

# DRIVE ON!

A SOCIAL HISTORY OF  
THE MOTOR CAR

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**Granta Books**  
London

Granta Publications, 2/3 Hanover Yard, Noel Road, London, N1 8BE

First Published in Great Britain by Palawan Press Ltd 2002

This edition published by Granta Books 2003

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A CIP catalogue record for this book is available from the British Library.

1 3 5 7 9 10 8 6 4 2

ISBN 1 86207 628 6

Typeset by M Rules

Printed and bound in Great Britain by St. Edmundsbury Press, Bury St. Edmunds, Suffolk.

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## A PREAMBLE

Great abilities are not required for an Historian . . .  
Imagination is not required in any high degree.

SAMUEL JOHNSON (via Boswell), 1763

HISTORY IS INCOMPLETE. Nobody knows all of it; no one, if he did, could ever tell all of it. No greater number, however they tried, could ever agree on all its content.

So this little book is just a taster. There is more, much more, vast and immeasurable, that might justifiably be incorporated in it. The social history of the motor car is infinite in its ramifications – which is to say, again, that none could write it all nor read it. Had this little book only succumbed to its author's temptation to include a chapter on roads, for example, it would have to be twice its present size, for the subject of roads is worth a book in itself. Yet, as every driver knows too well who has encountered the sheep, the pedestrian, the truck, the cyclist or the occasional level crossing for frogs or locomotives, the road and the car are not co-extensive.

The car, being a partial expression of the individual who gains freedom in it, does not share limits with anything or anybody. It does, however, suffer limits, imposed by its own deficiencies or others' wills, and that is part of its social history no less than of its technical background.

The study of what the car has done to society has attracted some interest among a few serious writers, and among an unholy rabble of activists; but they have invariably taken a view that has been either geographically too narrow or historically too short. The study of what society has done to the car has been virtually overlooked, but it is just as important an aspect of the story. The unfolding and interaction of political, scientific, technological, migrational, agricultural and domestic histories will

be shown to have affected the course taken by the car in its development, to have distracted and delayed and debased it. It will be seen that it is no fault of the car that it has failed to keep its initial promise, nor that it has been accused of evils beyond all reasonable guilt.

To hint at the limitations suffered by the motor car must lead at least to some veiled criticism of the obsessive enthusiasm often devoted to the motor car. There are those to whom the machine has become a god, prompting a reminder that 'the idols of the nations are silver and gold, the work of men's hands . . . Those who trust in them will become like them' – that is to say, futile. However, if this book should enlarge the interest of the motoring enthusiast so as to embrace or at least explore such matters as architecture and chemistry, mathematics and poetry, physics and fashion and all the other subjects that it will show to be relevant, that will be no bad thing. In the study of the car, as in life itself, though nothing may matter all that much, yet everything matters.

To write a chronological account of it all would result in something impossibly complicated, cross-referential, and decidedly heavy going. Instead, a chronological table – relating motoring developments to what happened contemporaneously in politics, art, economics and the standard of living – is offered as an appendix, while the text of the book is composed in a series of parallel sections each of which explores a certain theme.

It is freely admitted that there are repetitions in this book. They are not here merely to demonstrate the theory so well expressed, in *The Hunting of the Snark*, that 'what I tell you three times is true'. In fact the principle of threefold iteration is soundly established as part of the schoolteachers' art, pithily expressed by one practitioner in the formula 'First you tell them you are going to tell them, then you tell them, then you tell them that you have told them'. However, the reiterations in my text are sometimes merely duple, sometimes manifold. In any case I consider them justified by the intricacy of the relationship between the car and many superficially unrelated aspects of the human life through which it passes: something relevant to the subject matter of one chapter may be equally relevant to that of another, and is not to be denied its additional place.

For example, Napoleon's journey from Vilna to Paris in 1812 crops up in more places than one. So it should, for it is relevant in all those places. It may occasion some surprise that a history of motoring should delve so far back, but it could be argued that it should start even earlier. We have to consider the ground upon which the motor car first tentatively set its wheels, the civilisation that laboured to give it life. I find good grounds for arguing that modern times began in 1800, the year in which Volta

created his electrical pile, in which the patent protection enjoyed by Boulton & Watt for their primitive steam engine ended, and in which the Napoleonic Wars began. If that be the beginning of modern times, it must also be the beginning of the motor car, the time of fertilisation if not of parturition.

