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Human Security and the Challenge of Automobile and Road Traffic Safety: A Cultural Historical Perspective

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Abstract: *»Die UN-Agenda zur menschlichen Sicherheit und die Herausforderungen der Verkehrssicherheit aus kulturhistorischer Perspektive«*. The worldwide enhancement of road traffic safety is one aspect of the UN agenda on "human security". The article examines the history of road traffic safety and the development of automobile safety technologies since the mid twentieth century with a strong focus on West Germany. From a historical perspective there are two reasons why the UN agenda includes the enhancement of road traffic safety. Firstly the development of road traffic safety is a "success story" in industrialized countries even though there are still high death rates globally. Secondly, the enhancement of road safety is linked to advanced civil societies with all their stakeholders, and strengthening civil society is a key concern of the UN worldwide.

Beyond that, automobility is a symbol of modernity. Discourses about automobile safety inform us about the conceptions and regulation of individual freedom and security in different societies. Moreover, new safety technologies such as the safety belt modify the interactions between human beings and machines and thus the idea of freedom, autonomy and responsibility.

Keywords: automobility, road traffic safety; automobile safety; safety belt; individualization, autonomy; freedom.

With the rise of the concept of human security, terms such as national security, internal and domestic security, social and economic security were fundamentally expanded. This expansion of security as an important political term and concept integrates new societal values into the political discourse about security.[1] The human security agenda focuses on the global as well as the regional and integrates the protection of individuals, groups, and people. The UN program strengthens individual rights, while the rights of groups, ethnicities or nations and in this respect the sovereignty of states have ostensibly taken a back seat. The report "Our Global Neighborhood" of the Commission on Global Governance claims the protection of individuals as its main concern, and therefore new threats such as crimes, social distress, diseases, poverty,

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[1] Daase 2009, 150.

unemployment, migration, drug traffic, and arms trade have entered the political agenda under one comprehensive heading.[2]

The "Commission on Human Security" concluded in its final report that "human security means protecting vital freedoms" and offers two strategies: "protecting people from critical and pervasive threats and situations", and "empowering" people's "strengths and aspirations".[3] Critics have argued that this

> new conceptualization of security […] is so vague that it verges on meaninglessness – and consequently offers little practical guidance to academics who might be interested in applying the concept, or to policymakers who must prioritize among competing policy goals.[4]

The rise of the concept of human security is often interpreted in the context of the rise of the discourse about individual human rights, which refers to an individualization, privatization and juridification of social relations in the second half of the twentieth century. The collective and individual rights to security were mentioned by the Charta of the United Nations of 1948 and became vital in the OSCE process. In the 1980s they were discussed in Germany by various political theorists such as Gerhard Robbers und Josef Isensee who demanded a fundamental "right to security", which was in a way related to the American concept of "freedom from fear", first mentioned in Theodor Roosevelt's Four Freedoms speech in 1941.[5] German critics swiftly responded, raising fears that such a fundamental right to security could include a considerable loss of freedom and constitutionality.[6]

As Zygmunt Bauman has remarked, the German terms *Sicherheit* and its antonym *Unsicherheit* in German are much more inclusive than "security" in English. *Sicherheit* manages to squeeze into a single term complex phenomena for which English has at least three terms: security, safety and certainty. Hence, the linguistic difference between safety from accidental events and security as a protection against intentional damages does not exist in the German language. Of course, in German there is "Sicherheit", "Gewissheit" (certainty) and "Schutz" (protection), but the term "Sicherheit" integrates all of them. For Bauman, all these ingredients of "Sicherheit" are prerequisites of self-confidence and self-reliance on which "the ability to think and act rationally depends".[7] With the overall inclusive concept of "human security", the differences between "security" and "safety" seem to dissolve in the English-speaking world, too.

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[2] Commission 1995, 145.
[3] Commission on Human Security 2003, 1.
[4] Paris 2001, 102.
[5] Isensee 1983; Robbers 1987.
[6] Denninger 1990. The relation between the "human security" concept and "human rights" is critically discussed by, among others, Oberleitner 2002.
[7] Bauman 1999, 17.

Empowering people to live a secure life implies, at first glance, the idea of strengthening individual and collective responsibilities while simultaneously restricting the sovereignty of the national states. The worldwide enhancement of road traffic safety is one component of the UN agenda on "human security". In the following article, I will reflect on the concept of "human security" by using the example of the development of automobile and road traffic safety since the mid-twentieth century with a strong focus on Germany. The discourse about automobile and road traffic safety is also linked to the interaction of stakeholders in advanced civil societies and developing countries (and the development of a "world society") and the interactions of human beings and safety technologies. Therefore, finally, I will discuss the conception of the individual contained in contemporary discourses about automobility and the enhancement of road traffic safety.

