

The Norwegian Road Director and his Road Engineers during the Pioneer Years of Automobilmism in Norway (1895-1910)

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”The restless development of technology in our century has, during the last, short period, created new perspectives. We have to keep pace and not let *la fin de siècle* leave us behind.”¹

Introduction

The production, distribution and use of the automobile today represent in many ways “ready made technology” where it is difficult to distinguish one car from the other. Seen from different European countries the automobile in many respects stands out as a representative of an international and common technology accepted in the form given, far removed from the car of its birth. The automobile of the early 1890s was a technological idea; a crude form of transportation which also contained elements of negotiation, flow of technological information and where cultural integration also was a vital element. The history of the automobile would then also deal with how knowledge was acquired, how this knowledge was to be used in relation to the different needs for transportation in the different European countries, and how the information was interpreted both at a central national level and in relation to the small communities in the countryside. From my point of view the introduction of the automobile in Europe cannot be properly understood without an examination of the integration of the automobile in the small local communities of the countryside. Then any attempt to comprehend the historical significance of the automobile to the Norwegian countryside must also consider its cultural as well as functional appeal.

The first automobile came to Norway in 1895 when factory owner Østbye from Gjøvik together with a small group of investors imported a Benz from Germany. The second car imported to Norway came three years later, another Benz, but smaller. After that followed a growing import of both gasoline- and steam-driven vehicles from Europe and USA. The history of the first cars in Norway is well known as far as the technical specifications are concerned. Less known is the group of pioneers who engaged themselves in the implementation of the new and frightening horseless carriage on the Norwegian roads.

Road Director Hans H. Krag was one of the main actors in this early phase. As early as in 1871 Krag engaged himself in testing several English steam road locomotives in Norway. These

¹ Norsk Teknisk Tidsskrift, 3die hefte, 1897: “Om motorvogne (selvbevegelige eller automobile kjøretøier)” (Uddrag af indberetninger fra ingeniør i veivæsenet Th. Riis, overingeniør Skougaard samt ingeniør Bj. Nicolaysen og efter forskjellige tidsskrifter ved J. Arneberg)

experiments clearly showed that the roads were not built for such heavy monsters. Even if Krag and his successor Johan Skougaard both in their own way stood out as enthusiastic pioneers in the leadership of the Norwegian road administration, they were not alone. They had a network of road engineers around them, both in the central administration and in the counties. The county road engineers did not report to the road director exclusively, but also to the county chief administrative officer who had the operative responsibility for the roads in his county. What role would both the road directors and the road engineers play during the pioneer years of automobilism in Norway? Where and how did they get the inspiration and knowledge necessary to contribute to the integration of the automobile in rural Norway?

Road director Krag had close relations with Switzerland while Skougaard was very interested in both the French language and culture. What role would their close European contacts play and in which direction was automobilism in Norway influenced?

I will analyse this on two levels: I will take a closer look at the networks which the road directors established on an international level. The automobile was, however, not received without battles or negotiations. I will also analyse the role of the county road administration where the implementation of the new technology in the Norwegian countryside was concerned, by focusing on the conflict at Lesja in the valley of Gudbrandsdalen in 1908. I will try to uncover which kind of automobile (private car, bus/tourist vehicles) the central Norwegian road administration wanted to introduce to rural Norway and which kind of automobile the countryside through negotiations ended up with in 1910.

The Road Director

Early in his career, as a captain in the artillery, Krag carried out a long series of journeys, both in Norway and abroad. This was a right which Krag had as a captain and was found in his work instructions². His first trip to Switzerland took place in 1863. On his travels Krag crossed the Alps no less than five times. After returning to Norway he wrote a very detailed report concerning the way in which road building and road administration were organised in Switzerland.³ Even if Switzerland and Norway in many ways were different, the two countries had obvious similarities. Krag observed the way Switzerland dealt with tourism and noticed of special interest that “The inhabitants in every regard make every effort to cheer up the foreigners in their desire to travel and urge the tourists to cross the country in every geographic direction and by doing this bring money to the country”. Krag saw an equal opportunity for Norway as well, given that he could establish adequate means of communications and first and foremost good, clean hotels in the rural areas. Here we can see two interesting aspects: his focus on tourism and a strong motive for transport development; and secondly, a will to modernize the roads to reach this goal.

Krag anticipated a growth in tourism in Norway by focusing on the rural districts, especially on the western coast which in his eyes faced the same challenges as Switzerland. Coming back to

²Artillerikaptein H. Krag: “Rapport om en Reise gjennom Schweiz”, tilleggshefte til Polyteknisk Tidsskrift, Christiania, P.T. Mallings Bogtrykkeri 1866

³ ibid

Norway Krag engaged himself in establishing The Norwegian Mountain Touring Association (Den Norske Turistforening). Krag emphasized that Switzerland did not regard tourism as the only means of income for the nation: "Mail and the system of diligence service" were both initiatives that brought income to the public purse. As we can see, not only clean hotels and better roads were regarded as important; an improvement of the national economy connected to road transport was regarded as important as well. This was an inspiration Krag would bring with him and benefit from during his whole period as road director.

