51] Similar views were expressed by Brian Rootes of the Society of Motor Manufacturers and Traders in England. Shipping parts overseas is a complicated and expensive job, he added, and sales volumes in Canada were not enough to warrant it. Only with very high tariffs, and thus much higher prices, would the British industry consider assembly in Canada, he explained.[52] So it appeared that the approach of using tariffs to encourage domestic manufacture, which had worked well with U.S. producers over the decades, offered little hope for the Canadian industry in the 1960s.

Faced with all these problems and uncertainties, Commissioner Bladen made several recommenda-

Figure 44. *The Royal Commission on the Automotive Industry reviewed promotional literature from the main imports, including a brochure with this image from Rootes Motors (Canada), agent for various English brands. Hillman was clearly targeting the North American market by making its cars with left-hand drive and automatic transmission.*
(University of Toronto Library, *Submissions to the Royal Commission on the Canadian Automotive Industry)*

tions. To the key problem of lost exports, he had no solution. It resulted from changes in international circumstances, beyond the control of the Canadian government, and received barely a mention in the report's recommendations. The Canadian automotive export industry was lost and would never recover. To address the problem of import competition, he recommended a tariff on British cars and made several suggestions for lowering the price of Canadian vehicles to enhance their ability to compete, including the removal of an excise tax. On the matter of Canadian content and the inefficiencies of short runs in Canadian production, he suggested that the government work to establish a new set of Canadian content regulations that would encourage Canadian parts makers to increase the size of their production runs, lower their prices, and compete with U.S. parts makers.[53] These recommendations, taken altogether, signalled the end of the old Canadian automotive industry. The new industry Bladen was calling for — no overseas exports, no Commonwealth preference, minimal price differential with U.S. models, and closer integration of the Canadian parts industry with the U.S. industry — would be something entirely different.

From the Royal Commission to the Auto Pact

Bladen's recommendations for the industry were not immediately followed. The parade of new U.S. "compact" cars that had started in 1960 continued, and these new vehicles did begin to claim back some of the market share lost to imports. The Ford Falcon and Chevrolet Corvair had been the first, and they were soon followed by the Plymouth Valiant, Dodge Dart, Mercury Comet, Pontiac Tempest, and others. Records showing which of these cars were built at Canadian plants, and how well each of them sold, are not readily accessible, but the cars were certainly purchased by Canadians in the early 1960s. By 1963 imports had fallen to only 9.2 percent of Canadian new car sales. Much to the Canadian industry's relief, the British and European import phenomenon subsided to acceptable levels on its own.[54]

The problem of inefficiency in the industry remained, however, as did the increasing importation of U.S.-made parts, and government policy-makers had little choice but to attempt to remedy these failings. In 1963 new industry regulations were introduced, usually referred to as Duty Remission Programs. These did not follow Bladen's recommendations directly, but they did use one of his basic concepts. Bladen had recommended the use of overall value added in Canada, rather than Canadian content per vehicle, as the basis for calculating the amount of Canadian content in a manufacturer's output (and thus whether a manufacturer was eligible to import parts duty-free). Bladen's recommendation would have permitted manufacturers to put less than the required 60 percent quota of Canadian parts into each car, yet still be eligible for the remission of import duties provided that this shortfall was made up by the manufacture of enough other parts that their total Canadian value added, as a manufacturer, reached 60 percent of their output. He called it an "extended content" plan.[55] Where these additional parts were going to be sold Bladen's recommendations did not state, but the assumption was that they would be exported to the United States and put into U.S.-built cars. (The U.S. parts industry was not, and had never needed to be, protected by an import duty.) The intention was, of course, to enable — in fact, to encourage — Canadian manufacturers to increase their production runs of certain parts so that they could gain efficiencies of scale.

The new Duty Remission Programs introduced by the government in 1963 made use of this concept, but they imposed tighter restrictions on imports and made the stimulus to exports more direct. According to the new regulations, manufacturers in Canada could import American automotive products duty-free only up to the value of Canadian product they exported (the latter, more specifically, being Canadian value added in either parts or vehicles). These regulations were first imposed for engine block and automatic transmission imports, and the following year they were extended to all parts. Until this point, manufacturers who met the Canadian content quota had been free to import any number of vehicles or parts duty-free. But by tying the value of imports allowed in duty-free to the value of exports, the Canadian government was, in effect, restricting the amount of automotive product that U.S. makers could export duty-free into Canada, as well as giving a financial benefit to Canadian producers who exported to the United States.[56]

Not surprisingly, these programs did not sit well with U.S. parts makers. They saw them as bounties to Canadian parts makers who exported their production to the United States, which in a sense they were, and called on their own government to take action against what they claimed was an unfair trade practice. After a year of inaction by the U.S. government, a radiator manufacturer in Racine, Wisconsin, by the name of the Modine Manufacturing Company filed a petition demanding that the U.S. government impose a countervailing duty on incoming Canadian parts. They claimed they were losing long-standing supply contracts with major American automotive manufacturers on account of these incoming Canadian-made parts.[57] Informed opinion was that Modine's petition would succeed, so to avoid an international incident, the two governments hastily put together a new set of terms for automotive trade

between the two countries. This agreement, formally the Automotive Products Trade Agreement, but known now as the Auto Pact, was signed on 16 January 1965, and an entirely new trading environment came to be.[58]