Road Traffic Security as World Politics

As mentioned above, the human security paradigm includes a lot of aspects of security and safety right up to engineering standards and road traffic safety.[8] The 1994 UN Human Development Report on "New Dimensions of Human Security" listed injuries from road accidents under the rubric "human distress in industrial countries", and even mentioned road traffic noise as an indicator for (in)security:

> In industrial countries, traffic accidents are the leading cause of death for people aged 15-30 – with some of the highest injury rates in Austria, Belgium, Canada and the United States. And in developing countries, traffic accidents account for at least 50% of total accidental deaths. The highway death toll in South Africa in 1993 was 10,000, three times the number of death from political violence.[9]

In 2004, the World Health Organization (WHO) focused on the theme of road safety in cooperation with the World Bank. In the same year the World Bank supported the Global Road Safety Forum (GRSF) in alliance with the foundation of the Fédération Internationale de l'Automobile (FIA) – an important stakeholder of the automobile industry. In its 2004 report, WHO drew attention to the fact that road traffic collisions kill more than 1.2 million people a year around the world. As main traffic risks WHO mentioned speeding, alcohol, non-use of helmets, seat belts and other restraints, poor road design, poor enforcement of road safety regulations, unsafe vehicle design, and poor emergency health services. Therefore, World Health Day 2004 tried to advocate a "systems approach" to road safety, which took into consideration the key as-

[8] Unesco 2008, 41.
[9] United Nations Development Programme 1994, 31-32.

pects of the system: the road user, the vehicle, and the infrastructure.[10] This relates to a classical concept developed in the 1950s and 1960s, that road traffic accidents could be minimized by enforcement, education, and engineering.

In general, since the 1960s and 1970s there has been a decrease in the numbers and rates of fatalities in "high-income" countries – a term defined by the World Bank.[11] At the same time, there has been a pronounced rise in numbers and rates in many so-called "low-income" and "middle-income" countries.[12] The case of reunification in Germany provides a good illustration of how economic factors can influence car crashes.[13] After the reunification many people suddenly experienced a surge in affluence and access to previously unavailable cars and in the two following years, the number of cars that were bought and the total distance travelled by cars increased by over 40 percent. At the same time, there was a four-fold increase in death rates for car occupants, with an eleven-fold increase for those aged 18-20. The overall death rate in road crashes in this period nearly doubled, from 4 per 100,000 in 1989 to 8 per 100,000 in 1999. On the basis of this experience, the *Deutsche Gesellschaft für Technische Zusammenarbeit* ("German Society for Technical Cooperation", GTZ) supported international cooperation among various stakeholders in road safety projects and initiatives and helped to shape national strategy development processes from 2004.[14]

The Myth of the Car and the German Discourse about Automobile Safety

Cars are more than a means of transportation. In 1956, David Riesman and Eric Larrabee argued that the symbolic meanings of automobiles overwhelmed instrumental meanings.[15] Roland Barthes compared the representative car with a Gothic Cathedral, and Henri Lefebvre saw the car as a "magical" object, "a denizen of the land of make-believe".[16] A few years later in 1974, while the design of cars had become less representative and more functional, Ron Horvarth claimed that "the automobile may prove to be the single most significant innovation in American culture during the twentieth century". For Horvath, the automobile was "so shrouded in myth and has so much symbolic meaning that we could call it our 'sacred cow'".[17] Automobiles and automobility are still a

[10] WHO 2004.
[11] Cf. World Bank 2010.
[12] Yitambe et al. 2009.
[13] GTZ 2006.
[14] GTZ 2004.
[15] Riesman and Larrabee 1993.
[16] Barthes 1972, 88. Lefebvre 1971, 102.
[17] Horvath 1974, 168.

symbol of mobility, prosperity, freedom, and stand for the possibilities of modernity and development. Besides the enormous death rates from car accidents, this is possibly an important factor in understanding why UN and WHO agendas focus their particular interest on road traffic and car accidents: They represent in a way the obvious risks of modernization.[18]

In 2009, the German historian Eckart Conze characterized the history of the Federal Republic of Germany from 1949 to 2009 as a constant "search for security".[19] It has been argued that the 1950s and early 1960s were dominated by a discourse about national and social security, while the 1970s have been seen as the "decade of internal security" because of the political response to the terrorism of the Red Army Faction (RAF).[20] In 1969 the German sociologist Franz Xaver Kaufmann described the rise of the semantics of security to a "normative concept". Besides traditional fields of security policies – such as public security, national security, and social security (the latter was his main focus) – he emphasized the importance of technical safety. He differentiated between the safety of systems, operational reliability, and road traffic safety and built up many categories such as "instrumental safety", "self-reflective safety", and "autotelic safety". For Kaufmann, technological safety and, in particular, road traffic safety and automobile safety was one of the most important factors which strengthened the normativity of the security paradigm in everyday life.[21]