The road locomotives in Norway

In 1862 engineer Blom from the highway authorities undertook a study tour to the world exhibition in London to examine which tools and machinery could be used on the Norwegian roads. No less than 9 road locomotives were exhibited. The machines were, however, not based on the same technological solutions, but varied to a great extent.⁴ Krag also had the opportunity to watch a road locomotive in Zürich the year after. He pointed out that the use of the locomotives was not well received by the inhabitants of rural Switzerland: "Since the horses were frightened by meeting the train, the police had to forbid further use of it." This was a situation that the first automobile pioneers would have to face as well.

Krag had also been in contact with an engineer in Copenhagen concerning road locomotives. At that time road locomotives were in use in Denmark. The Norwegian authorities obviously foresaw that they could come to Norway as well, and the use of road locomotives in Norway was regulated through a new law.⁵ Norwegian authorities probably wanted to be in the forefront of development. Another crucial point is hidden here: With the new law in his hands, Krag and other interested parties were free to start planning the implementation of the new technology in Norway if they wanted to. On the other hand they could not take a potential victory for granted: The County Board in the counties and the City Council in the cities could, according to the law, make their own rules for the use of the new road-going vehicles. In addition the county chief administrative officer could "forbid the use of vehicles on the public roads that could damage the roads". This leads to two other central points: the power of the county chief administrative officer; and the Norwegian tradition of self-government.

In the Middle Ages the small local communities were free to rule themselves, but during the Danish-Norwegian autocracy local self-government was set aside. Through the laws regulating the executive committee of the local council (formannskapslovene) of 1837 the historic heritage connected to the self-government of small local communities was revitalized. These laws established a foundation for the development of local self-government we know it today. The inhabitants both in the towns and in the rural areas were given opportunity to decide in local matters through the fact that local councils were established. In a European perspective this strong focus on local government can be regarded as a distinctively Norwegian phenomenon. The self-government of the local communities would to a great extent influence the integration of engine driven vehicles on the Norwegian roads, especially where the use of the automobiles was concerned.

⁴ "Norsk Folkeblad", særtrykk "Om Landevejslokomotiver", 1870, Journalnummer 988/70, Gjemmenummer 140

⁵ Indst. O. No 68, dokument No. 22, 1863, Vedtatt i Odelstinget 6.mai 1863, vedtatt i Lagtinget 8. mai 1863, Kgl res av 6. juni 1863

As we have seen, towards the end of the 1860ies both the road director and the central road administration had a thorough knowledge about road locomotives and what they could be used for through their contacts in Switzerland, Denmark and England. In 1871 H. Krag contributed greatly to engineer Rode's testing of a road locomotive from Lillehammer up the Gudbrandsdal valley. Later, another road locomotive was tested in Levanger. Not surprisingly, these attempts failed. Neither the technology in connection with the road locomotive itself nor the roads were of a sufficiently high standard. For Krag these experiments, viewed as a whole, were clearly a failure. He had obtained important knowledge about railway technology, since the road locomotives were nothing but locomotives adapted for use on the roads and not on rails. Instead of focusing on the use of the roads, he now supported the monomaniac expansion of the Norwegian railway system which came in the period after 1870.

In 1874 Hans Hagerup Krag became road director. He had already served as road director for former road director Bergh, who had died two years earlier. The main theme for Krag was now mobility, or more precisely auto-mobility. Krag sought to adapt different technologies both on roads and along tracks where, with a lack of obvious solutions, he went from one alternative to the other.

The education of the road engineers

Neither road director Krag nor his successor Skougaard were educated engineers. Both received their education at The Norwegian National Defence College. That did not imply that they lacked competence regarding road building. At that time it was customary that the road engineers came from the military system. When county road engineer Aubert came to office in Kristian's county, the weekly "Technical Review" (Teknisk Ukeblad) pointed out that "the county road engineers must have a "civil" education, not from the military system and must have a proper technical background."⁶ In spite of this, Aubert was appointed county road engineer. We were, however, facing a crossroads where the engineers educated at foreign technical colleges and universities, especially in Germany, were to take charge of the county road administrations on behalf of the county chief administrative officer. They continued, however, to have leaders in the central road administration with a military background.

Of the more than 50 Norwegian road engineers who were to work in the central administration and in the counties, less than ten engineers got their education outside Germany. The majority of the students went to Dresden and Hanover. In Switzerland Zürich was most popular. When it was determined to establish the Norwegian Technical University (NTH) in 1900, the plans for the new university were highly influenced by the "Hochschulen" in Zürich, Hanover and the new technical university college in Darmstadt. At that time more than 100 Norwegian students were found in Germany.⁷ The Norwegian engineers got a thorough background in the German language and in the culture. They established networks which included both the German universities and the Norwegian students studying abroad. The young Norwegian road engineers gained knowledge about how the German automobile had developed and especially the gasoline driven engines. The international education of the Norwegian road engineers was, however, no

⁶ Teknisk Ugeblad no. 34, 1895

⁷ <http://www.ntnu.no/itea.info/nthhistorie/nth-storting.html>

coincidence. Road director Krag demanded that all engineers who were to work for the Norwegian road administration had to take some of their education abroad.⁸ This was partly due to the fact that Norway at this time had no higher technical education on an international level. On the other hand Krag obviously regarded the flow of information from abroad as crucial for the Norwegian road administration.

