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A STEEL PHOENIX?

The Social Construction  
of a Modern Car

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## INTRODUCTION<sup>1</sup>

On the 14.th of april 1991 the chronicle Business Week on its front page had a picture of a green car with the text: "The Greening of Detroit"<sup>2</sup> The main focus of this issue was the american automobile corporations' struggle to cope with the new car emission standards. These standards, imposed by the Californian authorities in 1988, was a step towards zero-emission cars after the turn of the century. The standards are later adopted by other american states such as Massachusetts and New York and will surely influence the international regulation of emission. The effort to construct a "green car" is not only an american concern. Car producers in other countries, especially in Japan and Germany are trying to improve their engines so they pollute less. But the international car industry has realized that the road to a more environment-friendly car is laid with huge technical and economical problems.<sup>3</sup> It is a question of economical resources and time, both of which are problematic in the economical recession in the later years.

At an international exhibition for cars in Oslo in 1991, several of the large car corporations promoted their new models as environment-friendly. One striking example was the "environment-friendly Volkswagen Golf". Even though this car produce less perilous emission than many other cars, the name environment-friendly car is rather far-fetched.<sup>4</sup> Is this really a new and greener car? Even if the figures for CO and NOx is 30 percent below the conventional Golf, many people would call the use of a "environment friendly" sticker a

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<sup>1</sup> Paper presented at I.C.O.H.T.E.C.'s (International Committee for the History of Technology) Congress i Wien 1/9-6/9 1991.

<sup>2</sup> *Business Week*, "The Greening of Detroit", April 8, 1991.

<sup>3</sup> The batteries still haven't the necessary capacity for longer runs, needs hours for recharging, are bulky and heavy. In addition a network for recharging and service for this type of cars is needed. The question is how one is going to produce the electric energy necessary to charge a high number of electric cars. Gas-powered cars gives less emissions than gasoline-powered cars, but they still pollute. Cars powered by methanol are very corrosive and emits carcinogenic formaldehyde. The distribution and sale of alternative fuel as gas and methanol is costly and needs as the electric car a network for fuel and services.

<sup>4</sup> Handout Oslo 1991: "Volkswagen - treats the question of protecting the environment seriously" (The author's translation - Org. title - Volkswagen - tar miljøvern på alvor).

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strategy to meet public criticism. Other would claim this to be an important step forward to reach zero-emission standards. Let us make a jump in time.

If we look at the picture of a 1945 Volkswagen Beetle and compare it with a picture of a 1973 model of the same car, the seemingly resemblance between these two models is striking. The 1973 model had a rear window that was wider, the front part is a little changed, the instruction book inform us that the motor is stronger and less greedy on fuel and the interior is more modern. But are these two models, in spite of their resemblance, the same car? Let us move from technic to technology. A closer look points out crucial differences:

The Beetle of the 1950's was a dream for most people, a shining beauty, a fantasy in chrome, a promise of a new freedom, better and more flexible transport for the little core family of four, a way to impress the neighbour, an improvement of the quality of life, a luxury on four wheels. And it was like liqueur in the beginning of this century, prohibited.

If we look at the Beetle of the 1973's, it still had some of these qualities, but many aspects have changed. Every time your neighbour washed his dark reed BMW next to your fence, you realized that your Beetle no longer was a luxury or a symbol of high status. Owning such an lousy car you were an outdated hippie at the best.

On the other hand, you needed this car to keep up your daily routines such as shopping, transport to the kindergarten, visiting friends and mother in-law. The car had become a necessity. Other and more frightening aspects had also been tied to the 1973 car. As a social instrument it was no longer a modern dream, but also a killer machine and a source of pollution. Your children would constantly curse you for being a middle-class pig that destroyed their neighbourhood with bad smell and noise.

This two examples raises a question, at first sight absolutely banal, but at second thought quite central for the type of studies we are doing. The question is simply, What really is a car? A body made up by plastic, rubber and steel? A lump of different alloys and some oil? A means of transportation regulated by economy and the need for easy transport? Or is a car something else, something more or something less? All of it? How could we possibly approach these matters?