And yet, can we not see the potential of it even earlier? Is the revolution it brought about not discernible in the revolutions that took place back in the 18th century? I cannot trace the one without noting the lessons of the others; and I say so – more than once.

There really is nothing wrong in repetition. Truth, opinion, even a mere felicity of expression, must bear more than one iteration. The serious student of Setright's works over the past forty years may note the occasional fragment of earlier output in this book, though now amplified or qualified by additional material. This is entirely proper, as may be seen by analogy to music, where composers from Bach to Shostakovich (with particularly strong supporting argument by Prokofiev) made repeated use of what they had already written. If what I have said before seems to be right still, then where it is relevant I must say it again.

So I say again that this book is incomplete. It would have to be true of the half-dozen most recent years, which as always cannot be seen in perspective until they are more distant. It is true also, and especially, of one aspect of motoring history that this book will not address in detail. The chapter headed 'Sport' is not a history of motoring sport at all, but an account of the influences that beset it. Of histories recounting in stupefying and technically quantified (though rarely technically qualified) detail the events of more than a hundred years of contention, confrontation, contumacy and controversy masquerading as an ennobling activity, we have had more than enough, in books by Setright and by countless others. We need no more. Perhaps the relevant chapter in this book will show why we need no more.

What we do need is a book to show us – especially those of us too young to remember – what good and evil things have been done to, with, for, and by, the motor car. I would like this to be a book that the enthusiast for motoring can read with pleasure, the critic with growing understanding, the historian with some surprise, and the scholar with satisfaction. It should also occasion, amongst such diverse readers as industrialists, accountants, politicians, advertising agents, media people, civil servants, and sporting promoters, not a little embarrassment, wonder, or shame.

See how it strikes you.

an range, it became in the next few years the most compellingly fashionable colour – first for sporting cars, eventually for everything – ever to take over the motoring scene, in varying interpretations from Positano Yellow to that sunburnt orange which distinguishes western Texas.

The Miura had a further and more lasting influence on fashion. Cleverly offsetting that extraordinarily positive colour was the ultimate in negativity, matt black: it was applied to everything – window surrounds and wiper arms, mirrors and grilles, louvres and lamp-rims – that might conventionally be polished or plated. Again the industry at large was keen to copy: it took time to find black coatings that would stay matt and not chip or flake off, but in the end it would be a useful production economy. The public was not at all indignant about the cheapening of their cars, where there had once been costly chromium or stainless steel, because the public had been told that non-reflective black was safer in that it did not cause dazzle.

And so it went on, the eternally double-crossing pendulum of perfidious fashion swinging with predictable duplicity. After the all-black car came a passion for cars that were all white. More recently, a sudden taste for pale wood floors (there had to come a time when wall-to-wall carpeting would be deemed dowdy) and pale metal furniture and fittings, in domestic interiors and in restaurants and office buildings, was carried over into the interiors of cars for the surfacing of controls, handles, fascia panels and the like, while their exterior paintwork was chosen from a bewildering variety of metallic silvers all offering the pretence of aluminium body panelling. There was plenty of fake carbon-fibre in the interior trim, too, as blatantly unconvincing as the fake woodwork that had been happily accepted by the multitudes for half a century.

Artifice has become entirely acceptable in that time, but of art there has been precious little. What we are left with is fashion; but, as Coco Chanel (who must be recognised as an authority) told us years ago, *fashion is what goes out of fashion.*

## TIMESCALE

*WSR = world speed record; LSR = land speed record; italics in motoring column cites a production car as distinct from a prototype or a racer*

