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NEGOTIATING AUTOMOBILITY -
Consensus and Conflict 1960 - 1980

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Introduction

A so called "environment-friendly Volkswagen Golf" was presented at a car exhibition in Oslo 1991.¹ This way was not an isolated event, in other contemporary advertisements we have seen this way of promoting new cars. An environment-friendly, "a green car", based on rhetorical and symbolical constructions seem to be one of the ways the automobile industry attempts to cope with increased public focus on the negative consequences of mass-motorization. Such attempts to reconstruct the car socially has its limits. Shortly after the exhibition the Norwegian Consumers' Council decided this way of promoting cars was illegal. The argument for this decision was:

*"Cars are such a treat to people's health and safety that they cannot be promoted as environment-friendly."*²

This seemingly harmless conflict has several implications: First it indicates the interpretative flexibility of a technological artefact. Second, it exemplifies a continuing battle between different actor groups or actor-networks using different strategies to get support for their "interpretation" of the car. Thirdly, the attempt made by the commercial sector, and the fast response from state authorities points at a more serious conflict where vast economical interests and social structures/systems are at stake. I will not follow all these paths.

My paper has two main aims: First it is a preliminary draft for a more comprehensive study of conflicts tied to motor cars in Norway. Secondly, it has a more limited perspective: it is an attempt to isolate some elements of change regarding cars that took place in the 1960s and 1970s. During these two decades Norwegian attitudes towards motor cars went through substantial transformations. While the 1960's were a period of widespread acceptance of private cars as a necessity and a benefit, both for the general public and the authorities; the 1970s became a decade where such views were challenged. Mass-motorization became the target of harsh criticism and several conflicts.

To comprehend the Norwegian development it is necessary to emphasize two main features: First that Norway never had any car industry, which meant

¹ Brochure distributed at the international autoshow at Sjølyst, Oslo 1991. "Volkswagen - takes environmental problems seriously". The legitimisation for calling it an environmental car was that it let out 30 % less poisonous exhaust-gases than equivalent cars.

² "Reklamestopp for miljøbiler", Aftenposten 8. may 1991.

cars were imported, and as such ready-made technical artifacts. Secondly, changes in car-technology between 1960 and 1980 were too limited and incremental to justify substantial shifts in the way cars were perceived over the period. Consequently we should redirect our focus from the technical development to the political, social and cultural elements "surrounding" the car. My focus has been the creation and appropriation of an infrastructure for cars, a continuing process of construction and deconstruction of mental and physical structures. My stress has been the creation of physical structures: the visions guiding, and actions taken by the human constructors of these structures.

In the years between 1964 and 1975 two ambitious and comprehensive plans for the development of roads in Norway were made: Norwegian National Plan of Roads 1 (NVP1), and Norwegian National Plan of Roads 2 (NVP2). The first period of planning was between 1964 and 1969, the second between 1972 to 1977. These plans had important implications, both for the communication sector, and for other sectors of the society. They seemed to be characterized by, and based on ideas and visions of central actors in these two decades. NVP1 and NVP2 was carried out in two different decades, and they differed substantially concerning problems to be solved, type of expertise utilized, methods used, and the institutions involved.

My question is simply: What caused these changes, and in which way did these differences reflect and influence the changing view of cars?

The Golden Years - NVP1

From 1934 to 1960 the Norwegian government heavily restricted import and sale of private cars in Norway. The official explanation for this restrictive policy was limited reserves of foreign currency. The Social Democratic Government's view was that currency should be used for more important types of import than private cars. There are also indications that the government saw ownership and use of private cars as a luxury not in the interest of the general public.³ William Plowden has pointed to the same cause for regulations on the sale of private cars in England until 1958. According to Plowden, the British Government saw private cars a middle class privilege.⁴

While the government kept to their regulations; the car dealers and the drivers' organizations promoted private cars as modern transport, and a natural benefit for ordinary people. They used newspapers, chronicles and different types of actions to promote cars, but had little immediate impact on the official

³ Question from Parliamentary member Granum on restrictions on import of vans and private cars, Stortingstidende 1951, page 2567.

⁴ William Plowden: The Motorcar and Politics 1896 - 1970, London 1971.

car-policy in this decade. They simply did not have sufficient leverage in a time where the Social Democratic party held an absolute majority both in the national Parliament and in most local councils.

The value of private cars imported before 1960 never exceeded 2 percent of the value of all imported goods. Following the removal of restrictions on the import and sale of private cars 1960 the value quickly rose to 3 percent.⁵ Still, the restrictions were kept longer than for most other types of consumer goods. In October 1960 the restrictions were removed and in few years private cars gained a central role in Norwegian society. An example of this new role for private cars can be seen in a pamphlet produced by the dominant political party: The Labour Party. Here we can read this hilarious statement:

*"The decade we are entering was baptized already at its start. It was named the golden years. The car and the TV stands out as symbols for the new level of prosperity we now are entering."*⁶

Compared to the early 1950's such a statement represented quite a change. The leading political party no longer presented private cars as a burden on the nation's economy or as a luxury. On the contrary it was used as a symbol of growing prosperity, belief in the future and a modern society. There were three main causes for this change: First a general transformation of the political ideology of the Labour Party from the late 1950s which continued into the early 1960s. Secondly, it was the result of an invasion of scientific ideas into political decisions and public consciousness. Thirdly, it was a result of the success of the car both as a means of transportation and as a personal benefit. One may ask what role the commercial sector had played in this change. The answer will be that they had limited impact.

The first element of this change, the ideological shift of the Labour Party, can be described as a change from an attempt to steer all elements of the nation's economical life through long time planning and regulations to a more indirect regulatory system. Several Norwegian historians have given detailed descriptions of this shift in economical policy, so I shall skip any details here.⁷

Secondly, in the late 1950s and throughout the 1960s representatives from the Scientific Communities achieved a growing influence on the elite of the Labour Party. This alliance between researchers and Social Democratic leaders was based on a convergence of ideas of what constituted a modern society.⁸

⁵ Opplysningsrådet for vegtrafikken: Bil og vei - Statistikk 1991, Table page 53.

⁶ "Our Tasks 1962-65 - A note for debate", The Norwegian Labour Party, written for the yearly meeting of the party 1962, page 7.