Before the political concept of "internal security" was established in the domestic policies of the Federal Government in West Germany, the same term was used by car manufacturers and popularized by print media which commented on new developments in the automobile industry. The development of "internal safety" features in the car industry was part of a "safety race" in the last few decades, in which regulatory administrations, car and insurance companies, and road users were all involved.[22]

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[18] At the same time, the number of deaths in car accidents was always an argument used to put other societal risks into perspective: Thus the historian Keith R. Jackson observed that since 1976, "more Americans have died on the road than in all the wars of the history of the United States combined" and calculated that the "500,000 young men on the desert sand, about 100 of whom died in pushing the Iraqi Army back to its own boundaries, were actually safer than if they had been at home, where a statistically larger number of them would have died accidental deaths, mostly in automobile crashes.", in: Jackson 2006. And the expert for internet security Bruce Schneier, who was called a "security guru" by the press, relativized the risk of becoming a victim of a terrorist attack with the same argument. Schneier 2003, 28-30.

[19] Conze 2009.

[20] Braun 1978. Funk and Werkentin 1977.

[21] Kaufmann 1973, 49-90.

[22] MacGregor 2009. Several studies draw attention on the history of automobile safety technologies. Cf. Niemann 1999; Weishaupt 1999. From a more cultural-historical point of view, Norbert Stieniczka showed that after the Second World War the German discourse on automobile safety was structured by the dispositive of the "disciplined road user". Later in

Since the 1950s, the number of car accidents increased in West Germany as in other industrialized countries, and safety experts had to develop new safety technologies and new societal strategies to prevent road traffic risks. This led to new definitions of automobile technical safety in the mid-1960s. Safety experts now focused not only on the causes of car accidents, but also on the consequences of car accidents in order to reduce the effects of a crash. Therefore, German car manufacturers differentiated between "external security" and "internal security". With the rise of the term "internal security" as a political key concept in the fight against crime and terrorism in the 1970s, car manufacturers ceased to use this concept. Automobile safety experts in Germany began to use the terms "primary" and "secondary", and in particular "active" and "passive" safety as was customary in the English-speaking world.[23]

In the course of mass motorization after World War II the death rates on West German streets increased nearly as much as the number of new registered vehicles. In 1951, when the Federal Motor Transport Authority was founded to manage the Central Vehicle Register, the Central Register of Traffic Offenders, and the Central Register of Driving Licences, Federal Minister for Transportation Hans-Christoph Seebohm (DP/CDU) remarked in a speech about the fight against road traffic offenders: "We have to be in a position to eliminate from our roads those vermin which hamper the flow of traffic and continually threaten to involve respectable drivers in accidents."[24] This rhetoric to protect a *Volksgemeinschaft* ("people's community") of drivers went hand in hand with a strengthening of "individual responsibility and self-discipline".[25]

This stood in contrast to the liberal automobile and road traffic policy. In 1952, all existing speed limits were abolished, even, and against all reason, in the inner cities. During the *Wirtschaftswunder* ("economic miracle") the automobile was not only a symbol of new prosperity, but also of freedom which was understood in an anti-totalitarian way. On the one hand, these policies intended to emancipate the citizens from the paternalism of the traditional German authoritarian state, on the other hand there were new instruments for the control of road traffic such as the Traffic Registers. The abolition of all speed limits led to a rapid increase in the number of accidental deaths, and in 1958 inner-city tempo limits were reintroduced.

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the 1970s, the idea of the "representative sports car" was broadened and the automobile industry developed the "foolproof automobile". This "foolproof automobile" reduced driving risks through the implementation of new safety technologies. See Stieniczka 2006, 23.

[23] It is not very surprising that in the United States, car manufacturers did not use the term "internal security", because it could have been connoted with the "Internal Security Act" of 1950 and the persecution of Communists in American society.

[24] "Bundesverkehrwacht, ADAC und Sicherheit der Straße" 1951, 7.

[25] Klenke 1994, 158.

In the debates about the control of road traffic and the improvement of road traffic safety, the experience of National Socialism was an ambivalent discursive point of reference. On the one hand, German highways were propagandized by the Nazis as National Socialist modernization.[26] On the other hand, National Socialist road traffic policies began in 1934 with the general abolition of speed limits, but they were reintroduced on the eve of World War II: in May 1939 for motor trucks and then in October for all automobiles. In order to save resources needed for the war, high speed on German roads was now judged to be "unnationalsozialistisch".