POLITICS AND ECONOMICS	LIFE AND ART	YEAR	MOTORING
Napoleonic wars begin	Bolton & Watt steam-engine patents expire Volta: electric pile	1800	
		1801	Trevithick steam carriage
	First steam tug ( <i>Charlotte Dundas</i> ) at work on R Clyde	1802	
	Eli Whitney (USA) proves interchangeability of machined parts Trevithick steam locomotive	1804	
	Maudslayi: precision screw-cutting lathe	1810	
Napoleon retreats from Moscow; journeys Vilna-Paris		1812	
Napoleonic wars end	Beethoven: symphonies nos. 7 & 8	1815	
		1824	Brown: car with coal-gas engine
	Goodyear et al.: vulcanisation of rubber Nasmyth: steam hammer	1839	
		1846	Thomson: pneumatic tyre
revolutions in many European countries		1848	
	Os: passenger lift allows tall buildings	1857	
American Civil War		1861	
		1862	Lenoir: car with coal-gas engine
American Civil War ends; industrial development accelerates		1865	
	Nobel: dynamite	1866	
Japan: abolition of feudal system starts industrial development		1868	
		1870	Markus: car with petrol engine
		1877	Seiden patent
		1886	Hammel <i>Benz</i> Daimler motorcycle
		1887	<i>Daimler</i>
	London: first electric railway	1890	
Sino-Japanese War Dreyfus trial Czar Nicholas succeeds to Russian throne	Aubrey Beardsley: <i>The Yellow Book</i>	1894	Paris-Rouen trial
Jameson Raid	Trial of Oscar Wilde	1895	<i>Duryea</i>

POLITICS AND ECONOMICS	LIFE AND ART	YEAR	MOTORING
Cubans revolt against Spain	Cézanne: first show		Michelin: first pneumatic car tyres <i>Lanchester</i>
Klondike gold rush	Alfred Jarry: <i>Ubu Roi</i>	1896	<i>système Panhard</i>
Fashoda crisis	Queen Victoria's diamond jubilee	1897	Nice speed week
Boer War	Ebenezer Howard: <i>Garden Cities</i>	1898	<i>Fenault</i> shaft drive
	Havelock Ellis: <i>The Psychology of Sex</i>	1899	100km/h exceeded by Jenatton electric record-breaker
Boxer Rebellion	Zeppelin no.1 flies	1900	
	Max Planck: quantum theory		
	Freud: <i>The Interpretation of Dreams</i>	1901	
British create first concentration camps in South Africa	Queen Victoria dies; Edward VII succeeds		<i>Mercedes</i> <i>Olaśmobiu</i> curved dash
	Marconi wireless signal		
	England-Newfoundland		
	Picasso: first exhibition	1907	
Anglo-Japanese Treaty		1907	
Boer War ends			
Lenin founds Bolshevik Party in London	Mrs Pankhurst starts Suffragettes	1908	
	Wright Brothers: powered manned controlled flight	1904	
<i>Enferme Cordiaú</i>		1904	
Russo-Japanese War			
Foundation of Sinn Féin	Einstein: special theory of relativity	1905	first motor buses in London
	Richard Strauss: <i>Salome</i>		
	first <i>Dreadnought</i> launched	1906	<i>Rolls-Royce 40/50</i>
	San Francisco earthquake		Grand Prix racing initiated
Anglo-Russian convention	Ziegfeld Follies	1907	Brooklands track
financial crisis in USA, Japan, Germany, Italy			<i>Cadillac</i> standardisation test
	Hoover vacuum cleaner	1908	<i>Ford model T</i>
	Bleriot flies English Channel	1909	Indianapolis track
	Diaghilev: <i>Ballets Russes</i>		
	Pathé produces first newsreel		
	Marinetti: Futurist Manifesto		
Union of South Africa	Zeppelin: first passenger air service	1910	Monte Carlo Rally
Mexican Revolution	B Russell & A N Whitehead: <i>Principia Mathematica</i>		
Agadir crisis	Amundsen at South Pole	1911	Indianapolis 500
Italy invades Libya	Libya: first use of aircraft in war		
Balkan crisis	<i>Titanic</i> sinks; iceberg survives	1912	<i>Cadillac</i> electric starter <i>Peugeot Bébé</i>
	Ravel: <i>Daphnis et Chloé</i>		