The Auto Pact provided for completely duty-free passage of automotive vehicles and parts between Canada and the United States, provided certain conditions were met. The only restriction on products entering the United States from Canada was that they be at least 50 percent North American content. This was to prohibit other countries from exporting to the United States through Canada. It did not, however, stop manufacturers from other countries, who manufactured in Canada with Canadian materials and labour, from exporting to the United States — a fact that would become significant in the 1980s. Restrictions on products entering Canada from the United States were much tighter and more complex. First, only an existing Canadian automobile manufacturer could import vehicles according to the terms of the agreement. Furthermore, in order to enjoy the duty-free provisions, a manufacturer had to maintain its Canadian production at the level it had been the year before the agreement was signed (that is, in 1964). This was required of the ratio of Canadian vehicle production to Canadian vehicle sales (which was not permitted to be below 3:4 regardless of 1964 production) and of the proportion, by overall value added, of Canadian content in their output. The Canadian government, in other words, had managed to ensure that Canada's automotive trade balance would get no worse than it had been in 1964. Beyond this, in order to ensure that the Canadian industry received its fair share of future growth, and that Canada's trade balance would actually improve, the Canadian government made separate arrangements with the auto manufacturers themselves (not with the U.S. government), which took the form of "letters of undertaking" from the Canadian subsidiaries of the U.S. companies to the Canadian government. In these letters, the automakers promised to carry out at least 60 percent of their future Canadian growth in Canada, on a value-added basis, and to increase, collectively, their value-added production in Canada by $260 million by the 1968 model year.[59]

The agreement clearly favoured the Canadians. Basically, the Canadian market was protected but the U.S. market was not, and Canadian vehicle and parts manufacturers had free access to the U.S. market but the U.S. industry did not have free access into Canada. The explanation for this anomaly appears to be that the U.S. negotiators and their government believed that the "Canadian safeguards," as they were called, were temporary, and that after a period of transition they would be removed and unregulated free trade would prevail.[60] This was not stated in the agreement, however, and despite being the cause of several disputes between the United States and Canada, they remained in force for the entire life of the Auto Pact. It has been speculated that U.S. president Lyndon Johnson granted these concessions in return for Canada's support of his government's position on Cyprus,[61] but this does not stand up to research. The fact is that the Big Three automakers saw this agreement as a way to stabilize their industry and remove the possibility of future trade disputes, and the White House of Lyndon Johnson accepted their arguments.[62]

Almost immediately, the Canadian auto industry saw the effects of the new agreement as the big automakers, free now to move vehicles and parts across the border to obtain the most efficient production, began to alter their production strategies. What is interesting about the process of integration that occurred in the first few years of the agreement is that all four major automakers (the Big Three plus American Motors) followed slightly different paths. All, however, exceeded their commitments to Canadian produc-

Figure 45. *The Datsun 240Z sports car (introduced in 1970) and 510 sedan (introduced in 1968) were among the most successful of the first wave of Japanese imports. These vehicles were plain and comparatively low priced, but well engineered and reliable. The big North American producers making cars in Canada simply could not compete.*
(Courtesy Nissan Canada Inc.)

Figure 46. *Finished vehicles emerge at the official launch of the Lexus Model RX-330 at the Toyota plant in Cambridge, Ontario, in 2003. This was the first, and as of 2007 still the only, plant to assemble Lexus cars outside Japan.*

(Courtesy Japan Automobile Manufacturers Association of Canada)

tion by a wide margin, and the overall drift, from the start, was to the benefit of the Canadian industry.[63]

American Motors, the smallest of the major producers, was in 1964 producing in Canada about 10 percent more vehicles than it was selling. This, then, was the level below which it could not fall. In the years after 1964, its sales decreased, meaning that the company could have reduced its Canadian production while still keeping to the pre-agreement percentage the pact required. But it did not. Instead, by 1968 it was producing nearly twice the value of what it was selling, and easily met its share of the fixed $260-million commitment. It was also now able to cease production of its Ambassador and Javelin models in Canada, and to concentrate on Rebels and Ramblers. And when the subcompact Hornet was introduced in 1969, the company served all of eastern North America from its Canadian plant at Brampton and the entire western continent from its U.S. plant at Kenosha, Wisconsin.[64]

Chrysler also concentrated on some models more than others, phasing out the Chrysler and Valiant models in Canada while increasing production of the Dodge Polara, the Dodge Monaco, and the Plymouth Fury. Most of its Canadian production increase occurred in the assembly of passenger cars, which it increased from only about 4 percent above sales in 1964 to over 50 percent above sales in 1968. To accomplish this it carried out major expansions in 1966 at its main Chrysler plant in Windsor and its trim plant at Ajax. The company barely increased Canadian production of commercial vehicles, however, and there is little evidence of an increase in parts production.[65]

Ford, on the other hand, raised its truck production considerably — in 1968 it manufactured more than three times what it sold — and through this gained large increases in its Canadian value added. Passenger vehicle production exceeded sales too, by about 60 percent in 1968. It integrated production by ending Canadian manufacture of Ford Fairlanes and Mercury Comets at its Oakville plant and concentrating on Falcons. Ford opened a big new assembly plant near St Thomas, Ontario, in 1967 where it first concentrated on Falcon production, then in 1969 switched to the new Maverick. Like American Motors, Ford served a wide continental market from its Canadian plant; it supplied as much as 70 percent of the total North American requirements of Mavericks from St Thomas.

General Motors, unlike all the others, raised its vehicle assembly levels very little. But, over the next few years, GM also met and then surpassed its required ratio. By 1968 production exceeded sales by about 25 percent, up from close to nothing in 1964. GM seems to have achieved most of its value-added increases through greater production of parts.