From the 1950s onwards as a part of an "ideology of free automobility", the tightening of road traffic regulations and the fight against road traffic offenders, road traffic controls and fixed speed limits were discredited with reference to "Gestapo methods", "blind obedience" or "the steerable masses".[27] In 1960 this led the German sociologist Rudolf Gunzert to remark, during a hot debate about speed limits at Whitsun, that the West German citizens would "give up fundamental democratic rights without too much objection", while a speed limit "would cause them to practically mount the barricades".[28]

Nevertheless, the concept of the "disciplined road traffic user" and the anti-totalitarian ideology of the "freedom to drive" went hand in hand. Up to the 1960s, many participants of the debate were convinced that automobile accidents were caused by black sheep and were not a consequence of increasing automobility. The campaign "Free speed for free citizens" (*Freie Fahrt für freie Bürger*) was promoted by Germany's largest automobile club (ADAC) in 1974 in the aftermath of the oil crisis as a provocative answer to the speed limits on federal highways and traffic-free Sundays. This once more made visible that automobilism was linked with a liberal concept of freedom. In the end, the campaign of the German automobile club was successful and mandatory limits were lifted and replaced with an advisory limit of 130 kilometers per hour. While the discussion about a mandatory speed limit returned from time to time in the following years, even at the end of the 1970s the arguments against speed limits still drew on Nazism. As the news magazine *Der Spiegel* wrote, "with the end of the Nazi regime came the end of the period of speed limits on German highways".[29]

The Enhancement of "Passive Safety"

In the meantime, the car industry enhanced the "internal" and, in particular, the "passive" safety of cars in response to growing public interest. The "passive

[26] Schütz and Gruber 1996.
[27] Klenke 1994, 158-159.
[28] Gunzert 1960, 326.
[29] "Neue Glaubenskrise ums Tempo-Limit," *Der Spiegel* 26/1979, 20.

safety" included a safety cage with two crumple zones, at the front and back, patented by Daimler-Benz engineer Béla Barény in 1951, a padded dashboard, shock absorbing bumpers, burst-proof door locks, safety glass windscreens, snap-off mirrors, flush-mounted switches and mirrors, head restraints to prevent whiplash, a collapsible steering column, side impact bars, and (in the early 1980s) airbags. One of the most important new passive safety technologies was the invention of the safety belt. After 1955, Ford and Chrysler offered seat belts as optional extras, and from 1957 onwards, Porsche and Mercedes-Benz equipped some of their production series with lap belts. In the same year, Swedish engineer Nils Bohlin invented the three-point safety belt, and from 1959 in cars the three-point safety belt became standard equipment in Volvos. In 1961, 70 percent of newly registered cars in Sweden were fitted with front seat belts.

In the United States, the insurance company Liberty Mutual Insurance financed the construction of the "Liberty Safety Car" by the Aeronautical Laboratory of Cornell University in 1955. One year later, Ford tried to sell its "Fairlane Sedan" on the basis of its new safety features and launched the first safety-led automobile advertising campaign with the slogan: "You'll be safer in a '56 Ford!" In Ford showrooms, photographs were presented that claimed to show that passengers in a new Ford were more likely to survive an accident than those who travelled in a Chevrolet.[30] The campaign, which presented photographs of car accidents to potential car buyers, failed.

Between 1961 and 1966 the number of annual traffic deaths jumped from 38,000 to 53,000 in the United States, a 38 percent increase. In 1965, Ralph Nader's book "Unsafe at any speed"[31] and the consumer movement surrounding it – such as the "Center for Auto Safety" (1970) and "Public Citizen" (1971) – brought public criticism to bear on General Motors and other manufacturers, forcing them to pay more attention to traffic safety. Discussing safety was a long-held taboo in car industry, and Stan Luger has argued that this remained so until the 1990s.[32] Lee Iacocca, a top manager of Ford in the 1960s, was cited in the publication "Safety Last: An Indictment of the Auto Industry": "Styling cars sells cars but safety does not."[33]

In the same year that Ralph Nader's publication appeared, the General Service Administration (GSA) established safety standards for government-purchased cars following a five-year-long debate about this topic and after some federal states had launched initiatives to enhance automobile safety.[34] The National Highway Safety Act and the National Traffic and Motor Vehicle

[30] Stevenson 2008, 193-196.
[31] Nader 1965.
[32] Luger 2000.
[33] O'Connell and Myers 1966. At the beginning of the 1970s this was still an argument of German car manufacturers; see for this the interview with VW manager K. Lotz: "Sicherheit verkauft sich schlecht," *Der Spiegel* 43/1970, 252.
[34] Luger 2000, 66-68.