To shed some light on this question I will leave the present and the "green car" and have a brief look at a tiny part of Norwegian history in the late 1950's and early 1960's. My claim is that during these years the car was transformed from a luxury item and a burden for the national economy into a necessity, a vital part of and a symbol for what may be called a modern

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Norwegian society. What made this transformation happen, what caused this social construction of a modern car?<sup>5</sup>

## A LUXURY AND A BURDEN ON THE NATIONS ECONOMY

There are certain features of Norwegian history with regard to cars that makes the Norwegian development different from most other European countries. The first one is that except some very small and odd efforts, Norway never had any car industry.<sup>6</sup> In other words, cars have mainly been an imported technology. The consequence has been that the technical elements has been fixed, very few technical- or design developments have been carried out in Norway. This redirects our attention from the technical side to the social implications of this artefact.

A second feature was that between 1934 and 1960 import and sale of private cars was strictly regulated. Each year the authorities set up fixed quotas for the maximum numbers of cars to be sold. To buy a car one needed a permit and to get one you needed a good reason. Doctors, high officials and salesmen easily got such permits, but ordinary people often had to wait for years to get one.<sup>7</sup>

In the 1930's and 1940's the restriction politics was not regarded a problem or caused any obvious conflict. The economic situation of the "common man" put an effective lid on the demand for cars. Cars for private use was mostly bought by wealthy individuals or car-sport enthusiast. In the first years after the second world war this situation changed little, the economical situation of most people did not allow them to buy a new car. In addition the important task, to rebuild the country from the ravages of the war, made people realize that the restriction was sound politics.

After 1950 the steady economical growth initiated a demand for new and more costly types of consumer goods. More people wanted to buy a car, but the restrictions acted as an effective hindrance for most people to buy one.

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<sup>5</sup> Knut Holtan Sørensen: *The Norwegian Car - The Cultural Adaption and Integration of an Imported Artefact*, STS - Workingpaper 5/90.

<sup>6</sup> In fact there have been many "odd" examples of car production in Norway. Øistein Berthau and Christian Stokke: *Made in Norway*, Oslo 1991. This book describes some of these "incidents". Among the attempt to create a Norwegian Car is the construction of five Porsce-like cars with the name "Troll". This was in 1956. Five "Trolls" were produced. It was a remarkable beautiful and modern car!

<sup>7</sup> Dag Bjørnland: *Vegen og samfunnet*, Oslo 1989, page 1951.

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There are several indications of this strong and increasing demand for cars. One was that old cars, even worn-out wrecks, could be sold for high prices. Another was that there was a black market for permits and that a relative high cars were imported illegally.<sup>8</sup>

During the first five years of the 1950's about ten thousand new cars were imported each year. This reached nearly twenty thousand new cars at the end of the decade. If we look at the year 1955 15 000 new cars were sold. In Sweden the number was 127 000, in Denmark 30 000, while Finland, also damaged by the war, imported and sold 17 000 cars.<sup>9</sup>

There was a growing demand for cars, but the government stuck to the restrictions. This policy made the authorities a target of harsh criticism from different groups: commercial interests, the drivers associations and the general public. Protests against the restriction were frequently published in the newspapers. In 1953 one newspaper wrote:

*"The Government is turning the car into a luxury item because of its restriction policy."*<sup>10</sup>

In another newspaper the prime minister was cited:

*"I am car-minded - but the restrictions have to be kept"*<sup>11</sup>

One newspaper wrote:

*"Owing to the Government's policy we can't follow the development in other countries".*<sup>12</sup>

There also were more bizarre examples of criticism:

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<sup>8</sup> Dagbladet, 19/1 1953, Arbeiderbladet, 5/2 1953.

<sup>9</sup> Opplysningsrådet for vegtrafikken: Bil og Veg - Statistikk 1966, page 66.

<sup>10</sup> Norges Handels og Sjøfartstidende, 26/8 1953.

<sup>11</sup> Morgenposten, 6/10 1953.

<sup>12</sup> Verdens Gang, 4/11 1954.