POLITICS AND ECONOMICS	LIFE AND ART	YEAR	MOTORING
Wilson becomes president of USA	Niels Bohr	1912	Ford introduces line assembly Pittsburgh: first drive-in filling station
Income tax legalised in USA	Stravinsky: <i>The Fire of Spring</i>	1914	<i>Cadillac V8</i>
Panama Canal opens			<i>Dozer</i> pressed steel body
The Great War	D W Griffith: <i>The Birth of a Nation</i>	1915	
Italy joins Allies in Great War	Einstein: general theory of relativity	1916	Woodrow Wilson provides Federal funds for roadbuilding <i>Hudson Super Six</i> <i>Packard Twin Six</i>
USA enters Great War	Diaghilev/Cocteau/Satie; Messiaen/Picasso: <i>Parade</i>	1917	Ford opens River Rouge factory
Russian Revolution			
Great War ends	world-wide influenza epidemic (~1918)	1918	
League of Nations	USA exports jazz and prohibits liquor	1919	<i>Citroën Model A</i> <i>Hispano-Suiza H6E</i> <i>Fiat 501</i>
	Gropius: Bauhaus established		
Palestine mandate	Le Corbusier: <i>Villa Savoye</i>	1920	<i>Duesenberg Model A</i>
world-wide economic crisis	acute unemployment	1921	<i>Rumpler Tropfenwagen</i>
new economic policy in USSR	Berg: <i>Wozzack</i>		
Mussolini assumes power in Italy	Joyce: <i>Ulysses</i>	1922	Fiat sets dominant new engineering fashions in GP cars <i>Austin Seven</i>
runaway inflation in Germany	Walton/Sirwell: <i>Fusade</i>	1923	Fiat introduces supercharger in GP cars <i>Tatra 11</i>
	Gershwin: <i>Rhapsody in Blue</i>	1924	<i>Lancia Lambda</i> <i>Chrysler</i> <i>Delage GL</i> Milan-Como motorway
	Barnack/Leitz: Leica 35mm camera	1925	
general strike in UK	Lawrence: <i>Seven Pillars of Wisdom</i>	1926	'Cannonball' Baker drives truck across USA in six days
	Goddard: liquid-fuel rocket		
Stalin assumes supreme power in USSR	first 'talking' film	1927	LSR: 203 mph (Segrave)
	Lindbergh: first solo flight across Atlantic		<i>Bentley</i> scores first of four successive wins at Le Mans

POLITICS AND ECONOMICS	LIFE AND ART	YEAR	MOTORING
Chiang Kai-shek president in China	Heisenberg: uncertainty principle Disney: first Mickey Mouse cartoon Brecht/Weill: <i>Du dreisprochener Oper</i>	1928	Mille Miglia <i>Cadillac</i> : synchromesh car radio <i>Duesenberg Model J</i> Miller scores first of nine successive wins in Indianapolis 500
Wall Street Crash	Hemingway: <i>A Farewell to Arms</i>	1929	USA builds record 4.5 million cars Motorola car radio <i>Chevrolet International Six</i>
world-wide economic disaster	Buñuel/Dali: <i>L'Age d'Or</i> Marlene Dietrich: <i>The Blue Angel</i>	1930	<i>Daimler</i> : 'fluid flywheel' with preselector gearbox Alfa Romeo scores first of six successive wins in Targa Florio <i>Cadillac V16</i>
Japan invades Manchuria	mass unemployment, severe inflation	1931	USA builds 50-millionth car <i>DKW</i> front-wheel drive
Spain becomes a republic	WSR: 407mph (Stainforth, Supermarine S6B)		LSR: 254mph (Campbell) <i>Ford V8</i>
Germany relieved of reparation payments	Huxley: <i>Brave New World</i> Walton: <i>Belshazzar's Feast</i>	1932	drive-in cinema, New Jersey Rolls-Royce produces new Bentley
FD Roosevelt becomes US president, launches New Deal	end of Prohibition in USA	1933	Auto Union & Mercedes-Benz begin Nazi domination of GsP <i>Citroën 'traction'</i> <i>Tatra 77</i> <i>Bugatti T57</i>
Hitler assumes power in Germany	first German concentration camp, Dachau	1934	first Autobahn, Frankfurt-Darmstadt first parking meter, Oklahoma first pedestrian-priority crossings, London LSR: 301mph (Campbell) on salt lake in Utah <i>Fiat 1500</i> <i>Cord 810</i>
Italy invades Abyssinia	Tizard/Watson Watt: radar for Britain	1935	
Britain begins rearmament	Gershwin: <i>Porgy and Bess</i>		