By almost any measure the Canadian industry benefited from the Auto Pact, as evidenced by the new plants and plant expansions the manufacturers undertook in the first few years. Everything in the Canadian industry rose in the late 1960s: employment numbers, value of vehicle assembly, and value of parts manufacture (both by the automakers and by independent parts makers).[66] The industry was expanding overall, though, so on their own these figures do not tell the whole story. More significant is that the share of North American vehicle consumption served by Canadian manufacture, after fluctuating at first, began to rise. From 1960 to 1970, it rose from 4.74 percent to 12.3 percent. By 1970, Canada had a substantial trade surplus with the United States in automotive products, almost certainly for the first time in history. The pattern changed in the 1970s, and Canada began to run deficits in automotive trade, so by 1980 the longer-term consequences of the Auto Pact were not yet clear. Since 1980, however, the trend has been overwhelmingly in Canada's favour. Another result of the

Auto Pact was a drastic rise in the amount of trade in auto products between the two countries. From 1964 to 1968, vehicle imports from the United States rose from 3 percent to 40 percent of Canadian North American vehicle sales, while exports of vehicles from Canada to the United States rose from 7 percent to 60 percent.[67] This in itself is no advantage, except to the automotive shipping business, which must have grown exponentially. But such a large movement of products suggests that larger production runs of both vehicles and parts were being employed, giving Canadian producers opportunities for increases in efficiency, just what the Auto Pact was supposed to foster. There were also notable gains in the efficiency of output in the industry overall, with value added per labour hour rising 54 percent from 1964 to 1971.[68]

Within this changing overall trade balance, even before 1980, two opposite trends can be clearly observed. In the trade of completed vehicles, Canada ran a steadily rising surplus; in fact, Canadian motor vehicle production rose to unheard-of heights in the fifteen years after the Auto Pact — from less than 1,000 in 1965 to some 150,000 in 1979. At the same time, though, in auto parts Canada ran a steadily growing trade deficit. Even in years with substantial overall automotive trade surpluses, Canada continued to run a deficit in parts trade ranging from US$4 billion to US$6 billion.[69] The industry was finding Canada a better place to assemble vehicles than to manufacture parts.

Parts production on its own, however, did not decline. Parts manufacture evolved into a huge industry, with production values in the millions of dollars and employment in the tens of thousands of jobs. Parts production as a percentage of vehicle production rose steadily from the signing of the pact up to a peak of 50.4 percent in 1973, after which it fluctuated without any obvious trend into the 1980s.[70] The export of Canadian-made parts to the United States increased, just as the Canadian government had hoped it would. In 1981, despite having a parts trade deficit with the United Sates of several billion dollars, the Canadian industry still exported $4.4 billion of parts to the United States, up from next to nothing when the Auto Pact was signed.

To move from quantitative to qualitative analysis, two final points can be made about the effects of the Auto Pact on the Canadian auto industry. One is that by becoming fully integrated with the U.S. industry, the Canadian industry, in a sense, ceased to exist. After 1965 one really should speak of a "continental" industry, rather than a Canadian or a U.S. industry. How much of a loss this was to Canada is debatable. As emphasized repeatedly in this study, the Canadian industry has never been independent of the United States. Nevertheless, before the Auto Pact, Canadian plants generally produced for Canadian consumers, so there was the possibility of Canadian cars being finished or named differently from U.S. cars, or of models being made and marketed exclusively in Canada. Now, under the Auto Pact, a Canadian plant might specialize in producing a certain model, but such "Canadian-made" vehicles almost certainly had parts in them that were made somewhere else, and they were marketed to the entire North American market. It is also true that the Canadian head offices of the big companies had, prior to the Auto Pact, made some independent decisions regarding procurement of services, parts, and materials. This independence, minimal though it was, came to an end in 1965.[71] A 1983 study, however, concluded that this loss of head office activities probably had little effect on the industry. At first, Canadian parts suppliers had some difficulty reestablishing connections with customers whose purchasing departments were now in the United States, but these difficulties passed in a few years.[72]

A second point, however, is that the Auto Pact allowed the Canadian industry, in a different sense, to survive and even to flourish. With the Auto Pact in place, the big U.S.-based automakers continued to make automotive products in Canada, according to Canadian laws, using Canadian supplies and services, and with Canadian labour, and they began doing so at a level roughly equal to the Canadian consumption of the motor vehicles they made, something they had never done before. This course of events might be taken for granted now, but in 1965 it certainly was not. A combination of the rising cost of automated production and increasing control of the industry by a U.S.-based oligopoly had put the future of the Canadian automobile industry in serious doubt. It is not going too far to say that the Auto Pact saved the Canadian industry.

This ambiguous legacy is perhaps a product of the agreement itself being two-headed. On the one hand the Auto Pact was a free-trade deal, in that it allowed for the duty-free movement of parts and vehicles across the Canada–U.S. border. This, in turn, allowed the industry to set up operations to serve its market in what it deemed the most efficient way, without having to deal with tariffs — often unpredictably imposed, for short-term political reasons — that interfered with "natural" market forces. But the pact was also very much *not* a free-trade deal, in that it called for automotive trade between the two countries to be scrutinized and managed by government more than ever before. Only if the industry did exactly what governments, especially the Canadian government, told it to do, and if the numbers and ratios all added up properly at the end of every year, would it be permitted to trade freely. No wonder the Auto Pact has been held up to demonstrate the advantages of both free trade and managed trade. It called for both.

Other Affairs

The Auto Pact had such a huge impact on the Canadian auto industry that it tends to overshadow other events in the 1960s and 1970s. It was, far and away, the most important development of this generation, but not the only one.