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*"Norwegian herring of bad quality is an hindrance to a free car market. Only East Europeans eats it and in return they sends us expensive cars."*<sup>13</sup>

The last citation refers to the switch-trade where goods were exchanged bilaterally. Norwegian herring were usually traded for west-european cars, but when the quality of the herring were bad, the traders had to sell it to Eastern-Europe in exchange for these countries cars. The problem was that the demand for these car were small. In itself a interesting point, the preferences on cars from one part of the world shows that already on that point the demand for cars had other driving forces than only the need for transport.

In addition to the criticism from Norwegian interests and the public, there were protests against the restriction policy from abroad. Pushed by the motorcar-industry, the German and English authorities proclaimed this restriction to be against the rules of european trade. The Organization for Economic Cooperation in Europe(OEEC) laid pressure on the Norwegian Government to remove the restrictions.<sup>14</sup>

The official argument for keeping the restrictions was the difficult economic situation of the country and small reserves of foreign currency. According to Government, the dollar reserves had to be used for more vital goods as machinery and equipment for the industry, not private cars. Of course the dollar shortage was a problem during these years. But was the situation so difficult that the restriction had to be kept until 1960?

In the years after the second world war there were a shortage on everything. Part of Northern Norway had been burned by the Germans and vital machinery in industry were worn out or destroyed.<sup>15</sup> This justified the restrictions on import and sale. But Norway experienced a rapid recovered and in the early 1950's the economic situation was better than in 1940. Most of the restrictions on consumer- and investment goods had been removed. The sale of lorries was "freed" already in 1951.<sup>16</sup>

A brief look at the value of all types of motor vehicles imported compared to the value of all types of imported goods underlines my suspicion that there had to be additional explanations for keeping the restriction on private cars until 1960:

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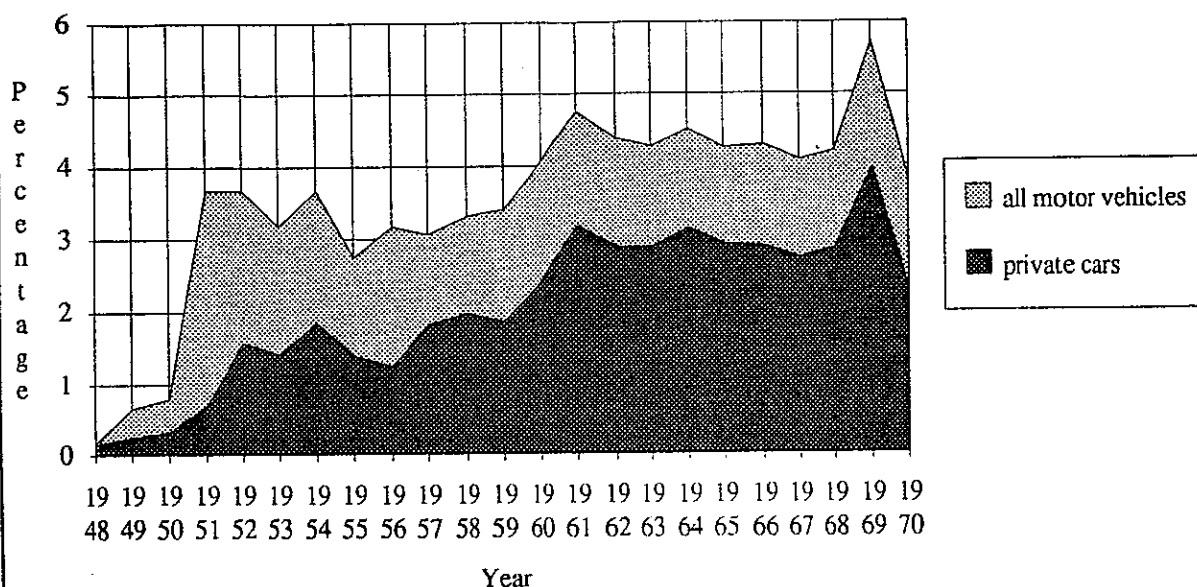
<sup>13</sup> *Dagbladet*, 6/8 1954.