Safety Act established the role of federal government in auto safety and "brought to an end the auto industry's long-held political hegemony" in the United States.[35] New regulations were controlled by the Department of Transportation, which was set up in 1966 to ensure "a fast, safe, efficient, accessible and convenient transportation system that meets our vital national interests and enhances the quality of life of the American people, today and into the future".[36]

The American automobile industry was well prepared for these government measures, which can hardly be described as far-reaching. Seat belts were standard equipment in all Buicks from 1964, and an advertisement in 1966 told consumers: "Use them." Other advertisements followed this new strategy of mentioning new passive security items which were built into the cars of the 1960s. Ford offered in its 1966 Thunderbird an "overhead safety convenience panel" of control switches and warning lights, into which a seat belt warning light was built. This had aeronautical connotations and anticipated a technological development in which cars would "communicate" with the driver to uphold safety.

From the 1960s onwards, debates about automobile safety in the United States have been conducted along an ideological divide. One side has argued that individual drivers must take precautions to ensure their own safety. This was the widespread opinion of the powerful economic lobby of the automobile industry which insisted that automobile safety could not significantly rise unless motorists actively cooperated. Those on the other side of the argument – safety activists, insurance companies and government officials – maintained that the public would never behave properly and that therefore "technical fixes must be developed and mandated to decrease the risk of driving" while auto makers should accept their responsibilities.[37] Throughout the 1970s seat belt use in the US remained between 3 percent and 10 percent and increased when, beginning with New York in 1984, federal states adopted mandatory seat belt laws. By 1994, seat belt usage had increased to 73 percent, but even in 2008 seat belt usage in the United States had still not topped 75 percent.[38]

These new American safety standards had an impact upon export nations such as the Federal Republic of Germany and its car industry, bringing with them an "Americanization" of German business policies.[39] As in the United States, West Germany's critical press argued that the automobile industry was avoiding the installation of relatively expensive new safety technologies. In

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[35] Luger 2000, 74.
[36] Taken from the Department of Transportation "Mission & History": <http://www.dot.gov/mission.htm> (accessed June 19, 2010).
[37] Wetmore 2009, 111. Also: Irwin 1985, 227.
[38] Wetmore, "Implementing Restraint", 117.
[39] Cf. Hilger 2004.

1970, there was a turning point in West Germany. Official statistics counted 1.4 million traffic accidents and 500,000 injuries, while 21,332 persons died in road traffic accidents.[40] Since then, the absolute numbers of traffic accidents dropped owing to the introduction of speed limits on ordinary highways in 1972 and a year later on federal highways in response to the oil crisis, the establishment of alcohol limits in July 1973, and the compulsory wearing of helmets for motorcyclists in 1980. This was coupled with a lower rate of newly registered cars, the extension of highways, and last but not least new safety standards.[41]

In 1971, the news magazine *Der Spiegel* demanded "days without dead people", the introduction of a "safe vehicle" in which individuals could "survive the crash".[42] Three years later *Der Spiegel* wrote about the "motorized world war on the streets" and demanded the installation of airbags in cars, which the car industry appeared to be resisting.[43] At the beginning of 1976 the West German government implemented a law for mandatory seat belt use, although those breaking this law were not subject to prosecution at first. The mandatory seat belt use led to a heated debate among safety engineers, health and legal professionals, politicians, journalists, and drivers who were both for and against the seat belt and disagreed whether the seat belt was a "life-saver" or a "shackle".[44] The legal obligation to wear a seat belt was commented by *Der Spiegel* in 1976 with a front page headline "Bound to the car". This was a reaction to widespread fears about not being able to free oneself in the case of an accident. A year earlier, the same news magazine posed the question whether "the liberal state should be allowed to coerce the car-citizen into surviving"[45] – which might have awakened associations with the contemporaneous debate about the forced feeding of RAF terrorists on hunger strike. In the course of the debate critics denounced the mandatory seat belt use as "state-decreed suicide".[46]

The Federal Government reacted to these reservations against seat belt use with a nationwide campaign "click: first belt up, then drive", which promoted seat belt use with numerous ads in magazines and posters on German high-

[40] The relative numbers in relation to newly registered cars and individual distance had dropped since the invention of the automobile. König 2010, 218.

[41] In the years after 1970 the number of traffic deaths dropped more or less continuously (as mentioned with the exception of the years after reunification), and by 2008 4,467 traffic deaths were counted in 2.2 million road traffic accidents, the lowest rate since 1950.

[42] "Sicherheitsautos: Für Tage ohne Tote," *Der Spiegel* 34/1971, 86-104.

[43] See also the publication of the German theologian Klaus-Peter Jörns from 1992: "Krieg auf unseren Straßen. Die Menschenopfer der automobilen Gesellschaft" ("War on Our Streets. Human Sacrifices of the automobile society").