In 1963 Volvo became the first European maker to set up an assembly plant in Canada, opening a plant in Dartmouth, Nova Scotia, and then a larger plant in Halifax in 1965.[73] Volvo was allowed to take part in the Auto Pact. Renault also began to assemble vehicles in Canada, at Boloeil, Quebec, in 1965, in a plant built by the provincial government under the Societé de montage automobile (SOMA).[74] Governments, particularly provincial governments, participated actively in these enterprises, in this the age of regional development in Canada. Imports from Europe maintained a significant share of the Canadian market, but no other makers found Canadian circumstances attractive enough to set up branch assembly plants. Studebaker Canada flirted with the idea of using its status as an established Canadian manufacturer at the time of the Auto Pact's inauguration, which it was, to import Volkswagens duty-free from Germany and apparently did act as the importer on paper for most 1965 Volkswagens, but no lasting arrangement was ever made.[75]

Overall, imports rose again in the 1960s and 1970s. In 1968 they reached 10.5 percent of sales in the United States and 14.1 percent in Canada.[76] This prompted the big automakers to introduce another round of new small cars. The Ford Maverick and the American Motors Hornet were both introduced in 1969, and both were made at their companies' Canadian plants (noted above). The following year a line of subcompacts, with a wheelbase under 100 inches (254 cm), was released — the Ford Pinto, American Motors Gremlin, and General Motors Vega.[77] Sales were only moderate, and these new models had much less impact on the imports than the first generation of small domestic cars had had. In 1970, imports were 22.4 percent of new car sales; in 1971 they peaked at 24.4 percent, and fell only slightly to 23.9 percent in 1972 and 19.4 percent in 1973.[78] Then the industry was struck by the first "oil shock" in 1973, and demand for smaller fuel-efficient cars rose to even greater heights. Import sales, which had never fallen below 15 percent, began to rise again, up to 19.5 percent in 1977.

In the 1970s, however, it was not Europe but Japan that was the main source of imports. The Japanese auto industry had developed by the 1960s into a successful and highly efficient operation, and its cars — Datsuns, Toyotas, and Isuzus — began to enter Canada as imports in 1965. Toyota was the first to incorporate in Canada, which it did that year. Sales were small, in the thousands, until the late 1960s, when, from 1968 to 1970, Toyota's market share suddenly jumped from 1.8 percent to 9.1 percent, boosted by the sudden popularity of the new Datsun 240Z sports car.[79] There it stayed, just above or below 10 percent of Canadian sales, throughout the 1970s. Mazda had begun exporting to Canada in 1968. Honda entered the scene in 1970, introducing its successful Civic model in 1973. Subaru entered the market in 1976. Japanese cars were generally small, well built, and fuel-efficient, and unlike the European imports they did not come with a reputation for being temperamental and costly to service. They had a real appeal in these years of concern over the cost of fuel and the environment. By 1980 there was no doubt that Japanese imports would have to be accepted as part of the automotive scene in North America, although how they would fit had yet to be resolved.

Some fairly high-profile sports cars were also developed in Canada in the 1970s, all of which say more about Canada's proclivity toward ill-advised government investments than its automobile industry. The first was the Manic, devised in 1969 by a Canadian Renault employee named Jacques About. It called for a locally built fibreglass body to be put on a Renault chassis — harking back to the earliest years of the industry. About raised some capital, government and private, and set up operations in Granby, Quebec, but made only a few cars.[80] In 1974, an American entrepreneur named Malcolm Bricklin convinced the government of New Brunswick to invest in a scheme for assembling his gull-winged luxury sports car, which had been developed in Michigan, in Saint John. He set up the plant and apparently made over two thousand cars, but they were technically flawed and never taken seriously. His venture went bankrupt in 1975.[81] John De Lorean is known to have considered setting up a similar operation in eastern Canada for his gull-winged sports car in the late 1970s, but in the end he found more generous subsidies in Northern Ireland and opted to set up operations there. No De Loreans were ever made in Canada. Such ventures attracted media interest but never really became part of the automobile industry.

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What stands out most about the industry between 1945 and 1980 is how much it changed, probably more than in the thirty-five years before 1945. There was the great post-war boom and plant expansions, the total loss of the Commonwealth export market, the sudden arrival of the British and European imports, the shift

to higher-tech production machinery and the resulting parts trade deficit with the U.S. industry, the Auto Pact and the subsequent (and surely quite unexpected) steady rise in Canadian production, and then the arrival of the Japanese imports — although the significance of this last development was not yet clear in 1980. Nothing stayed the same for long. But after all these changes had run their course, a huge Canadian industry remained. It was, as it always had been, concentrated in southwestern and south-central Ontario, but it was of considerable national importance. That it still existed, making so many vehicles and employing so many people, is perhaps the most striking legacy of the period.