POLITICS AND ECONOMICS	LIFE AND ART	YEAR	MOTORING
Spanish Civil War	J.M. Keynes: <i>General Theory of Employment, Interest &amp; Money</i> Marconi/EMI: regular high-definition television, Britain	1936	<i>BMW 328</i> <i>Peugeot 402</i>
Japan invades China		1937	<i>Oldsmobile</i> : automatic transmission <i>Fiat 508C Balilla 1100</i> <i>Lancia Aprilia</i>
Munich conference dismembers Czechoslovakia Anschluss: Germany annexes Austria		1938	<i>Chrysler</i> : fluid drive Citroën 2CV prototype Caracciola (Mercedes-Benz) reaches 268mph on Autobahn
Second World War begins	Joyce: <i>Finnegan's Wake</i> WSR: 469mph (Wendel Messerschmitt)	1939	VW
Italy enters war	Disney: <i>Fantasia</i> plutonium produced penicillin (discovered 1928) made effective	1940	sealed-beam headlights, USA Pennsylvania Turnpike <i>Willys Jeep</i>
war includes USSR, Japan and USA		1941	<i>Packard</i> : air conditioning
	Germany: V2 rocket USA: first electronic computer	1944	
end of war	atom bomb Orwell: <i>Animal Farm</i> Biró: ball-point pen	1945	
		1946	<i>Panhard Dyna</i> <i>Renault 4CV</i>
independence of India Marshall Plan	Yeager flies faster than sound Dior: New Look	1947	<i>Bristol 400</i> <i>Ferrari 125/166</i> <i>Cisitalia</i> <i>Standard Vanguard</i> <i>Kaiser</i> <i>Peugeot 203</i> catseyes on British roads
Berlin blockade State of Israel created prosperity in USA	transistor invented Henry Moore austerity in Europe	1948	<i>Daimler</i> : electric windows Goodrich: tubeless tyres <i>Morris Minor</i> <i>Studebaker Champion</i> (styled by Loewy)
NATO China becomes communist People's Republic	Orwell: <i>1984</i>	1949	<i>Jaguar XK120</i> VW <i>Citroën 2CV</i>

POLITICS AND ECONOMICS	LIFE AND ART	YEAR	MOTORING
Korean war (-1953) Malayan puerilia war	Jackson Pollock USA: McCarthy inquisitions (-1954 credit card (Diners' Club) London: Festival of Britain, nb Royal Festival Hall (Matthew)	1950	<i>Forscha 356</i> disk brakes on V16 BRM GF car
Egypt: nationalist revolution	DH Comet in service  Beckett: <i>Waiting for Godot</i> hydrogen bomb	1952	<i>Chrysler Hemi</i> <i>Ford Consul/Zephyr</i> McPherson strut front suspension <i>Goliath</i> , fuel injection <i>Pegasus</i> experimental disk-braked Jaguar wins 12-hour race at Reims <i>Mercedes-Benz 300SL</i> rise of Japanese motorcycles
USSR: Khrushchev takes power on death of Stalin	Stockhausen: <i>Kontrapunkte no 1</i>  Francoise Sagan: <i>Bonjour tristesse</i> Nabokov: <i>Lolita</i>	1953	<i>Chevrolet Corvette</i> : plastics body Michelin X steel-belted radial-ply tyre
	mass vaccination against polio Sony transistor radio	1955	Le Mans disaster <i>Citroën DS</i> <i>Fiat 600</i>
Suez crisis on nationalisation of canal	Bergman: <i>The Seventh Seal</i>	1956	European fuel shortage prompts 'bubble-cars': <i>Isotta, Messerschmitt &amp;c</i>
Hungary: USSR quells rebellion	Calder Hall: nuclear power station WSR: 1132mph (Twiss, Fairey Delta 2)		
European Common Market	Sputnik 1  Kerouac: <i>On the Road</i> rock and roll	1957	Disaster in last Mille Miglia Pirelli <i>Cintura</i> fabric carcass radial-ply tyre
France: de Gaulle president	Galbraith: <i>The Affluent Society</i>  Lunik 2 first moon-landing rocket	1958	DAF with Variomatic transmission <i>Ford Edsel</i>
Cuba: Castro revolution succeeds		1959	<i>Mini</i> <i>Lotus type 14 Elite</i> Cooper begins racing domination of rear- engine cars
European Free Trade Organisation	first working model of laser Niemeyer: Brasilia Fellini: <i>La Dolce Vita</i>	1960	cling-rubber tyres Britain: M1 motorway <i>Chevrolet Corvair</i> <i>Ford Anglia 105E</i>