⁷ For example Even Lange & Tore Jørgen Hanisch: Veien til velstand, Oslo 1986. Trond Bergh (ed): Vekst og velstand, Oslo 1981.

⁸ Stig Kvaal: Drømmen om det moderne Norge - Automasjon som visjon og virkelighet i etterkrigstiden, STS - Rapport nr. 13, Trondheim 1992.

Engineers were the most important group for this diffusion of modern ideas. In the communication sector The Institute for Transport Economics (TØI) was established in 1958. It became a stronghold for new ideas about transportation, and delivered premises and visions for the political elite and the bureaucracy. In many ways the scientific community for transport economics acted as bridgebuilders: translators of car technology to Norwegian society. By constructing scenarios of social development and growing prosperity linked to the increased use of cars they bridged the gap between commercial interests and the political elite.⁹

A third explanation must without doubt be linked to the car itself. A lot is written and a lot can be said about the seductive character of this technological artefact. James J. Flink has in several studies shown many of the aspects of the relation between cars and individuals.¹⁰ David L. Lewis and Laurence Goldstein have edited a comprehensive collection of articles treating the Automobile and American Culture from various angles.¹¹ In Scandinavia Emin Tangstrøm has treated this relation as a question of power executed in many micro-circumstances.¹² Knut Holtan Sørensen has written about the "Norwegian Car"¹³ and in a recent study, a thesis in sociology delivered at the University of Trondheim, Marit Hubak has tried to show the seductive aspects of cars through a study of the marketing of cars in Norway.¹⁴

The result of the widespread acceptance and integration of cars into society can be seen in different ways. One was the accelerating number of new cars sold in this period another the increased rate of use. The number of private cars rose from 122,000 in 1955 to 694,000 in 1970, the frequency of use from 1.0 billion person-kilometres in 1946 to 4.8 billions in 1960 and 17.8 billions in 1970.¹⁵ Another way is the documents produced by the authorities and the political elite. Trygve Bratteli, a central Labour Party leader, Minister of Transport from 1960 to 1964, and later the Prime Minister of Norway wrote in 1962:

⁹ Per Østby: A Road to Modernity - Highway engineers as Agents for Social Transformations, STS - Working paper nr. 8/90.

¹⁰ James J. Flink: The Automobile Age, Cambridge, Mass and London 1988.

¹¹ David L. Lewis and Laurence Goldstein(Eds): The Automobile and American Culture, Ann Arbor 1986.

¹² Emin Tangstrøm: Bilismen - I kris?, Kristianstad 1991.

¹³ Knut Holtan Sørensen: The Norwegian Car - The Cultural Adaption and Integration of an Imported Artefact, STS-workingpaper nr. 5/90.

¹⁴ Marit Hubak Karlsen: Den forførende bilen - En analyse av markedsføring som sositeknisk handlingsfelt, Institutt for sosiologi og statsvitenskap, Universitetet i Trondheim 1992.

¹⁵ NOU 1984:6 Personbilpolitikk, Oslo 1984, page 25, table 3.1.1 and page 31, table 3.2.1.

*"The airplane and the car is pushing to find its natural place in society."*¹⁶

Its natural place, no less. In 1963 he wrote:

*"The strong increase in the number of cars makes it imperative to strengthen our road system so we can have the full benefit of cars for transportation purposes."*¹⁷

And in 1964:

"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 and qualitatively richer life. A free way of living!"

This way of describing the car represents quite a shift from the 1950s when cars were described as transport, a burden on the nation's economy and a luxury. The same appraisal can be found in other political documents of the 1960s. In a draft produced by the Labour Party for a long range policy for the communication sector for the years 1966 to 1969 one can read the following:

*"Cars are rapidly becoming every man's possession. Strong demands for better roads will be raised from all levels of the population. On that background it is a political task of highest priority to strengthen the infrastructure so it can serve this rapidly growing traffic in a satisfactory way."*¹⁸

While a central theme and area of conflict between diverging interests in the 1950s had been the restrictions on import and sale of cars, the main focus in the 1960s became the roads. How to create a system of roads that could serve the fast growing number of cars, and how to build them fast enough. This directs our attention to the third main point, the substantial increase in investments and the political significance of improving the country's infrastructure. The development of automobility in Norway was in many ways a question of the appropriation of the infrastructure for the use of cars. That meant the creation of new institutions or reshaping of the old ones, the planning and building of roads and the development of rules for the motor traffic. I have concentrated my attention on the arteries of transport, and its visionaries and creators, the road planners.

The initiative for the first comprehensive roadplan in the post-war period, Norwegian Plan of Roads 1 (NVP1), was taken by a small informal group of traffic engineers in cooperation with central leaders from the research milieu, the drivers organizations, and the car dealers organizations. The initiators vision

¹⁶ Samferdsel nr.1 1962, page 8

¹⁷ Samferdsel nr. 2 1963, page 5. Written by Trygve Bratteli.

¹⁸ "Utkast til Arbeidsprogram for samferdselssektoren 1966-1969", The Norwegian Labour Party, no date, page 9.

was to create a plan for the improvement of existing roads and the building of new roads for the period from 1970 to 1990.¹⁹

NVP1 was thought to be, and became a masterplan for the roads. And up until that time one of the most comprehensive plans ever carried out in Norway. The work started in 1964 and was finished in 1969. The way in which these persons enrolled other actors and institutions for their idea of a central plan of roads is intriguing and interesting, but must be left out of this discussion.²⁰

When the work started in 1964, several of the initiators of the plan were appointed to the planning committee. In addition to the planning committee of six, several engineers from The Directorate of the Public Roads were put to work. But without doubt, the most central participants in the work with the plan were researchers from The Institute for Transport Economics (TØI). They came to represent the professional expertise before and during this work, their visions and knowledge became quite central for the plan.