<sup>14</sup> *Verdens Gang*, 31/1 1956.

<sup>15</sup> Odd Aukrust og P. J. Bjerve: *Hva krigen kostet Norge*, Oslo 1945.

<sup>16</sup> Bjørnland 1989, page 151.

**Value of imported Motor Vehicles in Percentage of all Imported Goods 1948 - 1970**



As we can see from the figure the value of imported motor vehicles never exceeded 2 percent of the value of all imported goods in the time up to 1960. In the early 1950's the value of imported motor vehicles rose rapidly, but then stabilized. The increase in the early 1950's could justify the regulation at that time, but later in the 1950's the increase and the percentage of the total value of import was growing substantially.<sup>17</sup> I think the answer to the long duration of the restriction on sale of private cars had additional and important elements. Some of the answer is to be found in the combination of political dominance and the political ideas of the ruling elite.

From 1945 to 1965 the country was dominated by The Labour Party. They had the Government, the majority in Parliament and most local communities. Their political power until 1960-65 were unchallenged. The ideological base for the party was a mixture of Keynesianism and macroeconomic long time planning, a strong ambition to steer and regulate industrial production, economy and trade. From 1945 to 1953 the Norwegian economy were under rather strong federal administration, this policy was based on direct regulation on all sectors. In 1953 this policy were abandoned and followed by more indirect regulations.

In connection with the Government's ambitions to direct economical life, I think the conception and interpretation of cars is important understanding the

<sup>17</sup> Opplysningsrådet for vegtrafikken: *Bil og veg 1990*, Oslo 1990, page 53.



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restriction policy with regards to cars. The argument from the media that the Party and the Government regarded the car as a luxury is one indication of this view. Another indication was the taxation of private cars. One was called luxury-tax. The state's income from this tax was 5,5 million kroner in 1950. In 1959 this had increased to 49,4 million kroner, nearly ten times. The growth in number of private cars in the same period was from 60 to 180 thousands, i.e. three times. The total increase in all kinds of taxation of cars rose from 214 to 529 million kroner in the same period.<sup>18</sup> As we can see the increase in the luxury tax was substantial compared to both the number of cars and the total income from car taxes.

Another source for understanding the Labour Party leaders view on cars is The Working Plans and The Long Range programmes. These documents were distributed every fourth year in connection with the elections. There are of course some limitations to the usefulness of these documents. The Working Plans does not treat the different topics in detail and the rhetorical bend of this documents is strong. On the other side were this Plans regarded a front window to the public. That means that they were an indication of the strength and the interest for the different topics. The Long Range programmes on the other side gives a more detailed picture of the economic situation, the plans of the future and the general visions of the Government. Here it should be possible to find an answer to the Government's view on cars.

If a visitor from Mars had come to read the early documents he would have found nothing about the existence of cars. If we look at the Labour Party's working plans for 1953 to 1957 the chapter on communication and transport stressed the necessity and usefulness of a good and rationalized network of communications for the country, nothing about cars.<sup>19</sup> This is remarkable as long as the newspapers in the same time wrote about the private car as a new and better way of solving transportation matters in Norway. In the Long Rang programme of this period the increased use and demand for cars was not treated at all. As in the working plans the stress is upon transport and commercial use of motor vehicles.<sup>20</sup>

In the party's working plan for the period 1958 to 1961, written i 1957, one can see some signs of a changing view. The document used one line to point at increased and growing use of cars and the need for better roads.<sup>21</sup> In

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<sup>18</sup> Ibid, page 105.

<sup>19</sup> The Labour Party: *Working Plan 1957-61*, page 13.

<sup>20</sup> Stortingsmelding no. 62, *Long Range Programme 1954-1957*, page 181.

<sup>21</sup> The Labour Party: *Working plan 1953-57*, page 41.

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the Long Range programme for the same period there is references to the growing use of cars, but no suggestions or political strategies for this type of transport.<sup>22</sup> The astonishing fact is that in the Labour Party's central and official documents from 1946 up to 1962 the car for private use was no subject at all. What was described in the documents was transportation and communications.