Notes

1. Kenneth Norrie and Douglas Owram, *A History of the Canadian Economy*, rev. ed. (Toronto: Harcourt Brace & Company, 1996), 408–11.
2. Canada, Dominion Bureau of Statistics (hereafter DBS), *Motor Vehicle Manufacturers*, 1929, 1954 (DBS Catalogue 42-209).
3. Another important feature of this golden age was the United Auto Workers (UAW), which, after gaining legitimacy during the war and winning a key strike at Ford in 1945 to 1946, went on to play an important role as the voice of labour in several key industry discussions. See David Moulton, "Ford Windsor 1945," in *On Strike: Six Key Labour Struggles in Canada*, ed. Irving Abella (Toronto: Lorimer, 1975), 129–62, and for a comprehensive analysis of the UAW in this era, Charlotte A. B. Yates, *From Plant to Politics: The Autoworkers Union in Postwar Canada* (Philadelphia: Temple University Press, 1993).
4. Mira Wilkins and Frank E. Hill, *American Business Abroad: Ford on Six Continents* (Detroit: Wayne State University Press, 1964), 399; Hugh Durnford and Glen Baechler, *Cars of Canada* (Toronto: McClelland & Stewart, 1973), 243–5; the Model B-A pictured in James J. Flink, *The Automobile Age* (Cambridge: MIT Press, 1988), 301, looks identical to the Meteor pictured in Durnford and Baechler, 244; around this time Ford created two distinct brand and marketing lines — Ford/Monarch and Mercury (Meteor)/Lincoln — but there was considerable overlap between them in the cars themselves; also James C. Mays, *Ford and Canada: 100 Years Together* (Montreal: Syam Publishing, 2003), 74–80.
5. Canada, *Report of the Royal Commission on the Automotive Industry* (1961), 102, Table 2.
6. Gerald T. Bloomfield, "The Canadian Motor Vehicle Industry, 1940–1960," unpublished report to the Historical Atlas of Canada Project., vol. 3, December 1984, Table 4; Lawrence J. White, *The Automobile Industry since 1945* (Cambridge: Harvard University Press, 1971), 15, explains Chrysler's bad year in 1954.
7. Bloomfield, "The Canadian Motor Vehicle Industry, 1940–1960," 4–5; Durnford and Baechler, *Cars of Canada*, 264; "GM in Canada: The Early Years," *Vintage Canada* 1, no. 3 (March 1975): 16, for production tables.
8. W. M. P. McCall, "The Chrysler Canada Ltd. Story," *Vintage Canada* 1, no. 2 (Dec. 1974): 8–9.
9. Flink, *The Automobile Age*, 286.
10. T. P. Newcomb and R. T. Spurr, *A Technical History of the Motor Car* (Bristol: Adam Hilger, 1989), 60–2; John B. Rae, *The American Automobile Industry* (Boston: Twayne Publishers, 1984), 110; Flink, *The Automobile Age*, 290–2; White, *The Automobile Industry since 1945*, 171–6 and 248–50, for profits.
11. Crosley Motors was a comparatively new independent company that had started up just before the war, making small four-cylinder cars. It survived for a few years after the war but did not last — Rae, *The American Automobile Industry*, 100–101.
12. White, *The Automobile Industry since 1945*, 10–2, 67–8.
13. Bloomfield, "The Canadian Motor Vehicle Industry, 1940–1960," Table 4; its share had run from 12 percent to 14 percent in the years before the war.
14. James Dykes, *Canada's Automotive Industry* (Toronto: McGraw Hill, 1970), 55.
15. Durnford and Baechler, *Cars of Canada*, 251; R. Perry Zavitz, "Studebaker of Canada: Two Extraordinary Cars," *Vintage Canada* 3, no. 1 (Sept. 1976): 35, 37; Donald T. Critchlow, *Studebaker: The Life and Death of an American Corporation* (Bloomington: Indiana University Press, 1996), 182–3; the name was changed in 1955 to Studebaker-Packard after the two companies merged; the 1957 Studebaker-bodied Packard was also made at the Hamilton plant; also Paul Cronkwright, "Studebaker Canada 1910–1966," a brief historical essay on the website of the Hamilton Chapter of the Studebaker Drivers Club (April 2003), www.thehamiltonchaptersdc.ca.
16. "American Motors Canada," *Vintage Canada* 1, no. 4 (June 1975): 8; Durnford and Baechler, *Cars of Canada*, 275; both reproduce the same image — a staged photo of the first post-war Canadian Hudson — raising the possibility that the photo itself is the only event.
17. "American Motors Canada"; Durnford and Baechler, *Cars of Canada*, 273–6; Canada, Royal Commission on the Automotive Industry, *Hearings* (1961), Brownridge testimony, 162; White, *The Automobile Industry since 1945*, 15; Canada, DBS, *Motor Vehicle Manufacturers*, 1950, list of motor vehicle manufacturers; Dykes, *Canada's Automotive Industry*, 60, has a good photograph of the 1950 Rambler; James C. Mays, *Rambler Canada: The Little Company That Could* (Montreal: Syam Publishing, 2001), 7–12.
18. The jeep, short for "GP, general purpose" vehicle, had been nearly ubiquitous among the U.S. military during the war. The vehicle had been made in the United States by Willys-Overland. Kaiser-Frazer bought Willys-Overland in the United States in 1953 and made the W-O jeeps with good success (White, *The Automobile Industry since 1945*, 15); Kaiser-Frazer set up an assembly plant in Windsor in 1954 and began manufacturing there in 1959 (Durnford and Baechler, *Cars of Canada*, 256).
19. This is the author's speculation; no research appears to have been done on closing the regional assembly plants.
20. Canada, Royal Commission on the Automotive Industry, *Hearings*, Todgham testimony, 66.
21. Canada, *Report of the Royal Commission on the Automotive Industry*, 9, for a good summary of this.
22. Ibid., 22–4.