The professional composition of the planning committee were limited. Only two professions, engineers and economists, were represented. In addition, the professional composition of the planners working with the plan on all levels and with regard to all important decisions had the same limited representation. This was not accidental. The few engineers of transport in Norway in this period saw themselves as a driving force for modernization of communication. According to the leader of the planning committee, Karl Olsen, planning in Norway had been too casual, too much based on the politicians fight for better or new roads in their own county. The planning of the countries main roads had to be given a comprehensive solution. In Olsen's opinion the politicians didn't fully comprehend the needs of the coming motor age.²¹ According to the planning committee, by the use of rational and objective models they could decide which roads to build or improve in the future. To illustrate the smugness and ambitions of these entrepreneurs of better roads and "modern transport", I will quote a statement made by the leader of TØI, from 1963, at the time when the work with NVP1 was going to start:

*"We are developing scientific methods that will make it possible to predict the total development of this society, and thereby the need for transport in the future."*²²

¹⁹ Interviews with Karl Olsen, Arne J. Grotterød and Robert F. Nordèn. "Vegplankomiteens sluttdokument", The library of TØI.

²⁰ Described in Per Østby: De gyldne årene - Massebilisme på 1960-tallet, STS-Arbeidsnotat nr. 10, Trondheim 1990.

²¹ Interview with former director of roads Karl Olsen, Oslo 15/2 1990.

²² Erik Brand Olimb: Norsk Vegplan - Innledning til diskusjon om et opplegg, TØU 1963, page 2-3.

The quotation is cut out of a larger context, but it indicates the strong ambitions of this milieu, the belief in new scientific methods as an objective and rational way to guide the planning and construction of new roads. Mark H. Rose and Bruce E. Seely have stressed a similar attitude among american highway engineers during the early phases of the construction of the Interstate.²³ It was a time of entrepreneurship and technological enthusiasm.

To put it short, NVP1 became in all respect a comprehensive and detailed plan, an investment-proposal for a new major road system outside the cities for the period 1970 to 1990. It was presented for the general public in June 1969. To the planning committee's astonishment, the plan was heavily attacked in media. The plan was debated in the Parliament in October 1971, and suffered the same criticism there. It is valid to see the presentation and criticism of NVP1 as a changing point in many ways.

The criticism of NVP1 had several main elements. The first was a continuation of a discussion that had been going on during the 1960s, the question of the relation between better roads and social development in the rural areas. The strong tendency towards urbanization in the 1950s and 1960s was being questioned both politically and by the public. According to the critics, the plan encouraged centralist and urbanizing tendencies in two ways, first because the proposal would invest more money for the roads in central areas than in the rural areas.²⁴ And by using prognoses built on existing trends it would strengthen these tendencies.²⁵

A second main point was the strong technocratic tendencies of the plan. The major part of the finished plan was based on estimates, cost-benefit calculations and technical evaluations that had also been the starting point and the basis for the work.²⁶ Tightly linked to this point was a criticism of the ideology of the planning committee, they were criticized for seeing their work as an activity above political conflicts and decisions.²⁷

The same year as the NVP1 was presented to the public, other signs of a changing political consciousness concerning the negative consequences of motorcars also could be seen. Two reports presented for the Parliament extended the criticism raised against NVP1. One report established a relation between urbanization and the negative consequences of the use of cars. These

²³ Mark H. Rose & Bruce Seely: Getting the Interstate System Built: Road Engineers and the Implementation of Public Policy, 1955 - 1985, i *Journal of Policy History*, Vol. 2, No. 1, 1990, page 25.

²⁴ Nationen, editorial 1/8 1969, Østlendingen 21/10 1969.

²⁵ Morten Thornquist: Planlegging og omgivelser - En studie av reaksjonene på norsk vegplan, Institutt for statsvitenskap, Oslo 1971, page 121.

²⁶ Thornquist 1971, page 130 - 132.

²⁷ Ibid.

consequences was specified as queues, noise, accidents and the reduced quality of the environment.²⁸ The same tendency, but this time as a general concern for the environment, can be seen when the Parliament discussed the Long Time Programme for the years from 1970-1973. Environmental problems got a central position. This was stressed by all political parties with only minor differences.²⁹ In 1969 the Department of Transport stated through a set of new regulations that cars not should emit harmful gases or smoke.³⁰

What we can see is that from the end of the 1960s there was a slow but growing political concern for the negative consequences of mass motorization. Even if the criticism of NVP1 only in a limited way focused on what we today see as environmental questions, the criticism did touch central elements and constituted the seeds of the environmental concerns of the 1970s. The motorcar and its negative consequences for the environment was gradually being perceived as a problem by politicians. When we leave the 1960s and enter the 1970s, views of cars was in transformation and so were the attitudes of the administration, planners and the political elite.

The Turbulent Seventies - NVP2

The criticism of NVP1 initiated an intense activity in The Department of Transport and The Directorate of Transport preparing a new plan, NVP II. The preparations continued until January 1972 when a new planning committee were appointed and the work with NVP2 started.³¹ Two central members of the "old" committee, Karl Olsen and Arne J. Grotterød, were appointed to the new committee. Except for the continuity in persons, there came to be substantial differences between the two plans.

While NVP1 had outlined the major road system outside cities, the focus of the new plan was the roads inside cities and in heavy populated places. Another difference was the professional composition of the committee. Also this time there were economists and engineers represented in the committee, but in addition architects and professional politicians. A representative of a new ministry, the Ministry for the Environment was also included in the committee.³² In the same way as with the first plan, the main bulk of work was going

²⁸ St.meld nr.96 (1969 -70), Om erfaringene med samferdselslovene m.v, Oslo 1970, page 6.

²⁹ Langtidsprogrammet for 1970-73. The Parliamentary debate 15.06 1970. St.tid page 3456.

³⁰ Kjøretøysforskriftene fastsatt av Samferdselsdepartementet 31.12 1969, § 14.

³¹ St.melding nr. 14 1970-71.

³² St.melding nr. 9 (1978-79) Om trafikk og bymiljø - Norsk Vegplan for byer og tettsteder, page 5.

to be done by experts and researchers outside the committee and by the Directorate of Highways. A substantial part was also this time to be carried out by TØI; but this time additional researchers were collected from a new research institute, The Institute for City and Regional Research (NIBR) established in 1964.