### THE CAR IS "FREE"

On the first of October 1960 one Norwegian newspaper had the following headline for one of its articles: "The car is free".<sup>23</sup> The reason for this gleeful statement was that on this day all restrictions on import and sale of new cars had been abandoned. Other newspapers had cheerful comments as if they saluted the release of a long time prisoner. The newspaper's view was no surprise, the sentiment among people for new cars were strong. The "freeing" of the car made the sale of new cars jump, not as much as the Government had feared, but a substantial increase.

I could make a list of explanations why the restrictions on import and sale of cars were removed this year. The most obvious reasons were: The Norwegian Government had been under pressure from other European countries and OEEC to liberalize the import of cars. The European Free Trade Association (EFTA) was established, and on that background the restriction had to be removed anyway. Another important reason was the improved economic situation of both the nation and ordinary citizens. This decade is often referred to as the "The Golden Years".<sup>24</sup> New and broad groups of the population experienced growing prosperity. The standard of living had an impressive increase these years, and in addition there were very little unemployment. This stimulated the already strong demand for cars. This development undermined the economic argument for keeping the restriction policy. In addition this was a period when The Labour Party experienced a steady decline in the voters support. Even if the restriction not were regarded the most pressing problem, the question got much public attention. No longer the dominant political power, the criticism presented in the media may have been seen as a problem for both the Government and the Labour Party.

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<sup>22</sup> Stortingsmelding no. 67, *The Long Range Programme 1958-61*, page 62.

<sup>23</sup> *Vestfold Arbeiderblad*, 1/10 1960.

<sup>24</sup> Tore Jørgen Hanisch and Even Lange: *Veien til Velstand*, Oslo 1986, page 110.

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I could have stopped here, arguing that these explanations were sufficient to explain why the restrictions on private cars were removed in 1960. But I would like to turn the attention towards another, more hidden process that may have had as important influence for "the freeing of the car" as the other explanations. I would like to focus on the changing picture of car technology. In a pamphlet, an unofficial working document, produced by the Norwegian Labour Party i 1960, we can read the following statement:

*"The decade we now are entering was baptized already at its birth. It was named the golden years. The car and the TV stands out as symbols for the new level in prosperity we now are entering."*<sup>25</sup>

If we compare this statement with the Labour Party's political line presented in the Working Plans and the Long Range Planning documents few years ago we can see quite a difference. Here the car no longer is presented as a problem and a burden on the nations economy, but as a symbol of growing prosperity and the future. This is a very clear indication that the picture of car technology was in rapid transformation and the policy in a flux. The image of private cars as something for individual use was on the way to be shaped and integrated into the Labour Party's ideas of a modern society. One can find other statement made by politicians that support this claim. In 1962 the Minister of Transport, Trygve Bratteli wrote:

*"The airplane and the car is pushing to find its natural place".*<sup>26</sup>

Two years later he wrote:

*"The car has given us a means of transportation that in a very substantial way has transformed our lives. It has given man the access to a new more free way of living".*<sup>27</sup>

If we leave out the deterministic aspects, the belief in autonomous technology,<sup>28</sup> in other words that this was a development that "had to come", these

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<sup>25</sup> "Våre oppgaver 1962-65" - a note for discussion, The Labour Party, written for the party's annual meeting in 1962, page 7.

<sup>26</sup> *Samferdsel*, no.1, 1962, page 8.

<sup>27</sup> *Samferdsel*, no. 2, 1964, page 4.

<sup>28</sup> Langdon Winner: *Autonomous Technology, Technics-out-of-Control as a Theme in Political Thought*, Mass. 1977.

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statements were remarkable. They were presented by a central leader in a party that had decided that the car was a luxury few years earlier. The view on private cars had definitively changed, and in a very substantial way. I think the transformation of the politicians interpretation of cars in addition to the explanations presented above must be related to two other developments: First a general transformation of the political ideology of the Labour Party in the late 1950 and early 1960's. Secondly the invasion of scientific ideas into planning bodies, the administration and the public consciousness. These two processes had much in common and represented in many ways the ideological and practical construction of "Modern Norway".