23. Canada, Royal Commission on the Automotive Industry, *Hearings*, Walker testimony, 26–8; the two major independents in the post-war years, Studebaker and Nash, both followed this pattern — see Mays, *Rambler Canada*, 8, for Nash body panels, and Cronkwright, "Studebaker Canada 1910–1966," for Studebaker.
24. Bloomfield, "The Canadian Motor Vehicle Industry, 1940–1960," 5–7, summarizes these changes.
25. Canada, *Report of the Royal Commission on the Automotive Industry*, general reference.
26. Wilkins and Hill, *American Business Abroad*, 442; Bloomfield, "The Canadian Motor Vehicle Industry, 1940–1960," Table 1; that Canada was replacing U.S. exports is suggested by Bloomfield (p. 6) and by the fact that Latin America, which was customarily served by U.S.-based makers, was a major market in these years — Canada, DBS, *Motor Vehicle Manufacturers*, "Exports of Motor Vehicles by Principal Countries of Destination," 1951 and 52; Royal Commission on the Automotive Industry, *Hearings*, Sale testimony, 52.
27. Canada, DBS, *Motor Vehicle Manufacturers*, 1960, Table 9; Canada, *Report of the Royal Commission on the Automotive Industry*, 101, Table 1, shows higher figures.
28. Canada, DBS, *Motor Vehicle Manufacturers*, "Exports of Motor Vehicles by Principal Countries of Destination," various years; Wilkins and Hill, *American Business Abroad*, 398–400 and 442; Royal Commission on the Automotive Industry, *Hearings*, Sale testimony, 51–2.
29. Newcomb and Spurr, *A Technical History of the Motor Car*, 67.
30. Flink, *The Automobile Age*, 251–67, for European adoption of mass production; Wilkins and Hill, *American Business Abroad*, 407–8; Canada, *Report of the Royal Commission on the Automotive Industry*, 12–8.
31. Canada, *Report of the Royal Commission on the Automotive Industry*, 101, Table 1.
32. Dykes, *Canada's Automotive Industry*, 55.
33. Canada, Royal Commission on the Automotive Industry, *Hearings*, Todgham testimony, 69; Canada, DBS, *New Motor Vehicle Sales*; Bloomfield, "The Canadian Motor Vehicle Industry, 1940–1960," Table 3, shows 32.2 percent for the same years.
34. Canada, *Report of the Royal Commission on the Automotive Industry*, 104, Table 4.
35. Canada, Royal Commission on the Automotive Industry, *Hearings*, Rootes testimony, 183.
36. Canada, *Report of the Royal Commission on the Automotive Industry*, 49, 64–5.
37. Flink, *The Automobile Age*, 253, 295–6.
38. Canada, Royal Commission on the Automotive Industry, *Hearings*, Rootes testimony, 207.
39. 13,247 were brought in by Ford and 30,171 by General Motors — Canada, *Report of the Royal Commission on the Automotive Industry*, 103–4, Tables 3 and 4.
40. Ibid.; Royal Commission on the Automotive Industry, *Hearings*, Jansen testimony, 216, 227.
41. Canada, Royal Commission on the Automotive Industry, *Hearings*, Brownridge testimony, 162, and Grundy testimony, 144; White, *The Automobile Industry since 1945*, 177–88, for a thorough telling of the small car story in the U.S. industry.
42. Canada, Royal Commission on the Automotive Industry, *Hearings*, Walker testimony, 15.
43. Carl E. Beigie, *The Canada–U.S. Automotive Agreement: An Evaluation* (Washington: Canadian-American Committee, 1970), 16.
44. Beigie, *The Canada–U.S. Automotive Agreement*, 31, 36.
45. Ontario, *Submission of the Government of Ontario to the Royal Commission on the Automotive Industry* (Toronto, 1973), 34.
46. Canada, *Report of the Royal Commission on the Automotive Industry*, 28.
47. Ibid., 24–8.
48. GM Canada had proposed a scheme under which it would begin manufacturing automatic transmissions in Canada; Dimitry Anastakis, *Auto Pact: Creating a Borderless North American Auto Industry, 1960–1971* (Toronto: University of Toronto Press, 2005), 31–3.
49. Canada, Royal Commission on the Automotive Industry, *Hearings*, Walker testimony, 30, and others.
50. Anastakis, *Auto Pact*, 25–7, 36–7.
51. Canada, Royal Commission on the Automotive Industry, *Hearings*, Jansen testimony, 227.
52. Ibid., Rootes testimony, 208.
53. Canada, *Report of the Royal Commission on the Automotive Industry*, 68–9.
54. Simon Reisman, *The Canadian Automotive Industry's Performance and Proposals for Progress* (Ottawa, 1978), 20.
55. Canada, *Report of the Royal Commission on the Automotive Industry*, 67–73; Anastakis, *Auto Pact*, 30.
56. Beigie, *The Canada–U.S. Automotive Agreement*, 36–7; Reisman, *The Canadian Automotive Industry's Performance*, 20–3; Paul Wonnacott, *U.S. and Canadian Auto Policies in a Changing World Environment* (Toronto: Canadian-American Committee, 1987), 5; Anastakis, *Auto Pact*, 50–2.
57. Anastakis, *Auto Pact*, 61.
58. The many forces at work creating the Auto Pact are very well told and analyzed in Anastakis, *Auto Pact*.
59. Wonnacott, *U.S. and Canadian Auto Policies*, 6–12; Reisman, *The Canadian Automotive Industry's Performance*, 26–9; Beigie, *The Canada–U.S. Automotive Agreement*, 45–8.
60. Wonnacott, *U.S. and Canadian Auto Policies*, 11.
61. Robert Bothwell, *Canada and the United States: The Politics of Partnership* (Toronto: University of Toronto Press, 1992), 93.
62. Anastakis, *Auto Pact*, chapter 3.
63. The response of the producers to the Auto Pact is covered in several works, including Reisman, *The Canadian Automotive Industry's Performance*, and Beigie, *The Canada–U.S. Automotive Agreement*, 60–5 and data in Table 10; the most recent, and most comprehensive, is Anastakis, *Auto Pact*, though his study does not include original econometrics.
64. Some production details are given in Mays, *Rambler Canada.*
65. McCall, "The Chrysler Canada Ltd. Story," 7–12.
66. Statistics in this paragraph from Anastakis, *Auto Pact*, Appendix C.
67. Beigie, *The Canada–U.S. Automotive Agreement*, 74.
68. K. J. Rea, *The Prosperous Years: The Economic History of Ontario, 1939–1975* (Toronto: University of Toronto Press, 1985), 206, citing published research.
69. Wonnacott, *U.S. and Canadian Auto Policies*, 8, Table 1.
70. Calculated from Canada, DBS, *Motor Vehicle Parts and Accessories Manufacturers*, 1919–1984 (DBS

Catalogue 42-209), and Canada, DBS, *Motor Vehicle Manufacturers*, various years.