As we can see there were differences according to the focus of the plan, professions, participating institutions and departments. Another vital difference was the intended procedure of this work. While the first plan had been a centralized planning process, NVP2 was intended to decentralize the planning. The central committee was supplemented with 71 local committees that should participate and give suggestions for the planning of the infrastructure in their own districts.³³

A last, but crucial difference between the two plans was what kind of issues the new plan should take into consideration. The mandate of the planning committee explicitly stated that one should put weight on and consider other aspects than the economical and the technical sides of the roads, such as existing settlements, traffic safety, the use of free areas - in short the environment. The mandate for the plan also stated that most of the practical planning had to be done by the local committees.³⁴

These differences showed a will, maybe even a strongly felt need to carry out planning in a new way. Even though one in retrospect know that the changes made in many ways were purely cosmetic, it was a strong indication of growing tensions and a new consciousness. It was no longer possible to carry out planning as an isolated activity independent of contemporary political decisions and general social and political development.³⁵

The work with NVP2 started in 1972 and was finished in 1977. In addition a parallel work, Norwegian Plan of Communication, a comprehensive professional and political treatment of all types of communication was carried out in these years. While NVP1 had caused massive criticism and harsh attacks, the presentation of NVP2 in 1977 resulted in little criticism.

Reasons for Change

There were some obvious and other more subtle causes for the different intentions and planning procedures of NVP2. Obviously the hard criticism of NVP1 was a message that could not be misinterpreted by the planners and the

³³ Ibid.

³⁴ St.meld. nr. 9 (1978-79), page 5-7.

³⁵ Tor Lerstang og Per Kristian Mydtkse: Erfaringer fra Norsk Vegplan 2 - Sentral styring og lokal planlegging, NIBR rapport nr. 43, Oslo 1977, page 83.

administration. The Directorate for Highways, The Ministry of Transport and the political authorities felt the pressure of the criticism. The chairman of the NVP1 committee and the Director of Highways, Karl Olsen, recalls this period as the worst in his life and he writes:

*"We were criticised everywhere, in the newspapers, in the radio and on TV, by the Norwegian public in general. I had to defend the plan everywhere. In periods it was like being in hell."*³⁶

He tried to ascribe the criticism to nearsighted politicians that had lost their own special piece of road in the comprehensive plan. Even though the committee members felt that the attacks were unfair, they acknowledged the need to respond to the criticism by making substantial changes. This need of a change was also stressed by the research milieu, the administration and the Ministry of Transport. When NVP1 was discussed in Parliament, the Minister of Transport emphasised the ongoing work to prepare a new plan. This was a task of highest priority and this time "*.. from the first step the work should be the object of close political guidance.*"³⁷ This was repeated in the first meeting of the new committee where one of the main documents was a collection of citations from the Parliamentary debate.³⁸

Another important and quite obvious reason for the shifting attitude towards cars and planning of new roads was the strong increase in number of cars from 1960 to 1970. The "flood" of new cars had been used as an argument and a legitimation to start NVP1, this time mass-motorization and its negative consequences for the environment was visible for anyone that wanted to see it. The number of traffic accidents reached a maximum in 1970.³⁹

A technocratic masterplan, and poor aunt Annie next door being killed by a car, were obvious signals of that something had to be done. But there were other important explanations for these changes. I have divided these explanations in external and internal forces, well aware of the problems using such a dichotomy since there were strong interrelations and overlaps.

One example of external pressure for change was the international and national discussions related to the contradiction between continued industrial and economic growth and the pressure on the environment. It was a new concern for what constituted the good life, brought forward by a growing public concern, activities carried out by anti-establishment movements, political discussions, and by signals from the scientific community. Central in this connection is the concept counter-culture. It is a familiar, but diffuse concept.

³⁶ Kjell Hegdalstrand (Red): *Fra kjerreveg til vegplan - vegingeniøren forteller*, Hamar 1988, page 65.

³⁷ The Parliamentary debate over Norsk Vegplan 1, 26.-27. oktober 1971, *St.tidende* page 408-.

³⁸ Minutes of the meeting of "vegplanutvalget" (the road-plan committee) 8.03 1972.

³⁹ Opplysningsrådet for vegetrafikken: *Bil og vei - Statistikk 1990*, page 94.

Thomas P. Hughes uses it in his book *American Genesis*. According to Hughes one aspect of the counter-culture was a distrust towards the values, and trends of development of our highly technological societies.⁴⁰

The internal pressure for change was mainly a result of problems perceived by the planners themselves during the work with NVP1 and by tensions within the scientific milieu. In the final document for NVP1 the committee had stressed the need to create a plan for the roads inside the cities, a question that was barely treated there.⁴¹ Another increasingly vital problem during the work with the first plan of roads and in the daily activities at the Directorate of the Roads, was a growing tension between central and local planners and plans.⁴² This conflict was linked to institutional and professional changes in the scientific milieu. An indication of these changes was the establishment of a new institute for planning: The Institute for City and Regional Research (NIBR) in 1964. It challenged the dominant role of TØI as the expert organ in the communication sector. New problems had made it possible for other professions than economists and engineers, especially architects and social scientists, to move into this field of planning.

I will try to look at these developments in more detail:

External Pressure

In his book, *The Consequences of Modernity*, Anthony Giddens points at one of several features characterizing modern institutions: the strong and increasing interrelation between local and global developments. According to Giddens modern institutions are cut loose from their local boundaries and tied to the international development.⁴³ This applies to the development of environmental consciousness in the late 1960s and the 1970s. In the same way as the planners of NVP1 had their ideas of a national systems of roads from the international development,⁴⁴ the new focus on the relation between mass-motorization and

⁴⁰ Thomas P. Hughes: *American Genesis*, New York 1989, page 444-445.

⁴¹ Sluttdokumentet fra vegplankommiteen, kapittel 13.2.

⁴² This problem was underlined in many documents, among them a talk given by Arne J. Grotterød: *Målsetting med norsk vegplan II* (The goal of Norwegian Road-plan 2), held in Teknisk forening (The Technical Society), Oslo 16.november 1972.

⁴³ Anthony Giddens: *The Consequences of Modernity*, Stanford 1990, page 176 - 177.