In 1895 a group of pioneers at Gjøvik Foundry and Mechanical Workshop wanted to import an automobile to establish a route from the terminal station of the Hamar-Sel railroad in the valley of Gudbrandsdalen, to Aandsnes on the western coast of Norway. The firm sent an application to the road director asking for the formalities in this regard. Chief engineer Skougaard at the central road administration handed the application over to the Ministry of the Interior where The Post Office was to be given opportunity to take a closer look at the matter. The inspiration for doing this came from Krag who had seen mail carried by the diligence service in Switzerland. Postal service by car was from the first day looked upon as interesting by the Norwegian automobile pioneers.

At that stage no automobile route was found in Norway. The first car was regarded as a curiosity both by road director Krag and his staff, not unlike the situation when the road locomotives came to Norway. They did not have any answer for how an eventual use of automobile on the Norwegian roads should be enforced. No rules or laws for the new vehicle existed either. The application from Østbye triggered off a considerable round of travelling both by Krag and his road engineers to gain access to new knowledge about the horseless carriage in Europe.

In 1896 chief engineer Johan Skougaard went to France. The main purpose of the trip was to examine "how the construction and use of automobiles built for the country roads had developed in France".⁹ Skougaard was, however, not the only Norwegian road engineer to make study tours abroad in 1896. Engineer Bjarne Nicolaysen and engineer Thomas Riis went to Germany to study the German automobiles the same year. All three belonged to Krag's fellow workers in the central road administration. Both Riis and Nicolaysen were educated at the technical academy in Dresden in 1895 together with no less than five other Norwegian road engineers who got their jobs in the central road administration and in the counties.¹⁰ Riis, Skougaard and Nicolaysen all came back with up to date information about how far the development had come.¹¹ Germany and France stood out as the obvious choice since there was no other country in Europe that had any form of automobile industry matching the two mentioned.

The information the engineers acquired in Europe could not be applied to the small local communities in the Norwegian countryside directly. The needs of rural Norway were not directly comparable to the needs of Germany and France. There was a great gap between what the Norwegian engineers saw and what they were to experience.

⁸ Norsk Biografisk Leksikon, bind 7, side 614, Aschehoug & Co, Oslo 1936

⁹ <http://www.ntnu.no/itea.info/nthhistorie/nth-storting.html>

¹⁰ Paus, H.W (1962): "Norges Vegdirektører og vegsjefer", Oslo, A/S Nationaltrykkeriet & Forlagsbokbinderiet.

¹¹ Brev fra ing. Riis datert Duisburg 4. november 1896, Gj.nr 246,307,162,140, Journalnummer 4606/96

The automobile at the turn of the century

The engineers pointed out that the automobiles at that time (in 1896) had not found any final technological form. The new vehicles were based on individual technology where the solutions of the various producers were named as “systems”. According to Riis it was possible to distinguish between the systems of Benz & Co, Lutzmann, Gerhard & Oehme and Daimler in Germany. He pointed out, however, that there were really only two major systems, namely the two produced by Benz and Daimler. The other systems were copies of the technical solutions suggested by the two mentioned. The technology was heterogeneous since the different technical solutions had very little in common. The automobile was not an “invention”, but an engine installed in a frame with four wheels where a variety of technical solutions were seen where both steering and braking were concerned.

According to the Norwegian engineers the factories kept their cards close to their chest with regard to the new technological solutions in fear of the possibility that the data might fall into the hands of competitors. Not all were thus restricted. Nicolaysen pointed out that “the most successful constructor of engine driven vehicles in Germany and even to a great extent in France, is engineer G. Daimler of Cannstatt (Württemberg). His automobiles are more and more widespread, especially in France, where the patent for his engines “Phoenix” is transferred to the gentlemen Panhard and Levassor.”

The automobile as a technological object was now crossing the border between Germany and France where the technological solutions of Daimler were to be further developed by Panhard & Levassor. It is by no means an exaggeration to say that it was the gasoline driven engine that was the major force of the German developers. Where the frames and steering were concerned, the systems were based on the well know technology used in horse carriages and bicycles. The French were able to offer better solutions for both the steering and the frames. The fact that several factories and producers on a cross border level were involved in finding new solutions to a problem based on the same engine, opened for a more homogenous technology where the national border between the “systems” became more and more diffuse.

During his stay in France in 1896 Chief engineer Skougaard was given the opportunity to test a small Peugeot in the streets of Paris. Contrary to the other Norwegian road engineers, Skougaard did not raise any critical issues about the new horseless carriages. He pointed out that he did not expect any answers since the constructors “feared competition”. Skougaard chose to refer to the information the factories had given in their own brochures. By accepting this limitation, the technological information given by the factories became an arena which the factories themselves to a greater extent could control. In this respect the automobile also became a technological object in the hands of the developer, the automobile factory, even if the users could influence the process of development of the new vehicles if they wanted to.