[44] Beckmann 2004.

[45] "Sicherheitsgurte. Furcht vor der Fessel," *Der Spiegel* 50/1975, 40-52, 40.

[46] "Das ist eine Art Todesurteil. Spiegel-Interview mit dem Stuttgarter Verkehrsrichter Hans Kindermann über die Anschnallpflicht," *Der Spiegel* 35/1982, 100-101.

ways. But it took until 1984, when fining for non-seat belt users was adopted, for seat belt use to increase from 60 to 90 percent. Nevertheless, the introduction of fines did not stop an obstinate judge from acquitting a "belt grouch" ("Gurtmuffel") with the comment that the freedom not to use the seat belt distinguished a citizen from a subject.[47]

Road Traffic Safety as Mass Education and the Changes to Car Safety in Commercials

Since the early years of automobility, measures to improve road traffic safety went hand in hand with road traffic education. Since the 1960s, television programs about road traffic safety became commonplace. In Germany, between 1966 and 2005 public television aired the weekly program *Der siebte Sinn* ("The Seventh Sense") which confronted the viewing public with road traffic dangers and gave advice about how to reduce the risks of automobility. British television broadcast public information films from 1971 onwards that promoted the use of seat belts with the catchphrase "Clunk, click, every trip!" presented by the media personality Jimmy Savile. In the United States organizations such as "Traffic Safety Now", an organization of some thirty safety organizations, lobbied state governments from the 1980s for mandatory seat belt use laws and promoted seat belt use in brochures, in elementary schools, in educational programs with police officers, and public service announcements. In 1985, the US Department of Transportation, the National Highway Traffic Safety Administration and the Ad Council created a television commercial with Vince and Larry, known as "The Crash Test Dummies", who demonstrated what could happen when a person did not wear a seat belt. Unlike humans who die or become crippled in real crashes, Vince and Larry dusted themselves off after each crash and lived to joke another day. In 1999, Vince and Larry were retired along with their campaign slogan "you could learn a lot from a dummy" when the Department of Transportation revised the campaign and a new slogan simply advised "Buckle Up. Always."

Technically, the improvement of automobile safety was also a result of the scientific simulation of accidents. In the 1960s the automobile industry began to use crash tests to do research on the consequences of automobile accidents for vehicle occupants using crash test dummies developed in the military aircraft industry. With the technical perfection of crash test dummies in the 1980s, safety engineers abandoned the use of dead bodies to develop new automobile safety measures. Crash tests and their illustrations in magazine articles and TV reports mass-produced accidents, making them appear less like chance events.[48]

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[47] Sternsdorff 1985.
[48] Cf. Virilio 2009, 7-8.

The accident was no longer something improbable since the accident had become a statistical and recursive quantity.[49] From the 1970s, the crash test results as well as their illustrations belonged to the common evaluation criteria of public car magazines like *Auto, Motor und Sport* and *ADAC Motorwelt* which were more and more concerned with the problem of automobile safety.

Meanwhile, West German political parties promised comprehensive national and social security in their electoral campaigns in the 1950s. After the 1957 elections, in which the Social Democratic Party used the slogan "security for all", Mercedes-Benz promoted its cars with the slogan "safety accompanies you". The ad showed a Mercedes star, which led the way over a dark and wet gleaming cobbled street. The iconography of the advertisement created a *film noir* atmosphere as well as connoting the compass rose motif in the NATO flag.[50] While the brand symbolized total safety and security in this advertisement in 1965, at the time Ralph Nader formulated his vigorous critique of safety standards in the automobile industry, Mercedes-Benz's commercial experts were forced to take a more differentiated approach:

> Often it is said: Don't talk about security, it is a dangerous topic. Why? Because there is no such thing as absolute safety? Because even the safest car is driven by humans who have different temperaments and react differently? No, this is not a reason for us to avoid the topic. On the contrary, you have the right to know how safe an automobile can be and what the manufacturers of motor vehicles can contribute.[51]

Twenty years later, such caution about the question of automobile safety no longer existed. By 1984 Volvo Germany was promoting its vehicles with the slogan "safety at a speed of 200 kilometers per hour" and linked speed with safety. In a way, this was a prelude to Ulrich Beck's study on the "risk society" and his theory of self-generated risks at the heart of a self-reflexive "second modernity".[52] This development towards a risk society allowed advertising campaigns to use pictures of simulated and controlled car crashes.