⁴⁴ An important inspiration came from Sweden where they had started work on a similar national road-plan earlier. But the most important ballast of ideology and knowledge the engineers had from postgraduate studies at american universities such as Yale. Central actors such as Arne J. Grotterød and Karl Olsen had such postgraduate studies in the USA behind them. Interviews with these persons shows that they were influenced by these studies, but also

the negative consequences for the environment was strongly interrelated to and influenced by international debate and development. But in addition to established institutions such as TØI, the globalization and interrelation seem to have reached informal and formal organizations.

I have already mentioned the concept of a counterculture which has a wide variety of connotations. In the 1960s several books that presented a serious concern with the technological development in the industrial world reached an international audience. Rachel Carson's *Silent Spring* came in 1962, Barry Commoner's *Science and Survival* in 1966 and *The Closing Circle* in 1971. Furthermore philosophers such as Jaques Elull, Herbert Marcuse and Lewis Mumford, poets such as Allan Ginsburg and a plethora of musicians influenced the public in western societies. The scientific and cultural attacks on the technological development and especially large scale technologies was strong.

Norway stepped into the motor age rather late, and the dark sides of mass-motorization was hardly felt before the late 1960s. By then the international scientific community had been working with environmental questions for years. There are some well known examples of this early works that influenced researchers in the first place, but also politicians and the general public felt the impact.

The Buchanan Report, *Traffic in Towns*, was presented in 1964. The work was initiated by British authorities as a result of growing concern with problems in the cities caused by the increased use of cars. The report concluded with a plea for the appropriation of the cities to the new demands of the Motor Age. To save the inner cities, the communication lines and the residential areas should be shaped to serve a high and growing number of cars.⁴⁵ Another important impulse in the early 1960s came from similar work carried out by researchers at Chalmers Institute of Technology in Gothenburg: *Arbetsgruppen for Forskning om Trafiksakerhet*, (SCAFT). SCAFT directed its attention towards traffic safety. SCAFT promoted principles for a physical separation of different types of traffic.⁴⁶

The conclusion drawn from both of these studies were that the physical structures of the cities should be shaped by and adapted to the increased use of cars. These two projects were known and used by the planners working with NVP1, they were also referred to by politicians that criticized the increasing

understood that the knowledge acquired had to be adapted to Norwegian circumstances.

⁴⁵ Collin Buchanan et al: *Traffic in Towns*. A study of the long term problems of traffic in urban areas, London 1963.

⁴⁶ SCAFT; *Riktlinjar for stadsplanering med hensyn til trafikksekerhet*, Stockholm, 1965 and 1968.

number of traffic accidents.⁴⁷ The ideas of both Buchanan and SCAFT were in good correspondence to the ideological basis of the main planning milieus in the communication sector in the 1960s, in this case TØI and The Directorate of The Roads. According to their vision of the future the increase in the number of cars was inevitable, and one had to create an infrastructure that would suit this inevitable fact. This view was expressed as late as in 1971, when the Norwegian Parliament discussed NVP1, by the Norwegian Minister of Transport from The Labour Party, Reiulf Steen. In the debate he said:

*"There are several factors that decides the development of transport, but only a few of them can be controlled by the state authorities. The development of mass-motorization is mostly decided by the international motor industry."*⁴⁸

In addition to research reports and literature that saw mass-motorization as inevitable, a natural outcome of continued technological development, there were critical voices that questioned the view that this was a development that "had to come". A book that influenced both the general public and researchers was Kenneth R. Schneider's *Autokind vs. Mankind*. It presented mass-motorization as a central social problem. Schneider called for a battle against the evil empire of the private car, or as he phrased it: against Tyrannus Mobilitis.⁴⁹

Another example of this type of critical international literature was E. J. Mishan's *The Cost of Economic Growth*, published in Great Britain and in USA in 1967. Mishan questioned the necessity and need for continuation of a social development where economic growth and prosperity was the main social values. He attacked The Buchanan Report as a technocratic solution to central social problems. According to Mishan the report was another example of the ambition to build oneself out of the problems of the cities and not an alternative. In Mishan's view, instead of shaping a infrastructure for motorcars, one should restrict and regulate the use of cars.⁵⁰

Even more interesting is his criticism of two central professions in planning apparatus, the engineers and economists of transport. According to Mishan, these professions utilized an extremely limited set of variables in their models for traffic planning. Social costs, traffic accidents, noise, dust and smell from the cars were not taken into account. He concluded by pointing to the inhuman tendency of their ideology and in their work.⁵¹ Mishan's criticism

⁴⁷ St.melding nr 87. (1966-67) Om distriktsplanlegginga, Oslo 1966, page 43.

⁴⁸ Negotiations of the Norwegian Parliament regarding NVP1, Nr 48, 26.10.1971, page 406.

⁴⁹ Kenneth R. Schneider: *Bilen mot mennesket*, Oslo 1972. Original title: *Autokind vs Mankind*.

⁵⁰ E. J. Mishan: *The Cost of Economic Growth*, London and New York 1967, *Growth: the price we pay*, 1969 and *Økonomisk vekst - til hvilken pris*, Oslo 1971, page 107.

⁵¹ Mishan 1971, page 112.

is interesting because it directs our attention towards central elements in the changes from NVP1 to NVP2, the shifting professional composition in transport planning. Mishan's book was one step forward related to works such as SCAFT and The Buchanan report. From a fatalistic and deterministic to a more offensive attitude towards the problems of mass-motorization.

But there were also other international tendencies that influenced the national attitude, the authorities were influenced by actions on multinational level, by the UN and OECD. The United Nations decided in 1968 to arrange a conference on environmental questions. Comprehensive scientific documentation were gathered and the conference was held in Stockholm in 1972 with participants from most of the world.⁵² In 1971 the Menton-declaration was signed by several thousand biologists and researchers oriented towards environmental problems.

In 1970 the book *The Traffic War* (Trafikkkrigen) was published in Norway.⁵³ The book was frequently referred to and much used in the public debate. There were also other books, but a substantial part of the Norwegian literature concerning mass-motorization in the early years 1970s were published as pamphlets, handouts and as periodicals. This directs our attention towards activities carried out by ordinary people, not researchers, bureaucrats or politicians. Activities that came to influence the politicians and the planners.