There existed no mutual understanding of the new vehicle in the European countries. The automobile was a technological object for individual interpretation and adoption. It was impossible to foresee the results of an eventual integration process either in the Norwegian cities or in rural Norway. Engineer Nicolaysen pointed out that the new technology had to be adapted to local demands in the Norwegian countryside before an integration of the new (and, for some people, frightening) technology could take place. In spite of the weak points that the road engineers had found and expressed, Nicolaysen wrote that Benz’ automobiles deserved to be

widely spread, but mentioned that “the constructions have to be adapted to local requirements”. The process of finding a local common frame for adaptation was, however, to be filled with conflicts. In our context it is important to emphasize that “when the cars came to Norway as artefacts, they came without any instructions regarding their use (except for a few technicalities). What the experts did, was to transfer, or import visions about the cars and knowledge about how to adapt and develop the necessary infrastructure.”¹²

The automobile: a private vehicle or a public omnibus?

In 1895 the *Automobile Club de France* was established with Count De Dion as one of the initiators. The club was from the very start associated with the very rich people of Paris and as a bastion for the private use of the automobile. De Dion was a car producer himself which led to the club also being regarded as a mouth piece for car producers. In spite of his efforts, motoring was in many ways regarded as a pastime for the idle rich. The city of Paris represented in many ways the private automobile. “In Paris today the automobile is almost as conspicuous, though not as numerous, as the horse vehicle. Lines of *voitures automobiles* line up along the Boulevards, and stand on an equal footing with the horse and victoria”.¹³

What Skougaard observed through the haze of his admiration for French culture was the “city-car,” although the word “car” was not yet in use. It was also a vehicle protected by a strong interests organization, the automobile club. It was a horseless carriage which could share the open streets with the horse and wagon. In spite of this Skougaard also regarded the automobile as interesting for public service. Automobile public transport was not common in France. This was both due to the fact that France had a developed net of railroads and in addition foreign companies had established diligence routes among the central European countries. This was not the situation in Norway. Skougaard optimistically pointed out that “it might be possible to use the automobile to a greater extent in Norway than in Europe”.¹⁴ Again we see that the automobile was looked upon as a part of communication in general: in rural areas with a small population the new vehicle could be an alternative to the expensive railroad. Since Norway did not have a diligence system covering longer distances, one could consider using the automobile instead of horse and carriage within the Norwegian conveyor system. The Norwegian conveyor system was based on the farmers in the districts conveying people whenever there was a demand for it. In spite of the fact that the system was generally unpopular, it brought needed income in periods of low activity on the farms. Introducing the automobile to the countryside could, however, in this respect turn out to be a double-edged sword.

While Krag regarded the longer tourist routes as most interesting, Skougaard saw something else: he saw the French city culture, the automobile club and the small private automobiles as a far more central part of automobilism than Krag did. In this perspective Skougaard became the advocate for the “city car” or the private car, while Krag regarded the automobile in service for public transport over permanent tourist routes as more interesting.

¹² Knut Holtan Sørensen: The Norwegian Car –the Cultural Adaption of an Imported Artefact, STS-working paper nr 5/90, ISSN 0802-3573-32

¹³Munsleys’s Magazine (1899) side 712

¹⁴ Norsk Teknisk Tidsskrift, 15de Årgang, 1897

The young engineers' advice

In their report the engineers ended up with a recommendation and indicated that they regarded it as appropriate to send a man on a four month study tour to Germany, France and America at the expense of the state to study the growing automobilism closer. If this study tour was convincing, "the central road authorities in conference with the road director ought to buy at the public's expense, a steam automobile for use as diligence, a smaller automobile driven by a combustion engine and one with an electric accumulator to test which was the most efficient"¹⁵. The engineers ended their report by emphasizing that they regarded the matter as important and hoped that road director Krag would follow it up. In 1896 Nicolaysen and Riis were 24 and 26 years of age. In this respect it was youths who gave advice to their much older superior.

In many relations Krag stood out as an authoritarian leader through his great working capacity and will to take decisions, but when his young engineers spoke out, he often listened. The young Norwegian road engineers made it possible for Krag to get access to vital information about the new technology. In this respect the young engineers as a group gave Krag the premise for the introduction of the new technology and by doing this constituted a centre of power. In my opinion the automobile was from the very beginning a new technology in the hands of youth. The young engineers influenced Krag in an open and mutual process of understanding. For the young engineers in the central road administration the automobile, as a symbol, became infused with a volatile mixture of a reverence for the past and a fascination for the future. The county road engineers, however, were literally speaking in the middle of a cross fire. Just as technology does not develop autonomously outside of other historical trends, the road engineers were not members of a purely objective and disinterested group, free from the ambitions and needs in other social groups, as represented by the farmers in the counties.