In the early 1960's representatives from the Scientific Communities moved into central positions and got strong influence on the Social Democratic elite. This alliance between researchers and The Social Democratic leaders was based on common ideas of what constituted a modern society.<sup>29</sup> This spur for modernity had more reasons, but an important force was the strong cultural and technological impulses from the more developed countries, most of all from the prosperous and vital post-war American society. These impulses were brought to Norway by different sources, by machines and technological equipment in connection with the Marshall plan. By corporate managers, trade-union representatives and engineers that visited USA for periods. Most important for the diffusion of ideas and production of modernistic ideas were the engineers. There are more reasons for this: First they had the technological skills and knowledge that were acquired for industrial development. Secondly they had vital roles as leaders and key persons in industrial corporations and federal planning bodies.

The new focus on technological development and scientific activities also took place in the transportation sector. A research institute for the communication sector were started in 1957. In the first years The Norwegian Institute for Transport Economics (TØI) employed only a handful researchers and their activities were limited. The institute and its researchers had little influence on the politicians. In the 1960's this changed, they were used for all kinds of planning and communication projects. TØI became a stronghold for modern ideas of transportation, a producer of ideas and knowledge, and later trained personnel for the bureaucracy. In 1960, Trygve Bratteli, one of the central politician of the Labour Party, was appointed new Minister for Transport. As his junior minister, Bratteli chose Robert Nordèn, head of TØI.

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<sup>29</sup> Drømmen om det moderne Norge - *Automasjon som visjon og virkelighet i etterkrigstiden*, STS - Rapport no. 13, Trondheim 1992.

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This represented both a symbolical and practical coupling between the transport research and the political establishment from the top. Without dramatizing this appointment, it must be judged as a signal of the increasing practical importance of this type of knowledge for the administration. In the years to come, more researchers from TØI moved from the institute to the administration. The diffusion of knowledge and values from the institute sector to the bureaucracy by human carriers became important for the work carried out by the administration. It also had great impact for the way modernistic ideas could be diffused and integrated into public planning bodies and by that put to work.<sup>30</sup>

If we move full circle to the private car and the way the picture of this artefact changed in the 1960's, then the changing interpretation of cars must be related to the ideological shift of the political elite partly. This was partly imposed by the researchers and their ideas for modern transportation. In the eyes of the researchers the car represented a modern way to solve transportation matters.<sup>31</sup>

## THE SOCIAL CONSTRUCTION OF A MODERN CAR

This sketchy story has several other important aspect: The creation of planning bodies and institutions, the build-up of a national road system, the expansion of national and local institutions for traffic regulations, the formation of associations for commercial interests, cultural shifts owing to the increased use of cars, the change in rural and urban areas, the transformation of the life for the "common man", so on. I have just cut a thin slice of it.

I started in the present with the "green car" as an example of the manysided process, the constant construction and reconstruction of technology. I then presented another example of changing interpretations of technology by using the Volkswagen as an example. Then I tried to show some changes in

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<sup>30</sup> Per Østby: *A Road to Modernity - Highway Planners as Agents for Social Transformations*, STS-Working paper no 8/90.

<sup>31</sup> Wiebe E. Bijker, Thomas P. Hughes and Trevor J. Pinch: *The Social Construction of Technological Systems*, Cambridge, Mass, 1987. Knut Holtan Sørensen: "The Norwegian Car. The cultural Adaption and Integration of an Technological Artefact", in Knut H. Sørensen og Anne-Jorund Berg(Eds): *Technology and Everyday Life: Trajectories and Transformations*, Rapport no. 5, Oslo 1990.

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the political view on cars in the 1960's, what I have called the construction of "a modern car", "a norwegian car"<sup>32</sup> or "a social democratic car".