"The people" is always hard to get a grip on for historians. One possibility is that the public view is expressed in newspaper-debate. The problem with using this source was evident in connection with the publication of NVP1. Morten Thornquist points at the strong representation of "professional people" in the debate.⁵⁴ I think we can experience the same problem if we look at the debate on environmental question related to cars and building of roads. It is a difficult problem to overcome. I have tried to describe the general view as represented by organizations.

In this connection there was several organizations working with questions related to the environment in the 1970s. From official organization paid by and closely connected to the authorities, to small informal groups with short existences and of limited influence. In *Power and the Environment* Alf Inge Jansen points out the strong growth in the number of what might be called environmental organizations in Norway between 1960 and 1970. This seems strange when we remember the emphasise on the seventies as the years of revolt. But Jansen suggests that the intense attention toward environmental questions in the 1970s should be seen as a fruit of the work carried out by

⁵² Bredo Berntsen: *Naturvernets historie i Norge*, Oslo 1978 (The History of Norwegian Nature Conservation), page 156-159.

⁵³ Carlsen og Ystgaard: *Trafikk-krigen*, Oslo 1970

⁵⁴ Thornquist 1971.

these organizations in the 1960s.⁵⁵ I shall briefly look at two examples of such work, one formal and one informal organization.

The first example of a organization started as an informal ecological-philosophical group centred around professor Arne Næss and Sigmund Kvaløy at the University of Oslo. The activities carried out by this milieu was later formalized and "Samarbeidsgruppa for natur og miljøvern" (snm), was established. This organization rapidly spread to other Norwegian universities. The early focus of SNM-activity was the construction of hydro-electrical powerplants and their impact on nature. At a later stage, much of SNM's attention was directed against mass-motorization, or more precisely against what SNM saw as the destruction of the inner cities by the construction of new roads and highways.⁵⁶

SNM had a periodical, *Miljømagasinet*. This periodical became a channel for information, and connected the different activist-groups that fought the use of private cars in the cities. The criticism were directed against the authorities and planners of new roads.⁵⁷ The periodical focused especially on the ideology of the planners and exemplified by showing the impact on road projects.

In relation to activities directed towards mass-motorization in the 1970s, SNM was an important organization, acting as a common link between a growing number of small ad-hoc movements and actions. Such groups were often established in connection with local road projects in the cities, and the initiative were taken by the inhabitants of the actual areas. During the 1970s, there were a lot of actions by inhabitants of residential areas in several Norwegian cities. One such battle against ambitious plans for new roads were fought in connection with a regulation plan for an old part of the city of Trondheim: Bakklandet. This small residential area had been tormented by increasing traffic during the 1960s and the 1970s. The residents established a local association, Velforeningen Uredd. Uredd fought the local authorities during most of the seventies. They used all kinds of methods from occupying houses and blocking roads, to information meetings and lobbying in the local council. The activists had some success, some of the roads were closed, a highway planned through the area in the middle of the seventies is still unbuilt.⁵⁸

⁵⁵ Alf-Inge Jansen: *Makt og miljø - Om utformingen av natur- og miljøvernpolitikken i Norge*, Bergen 1989, page 38.

⁵⁶ Johan Ellingsen: "(snm) - fra friluftsliv til økopolitikk" ("(snm) from outdoor life to eco-politics"), *Miljømagasinet* nr. 5 1976, page 24 - 25.

⁵⁷ "Traffikkant og planlegger", *Miljømagasinet* nr. 4 1973, page 10.

⁵⁸ Ida Bull & Inga E. Næss: *Bakklandet lever*, Oslo 1985, page 97f. *Miljømagasinet* nr.6 1973, nr 6. 1974, nr. 6 1975, nr 9. 1975; Uredd 1971 and 1972, several nr.

One central problem with these small groups and informal organizations that focused on environmental questions, was the lack of continuity in their work. They worked isolated, without sufficient contact with each other, they fought specific issues and were later demobilized.⁵⁹

But the most striking feature is the strong links to Universities and to research sites. Both SNM and Uredd had strong connections to the University of Trondheim. The Department of Architecture at The Norwegian Institute of Technology became the most important stronghold for support and knowledge for the activists. In addition contact was established with Department of Sociology at the University.⁶⁰

This indicates an alternative actor network between activists, environment organizations and professions such as architects and researchers from the social sciences. There were also personal overlaps between the university departments and activists. In connection with the fight between activists and local authorities over Bakklandet, there were published several research reports from the Department of Architecture and from the Department of Sociology.⁶¹ Also the local organization for Architects supported the activists' fight. But there were no connections and cooperation with TØI.

Internal Tensions

As I emphasized in the introduction the division into external and internal forces are problematic; there seem, for example in the case of Bakklandet, to be a two-way play of influence between activities outside the research sites and institutions, and the work inside the scientific milieu. Originally they acted, as in the case with TØI, as independent forces influenced by international tendencies in this area. TØI established a network of Labour Party leaders, the commercial sector and the large drivers organizations and the Directorate of Public Roads. A convergence of ideas and the targets of their work tied these groups together. This alliance was challenged and internal tensions was brought to light when the focus shifted from intercity to city roads. The contradiction arose between local and central decisions and expertise, between different research institutions and between different professions.

NVP1 was directed by a small central committee, first and foremost a federal government apparatus, this was not strange since the intercity roads

⁵⁹ Erling Amble: "Samling av miljøvernarbeidet", Miljømagasinet nr. 3, 1973, page 24.

⁶⁰ "Møllenberg 1972", a note on the work to prevent the development of Møllenberg. Published 1972.

⁶¹ Olav A. Eikland, Torgeir Havik og Jon M. Hekland: Bilisme, Transport og Samfunn, eksamensarbeid ved Institutt for by- og regionplanlegging, NTH, Trondheim 1970.

naturally was a national task. NVP1 was a plan for the main system of roads outside the cities. During the work with NVP1 the committee and the planners came to a point where these roads had to be extended through the cities. What they experienced in this connection was that their plans often collided with the plans made by local planners and the local councils. When this two levels of planning, the central and the local met, problems arose.⁶² In the Parliamentary debate over NVP1 this problem was strongly emphasized.⁶³

Øyvind Thomassen has described one such conflict between local and central plans and planners in a report called *The Car and the Town (Bil i By)*.⁶⁴ The basis of this conflict between the local and the central was a new law from 1965. In this law all local councils were instructed to make a plan (generalplan) for the future development of their community - where to place commercial areas, residential areas, roads etc.