The rules for using automobiles in the counties

The flow of information to Krag from his engineers established a solid foundation for decision-making, at least in the central administration. Through the fact that the engineers in many respects had important tasks to accomplish in the counties, the information the engineers got hold of abroad also came to the benefit of the counties themselves. This was, however, not enough: the counties needed information brought home through their own agents. The local road policy and the implementation of the new technology were not to be entrusted to the central administration. One of the most important engineers in this respect was county engineer Frans Aubert in Kristian's county (Oppland, see enclosed map) who went to Italy, Switzerland and Germany (Leipzig) in 1896 on behalf of his county.¹⁶ This hectic travelling also reflects Aubert's central national position. Krag no longer had a monopoly where information from the engineers' study tours was concerned. He was the indisputable leader of the central road administration, but did not control the activities of the county road engineers. They also reported to the county chief administrative officers who had both the right and duty to take all decisions where the use of the county roads was concerned.

Based on the information Aubert obtained abroad, he suggested that the use of the automobile in Kristian's amt should be regulated through a set of rules. This was the first draft of rules for the

¹⁵ *ibid*

¹⁶ Lillehammer Tilskuer 24. desember 1901, Teknisk Ukeblad nr 37, 1916

use of the new vehicles in Norway and based on what Aubert had seen in Europe on behalf his county. The engineers in the central administration did not feel the pressure from the local community. They did not have to take the opinion of the county chief administrative officer and the farmers into consideration either. What we now see is that the road engineers as a group were to be regarded as heterogeneous. The catalyst was the automobile.

Up to now the development of Norwegian roads reflected the high priority of the Norwegian railroad system. So far the answers to Norwegian transport problems in connection with the transportation of goods and products from the farms to the main cities, were found in the establishment of railroads. As we shall see, the automobile was put in a melting pot with a high temperature, literally speaking, where road and railroad technology were to be mixed.

The tertiary railroads

While Krag let his engineers travel around Europe where the collection of information about the new technology was central, he himself chose to go to countries with the same kind of topography as Norway. In 1898 he went to Scotland to investigate how communication as a whole had developed since he was there in 1881. Again he had a special focus on the small railroads, in spite of the fact that he was road director. In many respects Krag wanted confirmation of what he had seen and learnt earlier as a person interested in mountains and tourism. Through his visits to Switzerland and Scotland he established a foundation for decision making where overview was more important than details and where he sought confirmation rather than doubt. He left the details of the new automobile technology to his engineers.

1898 was an important year in the history of transport in Norway, characterized by chaos where decision making was concerned. Krag had for a very long time pointed out that it might be a good idea to use tertiary railroads where the standard of roads was low. The Department of Public Works listened to Krag. The road committee in Parliament had also pointed out that when roads with heavy traffic were to be reconstructed, light railroads were to be used instead. The farmers in the Norwegian Parliament wanted to improve communication at large in the rural areas by establishing new railroad lines. Based on this fact and the previous arguments for tertiary railroads, the department asked the county boards to determine where to use the tertiary railroads.¹⁷ By doing this the department created a situation where the counties started making concrete plans for establishing railroads and not focusing on improvement of the roads for heavier traffic. This can also be seen as a national sign for the need to reform rural transportation as a whole. The local railroads were at that point regarded as a key method for dealing with this multi-faceted problem of transportation. The process of decision-making in the countryside, however, drew the attention away from the automobile and rural road improvements. As a result the department received more applications and railroad plans than it could handle.

The day before the letter from the department to the counties was sent, Krag wrote a letter to the department where, with reference to his trip to Scotland, he concluded that “The road director is convinced that the use of the automobile will not only be possible in Norway but also be of

¹⁷Brev fra Den Kongelige Norske Regjerings Departement for de offentlige Arbeider datert Christiania 5. oktober 1898

economic interest to the country”.¹⁸ In my opinion this letter created a situation of complete confusion about what to do in the Norwegian countryside. Based on the information Krag had given to the department, the department had asked the counties to consider the use of tertiary railroads. At the same time Krag shifted focus and pointed at the automobile. He was in a process of revising his views. Both the department and Krag now obviously saw several possible solutions to the difficult transport situation in Norway. For the decision-makers in the counties it was extremely difficult to make the right decision where the risk of betting on the wrong horse was high. The time just before the turn of the century was in many respects dominated by the view that the road was to be reconstructed while walking on it. This uncertainty also opened up possibilities for new agents of the automobile. It also gave an opening for an alternative to the widespread demand for tertiary railroads.. The county road engineers did not engage themselves in road building exclusively. They were also involved in the planning of tertiary railroads, since the narrow tracks were to be established on or close to existing country roads. This rather confusing situation created a stronger need for information about the automobile in Kristian’s county. In 1900 county road engineer Aubert and his fellow engineer, Halfdan Pedersen, went to France to attend the world exhibition.¹⁹

The World exhibition in Paris 1900

The world exhibition in Paris in 1900 was the comprehensive international celebration of turn of the century. The arrangement was sublime, the area of the exhibition covered 2,23 million square meters, lasted for 212 days and had more than 48 million visitors.²⁰ At the exhibition all together 237 automobiles from 91 different producers were presented. Only 21 steam engines and 40 electric vehicle were exhibited. The remaining automobiles were driven by gasoline or equal fuels. Taking the fields of use into consideration, 17 lorries and 6 omnibuses were presented. The rest, 214 vehicles, were regarded as “reine Luxuswagen”.²¹ As we have seen, relatively few commercial vehicles were shown to the public. This can perhaps partly be explained by the fact that both France and Germany had a large network of railways and trams. Another crucial point is that heavy loads demanded large and very strong engines, which at that time was still somewhat in the future.