In 1994 there was a campaign featuring a crashed Mercedes-Benz S-Class, renowned for its length. The ad asserted that the vehicle would also convince in the crashed "short version". Advertising with crash test pictures was formerly unthinkable, but in the 1990s it reached the marketing strategists. In another more recent advertisement, car manufacturer Peugeot used the slogan "more fun with safety" just as Opel did for its "Astra". In 2009 Fiat presented a crash test picture of a damaged Fiat 500 with a panda at the wheel, using the catchphrase: "engineered for a lower impact on the environment". Here, safety and

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[49] Bickenbach 2009.
[50] NATO was founded two years before in 1955.
[51] "Mercedes Benz nimmt Stellung zu einer aktuellen Fragen der Autofahrer von heute", 1965, cited in Sproß 1999, 95.
[52] Beck 1992.

environmental aspects were combined. And in 2008, an advertising agency headlined a co-campaign for Mercedes-Benz and the Dutch Cancer Society, which decided to no longer advise women to perform monthly breast self-examinations with the words: "some tests you're better off not doing yourself".[53]

In recent decades, crash test pictures have formed our view of damages caused by road traffic accidents in a stereotypical manner, playing down the still existing risks of driving, reducing the image of a fatal accident to a harmless fender bender. Therefore, the risks of road traffic and automobility are nowadays not only a matter for state legislators, insurance companies and safety engineers; we are visually insured against accidents in the images that surround us.

Morality in the Age of Safety Technologies

The French philosopher of technology Bruno Latour has argued that artifacts – and in particular the safety belt – are bearers of morality as they constantly help people to make all kinds of moral decisions. In this understanding, safety techniques are "techniques of morality".[54] In 1977, the Carter administration mandated that by 1983 every new car should have either airbags or automatic seat belts that closed over vehicle occupants when they closed the car door, despite strong lobbying from the auto industry. When driver-side airbags became mandatory in all passenger vehicles in 1994, the automatic seat belt was abolished. Nowadays, many cars produce an irritating sound to remind the driver to use the safety belt.

For Latour, such technical equipment embodies morality because the decision to wear a safety belt is not made exclusively by the driver, but also by the car. With the technology of the seat belt, the saying "never drive faster than your guardian angel can fly" no longer applies. As Latour puts it:

> The driver may become more careless, the car more intelligent. What one loses, the other gains. Each learns to live with the other: the belt needs a human being to put it in place and to take it off, the human being learns to live 'on probation' without making abrupt movements. Drivers no longer have to try to restrain themselves in case of sudden braking, the seat belt does it for them, but they retain the supreme freedom: to engage or disengage the guardian angel."[55]

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[53] Available online under <http://www.coloribus.com/adsarchive/prints/pink-ribbon-some-tests-youre-better-off-not-doing-yourself-204950/> (accessed 19.6.2010).

[54] Latour 1996. Cited from the unpublished translation by Lydia Evans, "The moral dilemmas of the Safety-belt", http://www.bruno-latour.fr/poparticles/poparticle/P-31-MORAL-SEAT-BELT-GB.pdf (accessed 19.6.2010).

[55] Ibid., 4.

In 1973 the novelist James Graham Ballard wrote his famous novel *Crash*, which was made into a movie directed by David Cronenberg. For Ballard the car driver lives within a "huge metallized dream" that includes "speed, drama and aggression, the worlds of advertising and consumer goods, engineering and mass manufacture, and the shared experience of moving together through an elaborately signaled landscape".[56] For Ballard, the century of the automobile created a culture of death, and the only way out for Ballard "would be to dehumanize driving with electronically controlled cars and traffic flow".[57]

This vision would be the end of traditional "autonomy" in automobility, and in a way it has become true. In 1978, advanced braking system (ABS) was pioneered and the electronic stability control (ECS) was developed in the 1990s to "assist" the driver to keep the vehicle under control in critical maneuvering situations. With these new developments the driver's domination over technology was not called into question, with car sellers emphasizing not without reason that these technologies "assist" the driver rather than "governing" the driver. Intelligent navigation-based speed control amplified the tendency to delegate the control of the car to the technology and developments such as advance collision warning, automatic braking and lane departure warning systems that assist drivers to avoid accidents and are said to reduce injuries have actually come into use.[58] A further technological innovation was the development of driverless cars by the research project "Eureka-Prometheus" (Programme for a European Traffic of Highest Efficiency and Unprecedented Safety), financed by the European Community in the years from 1987 to 1995. The pivotal idea of the research project was to reduce the human factor, such as "a limited field of vision, lack of experience, uncertainty, deficiencies, limited faculty in information processing and in the manner of reaction".[59] The electronically controlled vehicle "VaMP" achieved a distance of 158 kilometers without human intervention (on average, however, human intervention was required once every nine kilometers).