POLITICS AND ECONOMICS	LIFE AND ART	YEAR	MOTORING
Berlin wall USA: Kennedy president	Gagarin first man in space Heiler: <i>Catch-22</i>	1961	<i>Jaguar E-type</i> <i>Buick Wildcat</i> Honda begins car manufacture Ferguson 4-wheel-drive <i>BMW Neue Klasse 1500</i> <i>Ford Corvair</i>
Cuban rocket crisis	Coventry Cathedral contraceptive pill on sale	1962	<i>Mini Cooper S</i> <i>Rover 2000</i> <i>Ford Corvair</i>
French veto British EEC entry	Beuismann  the mini-sari	1963	<i>Mini</i> (Hopkirk) wins Monte Carlo Rally NSU 'Wankel' <i>Forsche 911</i> <i>Lamborghini 350</i> LSR: 403mph (D Campbell)
China: cultural revolution, heavy US bombing of North Vietnam	natural gas in North Sea  McLuhan: <i>Understanding Media</i>	1965	<i>Ford Mustang</i> <i>Rolls-Royce Silver Shadow</i> : low-profile tyres USA: Air Pollution Act
China: Quotations of Chairman Mao	Hovercraft in service	1966	Chaparral: wing for downforce <i>Fiat 124</i> <i>Lamborghini Miura</i> Nader: <i>Unsafe at Any Speed</i>
USA: Black Panthers organised			NSU 'Ro80' <i>Fiat 125</i> : twin overhead camshaft engine for ordinary domestic car <i>Ferrari Dino</i>
Israel: Six Days' War US: race riots	flower power Barnard: first heart transplant operation	1967	<i>Jensen FF</i> <i>Fiat 128</i> <i>Datsun 240Z</i> <i>Ford Capri</i>
USSR invades Czechoslovakia Ulster: riots	Kubrick: 2001: <i>A Space Odyssey</i> Moon landing by US astronauts Dennis Hopper: <i>Easy Rider</i>	1968	
USA invades Cambodia	oil in North Sea Women's Liberation Movement Solzhenitsyn awarded Nobel prize for literature	1969	<i>Citroën SM</i> <i>Citroën GS</i> <i>Range Rover</i> US: Clean Air Act LSR: 622mph (Gabelich) using jet propulsion
Britain joins EEC	Seiko: quartz watch	1972	<i>Audi 80</i> <i>Fiat X119</i> <i>Honda Civic</i>

TIMESCALE

POLITICS AND ECONOMICS	LIFE AND ART	YEAR	MOTERING
Israel: Yom Kippur War	extensive famine	1973	Arab oil embargo provides excuse for general speed limits
Vietnam War ends	Mike Oldfield: <i>Tubular Bells</i>	1974	Citroën CX
widespread inflation		1975	Porsche Turbo
China: death of Mao tse-tung	world population reaches 4000 million	1976	
	first personal computer (Apple)		
	Paris: Centre Pompidou	1977	Porsche 928
	Lucas: <i>Star Wars</i>		Pirelli P7 tyre
	first 'test-tube baby' born	1978	Bosch anti-lock brakes
Israel and Egypt sign peace treaty	USA: nuclear accident at Three Mile Island	1979	Audi Quattro first F1 win by turbocharged car (Renault)
Iran: revolution establishes Islamic rule			
	space shuttle begins operation	1981	
	IBM personal computer		
USSR in crisis of direction as Brezhnev dies		1982	Chevrolet Blazer
Falklands war			
USA: economic revival	Internet opens	1983	Citroën BX Mercedes-Benz 190 Fiat Uno Honda Prelude Toyota Camry
	Jeffreys (UK): DNA fingerprinting	1984	4wd becomes prominent in rallying Renault Espace
	Chernobyl nuclear accident	1986	anti-lock brakes extend downmarket
		1987	active 4-wheel steering in Honda Prelude
	Ishiguro: <i>The Remains of the Day</i>	1988	Lexus LS400
Glasnost in USSR: Berlin Wall breached	Switzerland: scientists begin work on WorldWide Web	1989	
		1990	Honda NSX Mitsubishi 3000GT Nissan Skyline GT-R
USSR dissolved		1991	Mercedes-Benz S-klasse
Gulf war			
'ethnic' wars	satellite navigation	1992	McLaren
	fissile increase in use of Internet and mobile telephones	1997	
		1999	Smart drivable fuel-cell prototypes
		2000	Honda Insight

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