Norway was represented by a large delegation of engineers, among them chief engineer Skougaard and as mentioned earlier, county road engineer Aubert and his assistant Halfdan Pedersen from Kristian’s county.²² It is no exaggeration to claim that this exhibition was a manifestation that the European communication was at a turning point. Before 1900 the focus was on the horse and wagon. Now the automobiles were ready for the first true battles of the roads. It was no longer a question of opinion. The car was to be an important part of

¹⁸ Referanse til Skrivelse av 4. oktober 1896 i ”Gjenpart af Veidirektørens Skrivelse til Arbeidsdepartementet af 25. November 1899”, Gjemmenummer 140, arkivet etter veidirektøren, Riksarkivet.

¹⁹ Meddelelser fra Veidirektøren nr 1, Januar 1927

²⁰ <http://www.riksarkivet.no/nordiskarknytt/99-nr4/utst-2000.htm>

²¹ “Berichte über die Weltausstellung in Paris 1900, Achter Band. Wasserbau, Schifffahrt, ingenieurwesen, Automobile, Verlag von Carl Gerold’s Sohn, Wien 1901

²² Aftenposten 24. april 1900

international trade. In both France and Germany the automobile was no longer a curiosity, but the starting line for international trade of a format not yet seen. The world exhibition was in many respects a shop window for new products. The European automobile was shown to all visitors, among them, tourists from USA and experts and specialists within their own fields needing inspiration for establishing an automobile industry of their own on the other side of the Atlantic. Some of the visitors went as far as bringing the new vehicles home to America, a fact that in many ways started a technological race connected to a national car industry in the States.

It is not easy for us to understand the impact this grand exhibition made on the Norwegian engineers. The magnificent setting around the almost 250 automobiles was enthralling. The new vehicles were to be seen on the boulevards of the French capital. The horses were not scared. The automobiles and the horses existed side by side. It was no longer a question if the automobiles would come Norway. The crucial point was to find a mutual acceptance and a usage which would solve concrete problems of communication. The Norwegian road engineers together with their executives saw the new trend with their own eyes, but the gap between what they saw, and the experience of the farmers in rural Norway at the moment with regard to the new vehicles, was as wide as possible. In the eyes of the Norwegian farmers the world exhibition was like a signal from outer space, if it was received at all. The young Norwegian engineers witnessed a Europe in great change where communication was concerned. This was indeed the cultural inspiration that the engineers brought home. The automobile would be used on the roads to an extent not yet seen. It was just a matter of when and how the new vehicles were to be integrated on the Norwegian country roads.

In spite of this the automobile was still a vehicle in the hands of the very rich. In the Norwegian countryside it was hard to find people with that kind of money. The automobile could not replace the horse. Even if the farmer bought an automobile, the bad roads in the winter obliged him to keep his horse and buggy also. For the small scale farmer reliant upon his own labour, restrictions on his mobility remained. If the automobiles were to be taken into permanent use it had to be in a form which the small rural communities could accept and benefit from. The automobile could not involve the farmers as a whole on an economical level. Road director Krag must have realized that. To demonstrate the new technology to both farmers, the county chief administrative officers and the county road engineers in doubt, he started planning an automobile route from Otta to Aandalsnes. In my opinion he had another goal as well. He wanted to prove that the Norwegian roads were sufficient for the use of the automobile, in spite of the fact that as little money as possible had been used on the Norwegian country roads network.

In the autumn of 1901 he carried out a demonstration tour in a borrowed Wartburg from Germany to show that both communication in general and tourism would benefit from sharing the roads between the horse and wagon and the automobile. Viewed as a whole the demonstration was successful in spite of the fact that the rear axle of the car broke when passing the finishing line. The automobile was not quite ready yet. In many ways it was still premature technology, although light could be seen at the end of the tunnel.

The first private automobiles in Kristian's County

As mentioned earlier, through the laws regulating the executive committee of local councils (formannskapslovene) of 1837, self-government of the small local communities was revitalized. The inhabitants both in the cities and in the rural areas were given the opportunity to decide local matters through the local councils, both in the countryside and in the small towns. Late in 1898 the Kristian's county board had decided that the use of automobile in Kristian's amt was to be regulated, based on the rules given by county engineer Aubert.²³ The rules put all the power in the hands of the county chief administrative officer who represented the county board. He was to decide if an automobile was to be used on the county roads. The county road engineer also got more power. He was to give the county chief administrative officer advice when judging if the roads were good enough for the new vehicles. In many respects the automobile was brought from a national level represented by the road director to the county represented by the county chief administrative officer. While the small rural communities were represented in the executive committee of the county board, the small towns were not.²⁴ In our context this is of great importance. The automobile might be received entirely differently in the towns compared to the countryside. Another crucial point is that the county road engineer reported to the county board through the county chief administrative officer, but not to the town council. This did not, however, mean that the county road engineers was not heard, but that the town council could do as it wished in all matters concerning town roads and traffic in the streets. Because of this fact, the automobile might get entrance to the city, but not to the county roads and visa versa.