In Trondheim a private firm in connection with the city's own planning office made a plan for the road system of the city. This plan and the idea of directing most of the traffic outside the centre of the town was opposed by the Directorate for the Public Roads. They wanted a road directly through the middle of the city. The local proposal won after several years of conflict. In this connection the local authorities had the necessary resources to mobilize a counter-expertise. According to Thomassen there were conflicts between different professions concerning roads. Especially between architects and engineers. These two professions cooperated successfully on the local level, but when it came to the question of cooperation between the central and the local level, more specifically on the question of intercity roads, there were disagreements. Traffic engineers dominated the central planning apparatus, but on the local level there were cooperation with other professions such as architects and social scientists.⁶⁵

This antagonism of professions arose on the central level between different research institutions, and on the local level between central and local planners. The way NVP2 was proposed was as an attempt to solve both the new problems of the cities and to ease the local vs. central conflict.

This conflict between the central and local level directs our attention towards the expert institutions again. During the work with NVP1 The Institute

⁶² Notat til statsråd Reiulf Steen: Forslag til retningslinjer for arbeidet med fase 2 av Norsk Vegplan, 14/5 1971, Egil Killi: Forslag til videreføring av vegplanarbeidet i tettstedene, Arb. dok nr. 210, undated. Both in Arne J. Grotterød's private archive.

⁶³ The debate over NVP1 in Parliament, *Forhandlinger* nr. 57, Oslo 26.oktober 1971, page 449. f.ex. representative Ronald Bye's contribution.

⁶⁴ Øyvind Thomassen: *Bil i By - Trafikkplanlegginga i Trondheim i 1960-åra*, STS-rapport nr.14, Trondheim 1992.

⁶⁵ Thomassen 1992, page 258-259.

for Transport Economics (TØI) had been the most central institution beside The Directorate of Roads. As I emphasized in the description of the planning of NVP1 they both acted as producers of visions, models and carried out a major part of the calculations. If we look at the list of research projects from this institute in the 1960s, it must be correct to state that environmental questions related to motorcars were of limited concern. TØI was mainly occupied with technical and economical aspects of building of roads until the late 1960s. A first sign that environmental problems were of some importance can be found in 1968. In a periodical published by the institution, TØI proclaimed that environmental problems were of interest for the research milieu. Environmental problems were specified as noise, dust, gases and traffic accidents.⁶⁶

Related to the international focus on environmental questions and the frequent contacts with international research institutions this was rather late. There are several reason for this. One quite central explanation is the professional composition of researchers at TØI, they were mainly engineers and economists. Another reason was the professional focus of the research carried out by the institution. The main projects concerning roads until the 1970s had been large scale planning direct against the major road system. This must be related to the strong links to the Labour Party.

This alliance between TØI and the Labour Party had an economical and a pragmatic background in addition to the ideological basis. The institute had been established and got its central position owing to the close contacts and ideological convergence with the party. In addition the institute had to get a large portion of their income from projects funded by the administration. The dominant view in the administration and in the Labour Party was that the roads between the different parts of the country had priority.

This view was connected to the visions of the 1950s and 1960s of creating a modern industrial state. The roads were one of the elements that should serve this purpose. Cars and roads were one of many factors of production. To transport persons and goods between the cities and industrial areas was the main task.

The ideological, personal and pragmatic convergence with the political elite and the central authorities made the institute a stronghold in the early 1960s, but when the general focus changed to the cities, this became a problem for TØI. TØI's expertise and contacts were then inadequate. This lack of focus on the roads in the cities, the relation to the residential areas and the conflict caused by mass-motorization seem to have been picked up by another research institution. As mentioned above, a new research institute, NIBR was established in 1964. Even if a clear definition of environmental focus not was stated by this institute from the start, their professional focus made this a more likely

⁶⁶ Samferdsel, nr 4. 1968, page 12

direction to go than for TØI. NIBR came to be working with city-problems by definition. Later they took up environmental questions. A second reason was the professional composition, it was from the start. While TØI was dominated by engineers and economists, NIBR in addition employed architects and social scientists.

It was in the cities that the negative consequences of mass-motorization was first felt. It was in the cities actions against new roads took place, and it was in the cities central and local planning met and created conflicts. This different focus and composition of professions can be seen in a programmatic statement in NIBR's annual report from 1968. Here they emphasized that the cities problems had to be studied by experts from the social sciences such as sociologists, not by engineers and economist.⁶⁷

By 1969 we can find a concern for cars and environmental problems expressed by both TØI and NIBR. They explicitly points at the need for more research on the relation between the quantity of traffic in the cities and the physical shaping of the residential areas. Both research milieus had from 1968 on an increasing number of projects related to the conflict between mass-motorization and the environment, but the main type of research at TØI did not change in any important way before 1975. Then the political and public concern over this question put such a pressure on the institution, that it had to reformulate the direction of it's research drastically.⁶⁸ NIBR worked with problems related to the planning of the inner cities and the total environment of cities during most of the 1960s so when the planning of NVP2 started they had to be considered a "natural" deliverer of expertise.

Even if NIBR became important in the initial phase of NVP2 and other projects in this sector during the 1970s, they never achieved a position comparable to TØI. Their projects was in general small, and the total number of researchers never reached the level of TØI. The reason for this is interesting because it points at the fate of NVP2. Even if this was to be a decentralized planning process, the central committee came to be the most important organ. The existing planning ideology, previous plans, the dominant role of TØI and the Directorate of Highways in this work provided a strong momentum guiding NVP2 in the same track as NVP1, although with some corrections on the original course.

⁶⁷ Norges Teknisk Naturvitenskapelige Forskningsråds (Royal Norwegian Council for Scientific and Industrial Research) yearly report for NIBR 1968, page 89.

⁶⁸ NTN's årsrapport for TØI i 1975, page 87.