In 2001, the German Federal Ministry of Transport proclaimed that "the final decision and responsibility in the system human-machine-environment has to rest in the hands of the road traffic user" and that "external control which could not be influenced by the driver" were not desirable.[60] A similar argument was formulated by a management board member for research and technology at Daimler-Benz, who remarked in 2002 that "cars nowadays integrate much computing power, whereas the pleasure of driving still remains – because that's what customers want." Additionally, he noted that nobody knows today

[56] Cited by Wollen 2002, 16.
[57] Featherstone 2004, 16.
[58] See Insurance Institute for Highway Safety 2008.
[59] Cited in Stieniczka 2006, 337.
[60] Bundesministerium für Verkehr 2001, 21.

whether motorists in 50 years' time will want to be driven by remote control – something that very few desire today.[61]

However, new technological safety solutions delegate control tasks from the human being to the technology and, therefore, some critical commentators have argued that we have to conceptualize the driver as a "cyborg" or a "car-driver-hybrid": The interplay between car and actor is no longer "merely in the hands of the driver", and new smart cars "eliminate any sort of independence that was assigned to earlier stages of automobility".[62]

Conclusion

Up to the beginning of the 1970s the car industry and its managers often argued that "safety doesn't sell", not least because they wanted to avoid having to equip cars with relatively expensive new safety technologies. Increasingly, car safety was constructed as a positive quality in a similar way to motor performance and nowadays efficiency. New safety features were optional extras and regarded as attributes of social distinction – until they became, in part, standard equipment. In recent years, car safety has become a key concern of the car industry, and now "safety has to be there because cars don't sell on price alone", as the American economic journalist Joseph R. Perone wrote.[63]

Today, security and safety are not only guaranteed by states and governments. While governments formerly legitimized themselves on the basis that they were there to establish "public tranquility, security and order" and subsequently national and social security, between the 1970s and the 1990s security and safety were discovered as commodities by the private sector. This "market-orientated privatization of security"[64] has led to a private service sector for security, in which the car industry is only one obvious example. In West Germany the international trade fair "Safety 1974" for security technologies took place for the first time in 1974 and expanded in the following years.

Contemporary history of automobility and road traffic safety reveals that there has been a change from a discourse about road traffic safety conducted in terms of security, freedom, mobility and autonomy (often understood as the naïve pleasure of driving and individual mobility) to a pragmatic discourse about the dynamic relations between safety and risks that are socially and technologically controlled. The implementation of new safety standards is additionally part of a strong narrative about the rise of (global) civil society and the negotiation processes between its various stakeholders: consumer pressure

[61] Abele 2002.
[62] Beckmann 2004, 87-89. Schmucki 1999.
[63] Cited in MacGregor 2009, 103.
[64] Weinhauer 2007, 218.

groups, the media, insurance companies, government officials, and lobbyists from the automobile industry.

The implementation of the seat belt and the improvement of seat belt use illustrate different attitudes to civil liberties, different concepts of social engineering and different roads to a modern civil society. In the United States, national authorities passed controversial bills to strengthen the responsibility of the car industry and to enhance the implementation of technical safety while preventing laws for mandatory seat belt use for a long time. In West Germany, in the course of an "Americanization" of German business policies the compulsory installation of seat belts was out of question; authorities passed controversial bills to force individuals to fasten their seat belts while preserving at the same time the "freedom of speed".

The development of passive safety technologies indicates that there has been a change in the conception of the relation between human beings and the technology. The development of the human-machine-system has shown that the control of technology by the individual has been replaced by the "assistance" of the individual driver by technology. Of course, the popular visions of a future in which humans are entirely governed and controlled by technology have not yet become true, but autonomy in the age of automobility has changed. The discourse about the "disciplined road traffic user" and the "responsible road traffic user" has come to an end. In addition to governmental sanctions such as driving bans and other punishments against road traffic offenders there are new technological possibilities controlling the drivers' behavior nowadays, such as the development of smart cars or radar controls on public streets, which are indicated in advance.

The UN program of "human security" is an expression of a shift in the semantics and the political dimensions of security and safety and has itself changed because it strengthens at first glance the role of individuals, their rights and their responsibility in comparison to national governments and their mandate to protect social groups and the individual. Of course, the rather vague concept of "human security" includes the development of road traffic safety. Firstly, the death toll is still a problem in high-income countries and indeed a serious problem in developing countries and societies. Secondly, the experience in high-income countries with road traffic safety exemplifies the fact that risks of modernization can be reduced. Thirdly, the enhancement of road traffic safety is linked to the strengthening of civil society with all their stakeholders. Fourthly, and of interest for further study, the idea of the individual and therefore the idea of autonomy in the age of automobility and new passive safety technologies have changed considerably. Individuals are no longer in full control of themselves and therefore no longer subjects of discipline, and they are no longer understood as dominating over nature and technology. Individuals are instead an integral part of a complex social and technological "insurance culture" in which they are encouraged to take part.

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