In 1905 Caspar Hennig in the city of Gjøvik bought a small Oldsmobile. By that time the number of automobiles in Norway had grown to close to 40, the majority found in Kristiania (Oslo). At the same time Anders Skar from Lillehammer also acquired an Oldsmobile. The two vehicles were even smaller than the Wartburg which Krag had used in 1901. It would be very hard to find arguments in the town council against the use of the small vehicles. They were too light to damage the roads. The surface of the city roads was far better than what was found in the neighbouring county. The two towns had seen more modern technology in use than the countryside. From the train station it was possible to make telephone calls and receive telegrams. Stationary engines were used in the town's workshops. In addition the city horses were accustomed to more noise than the horses in the countryside.

The first automobiles came to the home towns of county chief administrative officer Holst (Gjøvik) and county road engineer Aubert (Lillehammer) respectively. The power was in their hands where the countryside was concerned, but in the city they did not have the same central role. The two cars were not built for longer trips and found their use mainly within the town borders, although traces of longer runs can be seen. If we disregard the old and antiquarian Benz which was bought by Østbye in 1895, the automobile in Kristian's county at that moment was a private vehicle, even if only two automobiles were found in the two towns. In many regards we now see a situation not unlike what could be seen on a national level. The first automobiles as a whole came to the Norwegian capital. In Kristian's county the automobiles first came to the towns. Østbye's Benz was followed by the Oldsmobiles of Hennig and Skar. The cultural contrast between town and countryside became more visible.

²³"Historikk ang. benyttelse af Motorvogne", Gjemmenummer 140, journalnummer 4933 datert 20.12.1898.

²⁴"Forslag om lov om smaajernbaner", Dokument nr. 153 81894), fra jernbanekomiteen ved ingeniør Endre O. Johannesen og Bankdirektør H.E. Berner side 78

In 1905 a smaller revision of the first rules for using automobile in the counties took place. Skougaard was now road director, following Krag when the latter retired in 1903. Skougaard pointed out that the roads in general were now good enough for a more widespread use of the automobiles in Norway. "Several sources" had expressed that the regional rules were not made for the use of the automobile in general, but more with respect to the use of scheduled motor coaches. He wanted the revision to open up for a more general use of the automobile.²⁵ From my point of view this was nothing but a disguised opening of the county roads for the private motorcar. The intention of opening the rural roads for the private automobile would be very complicated, and difficult to fulfil in areas with a large opposition against the automobile. The road director pointed to the fact that as long as the old set of rules was used it would be impossible to go faster by automobile than by horse and wagon. The advantage of using the new technology would then be gone. He pointed out that the new rules would legalize a considerable increase in the driving speed, from 15 km/h to 30 km/h. His goal was simply to accelerate the diffusion of motoring.

The new policy was drafted by the road director, but the executors were the county chief administrative officers. They had to prepare themselves for a significant growth in the number of applications. This group of executives was, however, not homogenous. The way they handled the applications varied greatly from county to county. Some were very liberal and some were true antagonists against the new vehicle. As a result the automobile was liberally treated in some countries and abandoned in others.

The automobile route from Otta to Aandalsnes

The modern and prosperous representatives of the new and exciting technology from the engineers' study tours to Europe were not the vehicles the farmers wanted to meet on the country roads. In many cases it was not a vehicle the county chief administrative officer wanted either. The county road engineers were now under strain. The roads were built "sufficiently and economically" for the farmers. Even if the road director had created a policy favourable to the use of the private automobile, the future of the new vehicles was in many ways in the hands of the prospective users, the inhabitants of the small communities of the Norwegian countryside.

Foreign dealers and foreign drivers

In the summer of 1908 an automobile route was established as a preliminary arrangement on the "Krag-route" from Otta to Aandalsnes along the same track as the planned railroad. The establishing company was Romsdal Automobile Company (A/S Romsdals Automobilselskab) from the neighbouring city of Molde on the western coast of Norway. The company had acquired two second-hand Adler automobiles from Denmark. This fact did not pass unnoticed by the press. The "Sport" magazine wrote: "According to what we have heard, the automobiles are bought in Denmark! Would it not be a better solution if such orders went through Norwegian dealers?"²⁶

²⁵Brev fra veidirektør Skougaard til amtmannen i Kristian's amt, datert 25. April 1904, Sak nummer 36, Kristian's Amtstings forhandlinger 1905 side 168

²⁶"Sport" side 174, 1908

Indirectly "Sport" asked for a priority of Norwegian dealers more than passing the order to a foreign exporting company. On 17th September 1908 "The Lillehammer Spectator" (Lillehammer Tilskuer) reported that a possible sabotage attempt against the automobiles had taken place. "A very strong pearl of dynamite was recently found on the country road south of Hoset in Lesja, and it is suspected that it was put there to stop the automobile on the Otta-Aandalsnes route. It was discovered when a man from the village came driving along. "Suddenly a sharp bang was heard under one of the wheels of his carriage. No harm was done, but the rubber tire on an automobile would probably have been destroyed by the explosion while the wheel of the cariole's iron rim held."