A kind of agreement

In 1974 the first of several new reports concerning communications were published. The report was titled *Ends and Means in Communication Politics*.⁶⁹ The main message of the report was that instead of planning solely for communication ends, one had to plan to fulfil social ends.⁷⁰ The report also stressed the importance of balancing economic growth, more roads and considerations for the environment.⁷¹ Indications of the same view can be seen in several Parliamentary evaluations and reports from 1974 to 1977, when finally NVP2 was presented.⁷²

On this background we may talk of a new, but not totally different picture of cars from 1975, this time based on a more heterogenous view on cars. I will exemplify this new picture by two quotes from the 1975 report:

*"The private car offers the individual better mobility than other means of transportation. The car owner has the possibility to choose the target of his travel, a greater flexibility regarding time of departure, when to stop, the speed of his travel and so on. Thanks to the private car many people have expanded their possibilities of choice concerning residential area, working place and social contacts."*⁷³

This positive initial picture of the private car, was balanced by the following conclusion:

*"The negative consequences of the use of private cars are increasingly clearer to us, a destroyer of the environment, indirectly by the fact that several other negative developments in society are related to the strong increase in ownership of private cars."*⁷⁴

There are more examples. This is from the Labour Party's working program for 1974 - 1977:

⁶⁹ NOU 1974:44 Målsetninger og virkemidler i samferdselspolitikken, Oslo 1974.

⁷⁰ Ibid, page 8.

⁷¹ Ibid, page 9 and 13.

⁷² St.melding nr.14 (1975-76) Tiltak mot forurensning, St.melding nr.50 (1976-77) Tiltak mot støy, St.melding nr.9 (1978-79) Om trafikk og bymiljø. Norsk vegplan for byer og tettsteder. St.melding nr.17 (1979-80) Bypolitikk, St.melding nr.16 (1979-80) Bedre nærmiljøer. NOU 1975:39 Personbil, miljø og samfunn. Stortingsmelding nr.9 (1978-79), St.melding nr. 83 Om gang og sykkelveger i tilknytning til riksvegg, St.melding nr.86 (1975-76) Om reformer i samferdselsektoren, St.melding nr.76 (1975-76) Om organisering av trafikksikkerhetsarbeidet m.m, Stortingsmelding nr.25 (1977-78) Om regional planlegging og forvaltning av naturressurser.

⁷³ NOU 1975:39: *Personbil, miljø og samfunn*, page 7.

⁷⁴ Ibid, side 7.

*"In all future, when it comes to planning and building of new roads, care must be taken to save the nature and the environmental factors in a satisfactory way."*⁷⁵

When the Social Democratic Party released its working program for the period from 1977-81: *Solidarity, Work and Environment*, this closure can be seen in the following text:

*"The main goal is to secure an effective and sufficient system of transport to all parts of the country. Communication politics must be shaped to limit noise and pollution, and reduce the number of traffic accidents as much as possible."*⁷⁶

Conclusion

The general view of cars changed substantially from 1950 to 1980. In the 1950s a car was a burden on the nations economy and a kind luxury for some, modern transport and a "new freedom" for others. In the 1960s the definition of the private car was more similar among different groups. Private cars were seen as modern transport and a benefit for both the individual and the society in general. In the late 1960s and the early 1970s this general view was challenged, and if we look at a report from 1975 the car was seen both as beneficial and harmful. This changes was brought forward, not by technological change but by other forces.

I have tried to trace some origins and early developments of the changing view on cars and the growth of an environmental concern connected to cars. I have not gone into the question of the relation between the individual and the car. The stress has been on the institutional and structural level. I should emphasise that important decisions and initiatives were taken by individuals. The layout of this paper has made it necessary to leave out these crucial details. Another criticism that could be raised against my treatment of these processes is the lack of actor-groups from the commercial sector. I will also stress their importance in this development. What can be said is that in this period they did not act openly to promote their interests, instead they acted through commissions, the drivers associations and different more or less obscure channels. I have tried to show this in other articles.

In a very sketchy way I have tried to find some of the main elements causing the changing view of cars. To accomplish this task I have made a

⁷⁵ DNA (The Labour Party), *Arbeidsprogrammet 1974-77, Samferdselspolitikken*, written in june 1972, page 8.

⁷⁶ Arbeiderpartiets Arbeidsprogram for 1978-81, *Solidaritet, arbeid og miljø*, Oslo 1977, page 27.

detour, by analysing two central planning projects. These two plans I have utilised as "peeping holes" in studying a larger societal process. As the view on cars differs in these two periods, so did the two plans, the ambition of the planners, their ideological bend, their visions and methods. This was a two-way process. The planning were influenced by the ideas and visions of the planners and their allies. On the other side these plans had substantial social consequences and provided important signals concerning the view on cars.

While the first covered the main road system outside the cities, the second came to treat the cities and the more populated areas. While the first one was initiated and carried out by central planners, the second one was shaped to give more influence to the local communities. While the first was planned by a limited set of professions, the second one was finished by a variety of different professions and guided by politicians. The first had a limited set of concerns, the second was meant to take care of construction of roads as a totality. While the first was based on a ideology of technological and economical rationality, the second was meant to take into account a wider ideological perspective, also taking care of the so called "soft values" of society.

The reasons for the change from NVP1 to NVP2 were several. First, I pointed to the influence of international ideas and the new concern for what was "the good life". Second, these ideas were pushed forward by the general public and by different types of ad-hoc initiatives, formal and informal organizations. The most important element for change was in my view the transformation in the scientific community, the change of values, ideas, professional composition, research and institutional focus, all had major influence on the planning. One element that speeded up this change were the conflicts during the work with NVP1. These internal conflicts was between existing and "new" professions in this sector, in addition it came as a result of a collision between local and central planning.

If we look at the negative consequences of motorcars, such as air pollution, the use of free areas, disturbing noise, and the reshaping of the inner cities by new roads, it seems as if the political parties and national authorities were late to address these problems. Only by the middle of the 1970s environmental issues became central in most party programs. But at that time other actor groups, organizations and institutions had approached environmental problems for several years. This consciousness grew partly out of the conflict I have described in this study. Owing to these conflicts the view of cars changed, and the changing view was propelled back and strengthened the growing consciousness of the environment. What happened can, following Anthony Giddens, be referred to as a double hermeneutic circle. Not only the society was changed, but also the view of it, this new social and scientific

consciousness was in the next turn used as an instrument and argument for changes.

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