71. Reisman, *The Canadian Automotive Industry's Performance*, 232.
72. Ontario, Select Committee for the Study on Economic Nationalism, *Foreign Ownership and the Auto Parts Industry* (Toronto, 1973), 37.
73. Dimitry Anastakis, "Building a New 'Nova Scotia': State Intervention, the Auto Industry, and the Case of Volvo in Halifax, 1963–1998," *Acadiensis* 34 (Autumn 2004): 3–30.
74. Durnford and Baechler, *Cars of Canada*, 276; Canada, DBS, *Motor Vehicle Manufacturers*, list of manufacturers, 1965.
75. Zavitz, "Studebaker of Canada," 36.
76. Canada, DBS, *New Motor Vehicle Sales*, various years; B.C. was by far the highest, with imports running at over 40 percent of sales through the early 1970s.
77. White, *The Automobile Industry since 1945*, 187–8.
78. Canada, DBS, *New Motor Vehicle Sales*.
79. JAMA (Japan Automobile Manufacturers Association of Canada), "A Short History of the Japanese Automotive Industry in Canada" (June 2005).
80. Durnford and Baechler, *Cars of Canada*, 335.
81. H. A. Fredericks with Allan Chambers, *Bricklin* (Fredericton, N.B.: Brunswick Press, 1977).

Epilogue. The Industry since 1980

The central theme in the Canadian automobile industry since 1980 is undoubtedly the steady growth in the popularity of Japanese-made vehicles, a development that owes much to the sudden surge in international oil prices that began in 1979. As had been the case with the earlier "oil shock," higher gasoline prices prompted Canadians to change their automobile habits in two important ways — they bought fewer vehicles, and those who did buy shifted toward smaller vehicles with more fuel-efficient engines. Due to the latter, the share of the Canadian market supplied by Japanese imports jumped from 6.6 percent in 1979, the lowest it had been in a decade, to 22.9 percent in 1982.[1] This rather startling turn of events was compounded by the fact that Canada, like most of North America, was experiencing a more general recession in the early 1980s, which was also related to the 1979 oil crisis. Unemployment rose and consumer demand fell correspondingly, further weakening the market for automobiles. Taken altogether, these economic circumstances brought on a steep decline in the industry. From 1979 to 1982, Canadian motor vehicle production declined by some 25 percent.[2]

The Canadian industry had suddenly fallen into crisis. Having just been described in 1978 as "price competitive, profitable, operating near capacity and growing," it was by 1982 both "in decline" and "under siege."[3] The federal government responded by appointing a task force to study the problem, including representation from several manufacturers and the United Auto Workers. By 1983 it had come up with "An Automotive Strategy for Canada"[4] that called for, among other things, new policies to require motor vehicle manufacturers selling significant numbers of vehicles in Canada to invest in Canadian production facilities. This, of course, is what the tariff had done in the days before the Auto Pact, without saying or requiring it so explicitly. The Japanese manufacturers responded as the Canadian government and industry had hoped and through the second half of the decade invested billions of dollars to build Canadian production facilities, all in south-central Ontario — Honda at Alliston in 1986, Toyota at Cambridge in 1988, and Suzuki (in partnership with General Motors) at Ingersoll in 1989. The result was that although the Japanese manufacturers' Canadian market share continued to rise throughout the 1990s, up to 26.8 percent in 1990, their products were beginning to have some Canadian value in them, in the form of both parts and labour.[5]

While these "transplants," as they came to be known, were being planned and built in the 1980s, another important development was underway — the move toward free trade between Canada and the United States, which culminated in the Canada–U.S. Free Trade Agreement (FTA) of 1989. It had been clear all along that one of the reasons the Japanese were willing to invest in Canada was that this gave them an entry to the U.S. market. In fact, although the Japanese makers were not going to be permitted to operate under the terms of the Auto Pact, the Canadian government encouraged them to make use of various Canadian duty remissions programs in dealing with the United States.[6] Once the Japanese began to do so, however, the U.S. industry strongly objected, with the result that such programs were kept out of the FTA, which was being negotiated at this very time. Once the FTA was in place, only the original signatories of the Auto Pact, which survived the FTA, could make use of preferential trade arrangements with the United States. This in turn displeased the Japanese, who felt it was unfair, in fact illegal, for a select group of manufacturers to be entitled to special trade advantages. They maintained that the FTA should have done away with such things.[7]

Even without the advantageous terms of the Auto Pact, however, these Japanese "transplants" were still able to outcompete North American manufacturers. A combination of a more efficient system and a younger, mostly non-unionized workforce, who worked for lower wages and were years from drawing pensions, put the Japanese in an advantageous position in North America, and they maintained their substantial market share throughout the 1980s and 1990s.[8]

That the Japanese companies were now making a proportion of their vehicles in North America was advantageous to the workers employed at the Japanese "transplants," as well as to many local suppliers and service contractors. But to the North American Big Three, it did not much matter whether Hondas purchased in North America had been made in Japan, Ohio, or Ontario. Those Hondas still represented North American cars not bought. And as Japanese market share rose through the 1980s and the Big Three's share correspondingly declined — down to maybe 60 percent by the early 1990s (depending on what one counts)[9] — the old companies had no choice but to shut down plants and consolidate production at fewer, more efficient facilities. Hundreds of

thousands of U.S. workers lost their livelihoods, and the U.S. auto industry entered a great crisis from which it has not yet emerged.

Interestingly, however, most of the plants the Big Three chose to shut down were not in Canada. Although the Canadian industry was by this time fully integrated into a continental system, Canada remained a sovereign state, and a combination of its low dollar and its numerous government-funded social programs (particularly health care, which U.S. employers often had to cover for their employees) meant that it cost manufacturers less to make cars in Canada than in the United States. So the Canadian industry was largely spared.[10] The Japanese-Canadian industry, meanwhile, continued to grow, as the Japanese automakers not only expanded assembly operation but began investing in Canadian parts production to ensure their Canadian content input remained high enough. Then a new phenomenon appeared. Starting in 1991, Japanese automakers in Canada began to make more vehicles than they sold in Canada and to export a significant share of their Canadian production to the United States.[11] The Japanese makers were also finding Canada a good place to make cars — better, in fact, than the United States — and the Japanese use of Canadian production facilities to serve the U.S. market was becoming a central part of the Canadian auto industry.