The main point has been a rethinking of technology, and by that of the car. What for us seem to be a homogeneous technical artifact at closer scrutiny turns out to be a rather heterogenous one, constituted by different elements according to time and point of view. A burden on the nations economy and a kind luxury for some, modern transport and a "new freedom" for others. The social and cultural aspects of technological development should be no surprise to anybody.<sup>33</sup>

There are several possible methodological and theoretical aspects related to this development. One way to analyze the introduction and integration of private cars into the Norwegian society, is to look at it as the creation of a technological system. How are such systems created? Who are the entrepreneurs? What elements do such systems consist of? The system approach seem a very suitable way to describe the creation of large technological systems and map various "actors" participating in such processes. The system approach seem less able to describe later stages of such developments. What happens to established system when they are exposed to internal and external pressure? How are they restructured?<sup>34</sup>

Another possible way to describe the success of the private car is to view it as the creation of a network consisting of human actors and non-human elements. There is possible to identify several actor-networks related to the car. One was, as I have shown, the ideological and pragmatic alliance between scientist and politicians. Another network, not mentioned in this paper, was constituted by persons in the bureaucracy and commercial interests. There were other. Such actor-network also incorporate non-human elements, such as the nations economy, the roads, insurance companies, traffic regulations, so on. Important in this connection are: What kind of strategies are used to enrol other actors or elements into the network? What actors are contributing to the network and what is the strength of the network?<sup>35</sup>

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<sup>32</sup> Berg and Sørensen 1990.

<sup>33</sup> For an overview of the development of the History of Technology see John M. Staudenmaier, S.J.: *Technology's Storytellers - Reweaving the Human Fabric*, Mass 1985.

<sup>34</sup> Thomas Parker Hughes: *Networks of Power: Electrification in Western Society 1880-1930*, Baltimore 1983.

<sup>35</sup> Bijker, Hughes and Pinch 1987, Michel Callon: "Society in The Making: The Study of Technology as an Tool for Sociological Analysis", page 83. Bruno Latour: *Science in Action*, Milton Keynes 1987.

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In my paper I have stressed a third methodological tool. Main concepts according to Bijker and Pinch<sup>36</sup> are relevant social groups, interpretative flexibility and closure. Relevant social groups are persons or groups that have vital influence on the development or the interpretation of a certain technology. With the concept interpretative flexibility the authors points at the fact that technology are socially and culturally constructed. That means that technological concepts are open for interpretations. Different relevant groups see or interprets technology in their own way according to their values, beliefs and wishes. A third concept is closure or stabilization. At one point or another in the process from development to readymade technology one or more group decide the content and the sape of technology. Related to the car, examples of this could be the as luxury, the car as a benefit, the car as a sign of success.

After a closure the changes in design or interpretations are few and small. A closure can be technical or social. An example of an attempt to reach an social or rhetorical closure is the advertisements for "a green car".

I have argued for the freeing of the car as a social construction of a modern car, available for the masses. In the post-war years there existed more interpretation of car technology. There were several relevant social groups with different views on private cars. I have mentioned the political elite that saw private cars as luxury, the drivers associations on the other hand promoted the cars as a natural right for every citizen and the researchers at TØI which saw the car as a modern transport, a vital premise for social development, so on.

The "freeing" of the car in 1960 could be regarded as a "closure" of different views on car technology. This closure was social because no important technical development was involved. The politicians started to use a combined description of the car both as a new way to freedom and a new and better solution for the industry with regard to transportation. The most influential groups, the politicians, commercial interests and the scientific community found an agreement in the visions of modernity.

Then what is a car? An ensemble of different metals, plastic and rubber, a technical artefact where speed, endurance and reliability is the main features? Of course not. This artefact is also a part of a wider system, constituted and integrated with cultural values, political decisions, economic resources and social evaluations. Values and relations that are shaped and reshaped over time. The car is both a means of easy and flexible transport and a pluralizing symbol in constant transformation depending on time, place and situation.

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<sup>36</sup> Bijker, Hughes and Pinch 1987, page 38-40.

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Norway never had any car production, so we have been a receiver of readymade technology. On this background I have claimed that the development and definition of the car has happened on the social and cultural side. I have focused on one stage in this definition process, the creation of a modern car.