Through the 1990s and beyond, Canada's share of North American automobile production has increased. Mexico was incorporated into a North American free-trade agreement in 1992 and began to have an impact on the continental industry, but still Canada's share of production continued to climb. The Auto Pact was finally abrogated in 2001, a result of a World Trade Organization ruling that deemed it unfair, but this did not harm Canadian production either (though it did contribute to a further erosion of the Big Three's share, and thus to ongoing production cutbacks and plant closures, some of them in Canada). Essentially, a trend begun with the Auto Pact has yet to end. In 1965 Canada's automotive trade balance with all other countries, including the value of both vehicles and parts, was minus $789 million; this was the alarming deficit that had prompted the Bladen Commission and ultimately the Auto Pact. In 1999, that trade balance was plus $18.6 billion.[12] Canada, on account of a host of cultural values and social and economic policies, remains a good place for big industries to make their cars.

Notes

1. JAMA (Japan Automobile Manufacturers Association of Canada), "A Short History of the Japanese Automotive Industry in Canada" (June 2005), Sales Table, 17.
2. From 1.63 million to 1.24 million — Dimitry Anastakis, *Auto Pact: Creating a Borderless North American Auto Industry, 1960*–1971 (Toronto: University of Toronto Press, 2005), Table C1, 196.
3. All quotations taken from Ross Perry, *The Future of Canada's Auto Industry: The Big Three and the Japanese Challenge* (Ottawa: Canadian Institute for Public Policy, 1982), various front matter; the 1978 quotation Perry takes from Simon Reisman, *The Canadian Automotive Industry's Performance and Proposals for Progress* (Ottawa, 1978).
4. Canada, Federal Task Force on the Canadian Motor Vehicle and Automotive Parts Industries, "An Automotive Strategy for Canada" (Ottawa: Minister of Supply and Services Canada, 1983).
5. JAMA, "A Short History," Sales Table, 17; though the value added was never high, as most high-value parts were still imported — Maureen Appel Molot, introduction to *Driving Continentally: National Policies and the North American Auto Industry*, ed. Maureen Appel Molot (Ottawa: Carleton University Press, 1993), 5–7.
6. John Holmes, "From Three Industries to One: Towards an Integrated North American Automobile Industry," in *Driving Continentally: National Policies and the North American Auto Industry*, ed. Maureen Appel Molot (Ottawa: Carleton University Press, 1993), 29–30.
7. JAMA, "A Short History," reflections of Susumu Yanagisawa, 31–2.
8. Holmes, "From Three Industries to One," 30–1.
9. Molot, introduction to *Driving Continentally*, 1; other data suggest the number might be higher.
10. Holmes, "From Three Industries to One," 33–4.
11. JAMA Canada, "Production in Canada vs. Total Sales," posted on the website of the Japan Automobile Manufacturers Association of Canada, www.jama.ca.
12. Anastakis, *Auto Pact*, Table C3, 196.

Conclusion

Canadians have been making cars since 1904 — even earlier if one includes the enthusiasms of the early tinkerers. What are the main themes, the key messages that might be drawn from the history of their manufacture?

The first point that needs to be made is just how important this industry has been through the history of twentieth-century Canada. Though no serious historian would ever entirely overlook the automobile industry, images from the country's industrial past are more likely to be of railways, mines, or forests than of anything as gritty and urban — and close to the U.S. border — as metal grinding in an automobile factory. This study has made no effort to quantify the economic significance of the industry, but the overall picture leaves no doubt of its importance. From the early years of the century right through to the present day, the livelihoods of a large number of Canadians — workers and managers, young and old — have been connected to making cars.

Next is to note how closely related the Canadian automobile industry has always been to the U.S. industry. Two quite distinct points need to be drawn here, however. First, it is clear that Canadians were completely dependent on the United States for the essential technology of the early motor car. In all but a few anomalous and unsuccessful cases, Canada's early car makers used U.S.-built engines and drive trains — the technical heart of the motor vehicle — and they did so without hesitation or explanation, as if anyone who knew anything about automobiles knew it had to be done this way. The only car for which this was not so is the Russell. The Russell Motor Car Company apparently devised and made its own engines and drive trains — though even this may be questioned — but very quickly learned that it did not have the technical wherewithal to do so successfully, and turned instead to engines made by more practised makers. There is no need to explain why things occurred as they did, why automobile technology never developed successfully in Ontario, any more than there is a need to explain why Hollywood movies did not develop in Vancouver. The circumstances in cities of the American Great Lakes states were unusual and what came to life there quite unique. There are many more places where successful automobile production did not develop than places where it did.

At the same time, the independence of Canada's first automobile entrepreneurs needs to be appreciated. From the thriving business world of central and southwestern Ontario emerged several remarkable entrepreneurs — McGregor, Russell, Tudhope, McLaughlin — who saw the opportunities afforded by the motor vehicle and, though they themselves might not have known much about making or running the things, set up businesses that imported, finished, and sold them to Canadians. Some were successful, and some were not, but all did what they did on their own initiative. The Canadian automobile industry, in other words, was started by Canadian entrepreneurs. They would not be the last Canadians to go into business importing and selling a product devised and made popular in the United States. Indeed, this is an essentially Canadian thing to do.

The final point to highlight is the extent to which the Canadian automobile industry has been, throughout its history, a very close partner of government. The list is long, and substantial: municipal bonuses to local businessmen (only a few are on record; surely there were more), both the domestic and the imperial tariff, grants that boosted wartime (and thus post-war) production, numerous public inquiries and commissions, the Auto Pact, public health care and employment insurance, and, most recently, provincial government bonuses to foreign car makers building Canadian plants. These government initiatives have not only affected the Canadian automobile industry, they have shaped or perhaps even created it. This study did not explicitly compare the Canadian and U.S. automotive industries, but surely this is a case where the Canadian experience has been quite different from that in the United States.

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