The police deputy had started an enquiry and there was hope that the evil-doer would be caught. It was not the automobiles as such the inhabitants of Lesja were against. "The chauffeurs were accused of being reckless and scared both the horses and the cattle along the road". It was taken for granted the scoundrel would get his "well deserved punishment". The horses were frightened because of the reckless drivers. The criticism became more and more harsh and as a result the county chief administrative officer ordered the automobile company not to use foreign drivers unless the drivers were certificated by the officer himself. In this respect he accepted the complaints about the drivers who in the newspaper article had turned out to be Danish.²⁷

The criticism against the Danish drivers grew to an extent which more or less forced the company not to use drivers "of foreign nationality", unless this was approved by the county chief administrative officer. By doing this he accepted the criticism concerning the Danish drivers raised by the local inhabitants of Lesja. Even if this shows both hostility to strangers and a degree of national prejudice against Danish drivers, this may well be the only explanation.

The meeting at Holaker December 3. 1908

The local police had started a complete investigation of "the attempt" and they hoped that the culprit would be arrested. The Lillehammer Spectator pointed out that "The automobile driving on the established route from Otta to Aandalsnes has created antagonism among the inhabitants of Lesja." To become familiar with the arguments behind the complaints, county chief administrative officer Lambrechts wanted to meet the local population at a public meeting in connection with the autumn county board meeting held at Holaker.²⁸ "Because of all the criticism in the newspapers concerning the use of automobiles in Gudbrandsdalen, Lambrechts wanted to meet the local farmers face to face".²⁹ From Lambrechts' point of view it was desirable that as many as possible of those who had complaints against the automobile traffic attended the meeting and spoke out. The Lillehammer Spectator pointed out that the criticism came from the farmers as a group, not individuals of different professional background.

²⁷Lillehammer Tilskuer 27. januar 1909

²⁸Lillehammer Tilskuer 27. november 1908

²⁹Lillehammer Tilskuer 7. desember 1908

The railroads

The antagonism and criticism against the automobiles were harsh at the meeting. One of the speakers, Peder J. Sneboe, expected that these luxury vehicles, which only created damage and problems for the local inhabitants, be removed from the roads to prevent both horses and cattle from being frightened. To this Lambrechts remarked: "Did we not see the same when the first bicycles came?"³⁰ According to Lambrechts the introduction of the new technology both on the country roads and along the railroad tracks had created identical arguments earlier. In time these problems would be solved.

Different from most other European countries the railroad system in Norway was a national enterprise. The construction of the Norwegian railroad network was financed by public means and loans from abroad. In Kristian's county the county board had been asked by the central government which routes the board regarded as most urgent for new railroad lines. One of the tracks was the distance from Otta to Aandalsnes. The late road director Krag had at several occasions pointed in the same direction, although he also regarded the automobile as interesting in his later years. The representative Holm from the automobile company pointed out at the meeting that no accidents, other than a dead cow, had occurred. Holm claimed that the automobile was very efficient for a country like Norway with large distances between the villages. "The route was established to link the Kristian's and Romsdal's counties together." To this Sneboe remarked that one could not expect anything else from Holm. The inhabitants of the neighbouring city of Molde supported the automobile, but had refused to pay their share of the railway from Otta to Aandalsnes, The Rauma line.

Here we see a very crucial point. Molde ran an offensive campaign against building the railroad along the river Rauma, and wanted the track built in the direction of Sunndalsøra on the northern side of the Dovre mountain. By refusing to pay the local contribution to the Rauma line, they protested against the decision to bring the railroad down to Aandalsnes and not in the direction of Molde via Sunndalsøra. By establishing an automobile route along the Rauma river, Molde created a competitor to the railroad, an initiative the local population of Lesja as a whole supported. As we can see, the automobile not only created a conflict in connection with the railroad between the city of Molde and the small community of Lesja. It also created discord between the farmers and the county authorities represented by the county chief administrative officer. The two neighbouring regions, Molde on the western coast of Norway and Lesja, representing the inland populace, did not have a common goal where communication was concerned. They did not share any mutual views of how the automobile was to be used in relation to the railroad.

In Kristian's county the majority of the inhabitants were farmers. The farmers saw the advantages of bringing their products to the nearest city and could live with the fact that the horses were scared when they met the locomotives for the first time. The farmers knew when the train came. If the horses were scared they could simply keep them off the road. They could, however, meet private automobiles at any time of the day. When choosing between the railroad and the automobile, the farmers chose the scheduled steam locomotives and not the rattling combustion

³⁰Gudbrandsdølen 11. desember 1908

engines. In this respect the farmers defended the railroad, while the automobiles were attacked both literally and on the road.

The local entrepreneurs

From my point of view the rural society into which the automobile came was weakened by the confusion created by the central emphasis of the local railroads, thus taking the focus away from the possibilities the automobile opened up. The group of farmers who believed that the automobiles could be stopped was, however, too small to succeed. Even among the farmers and among the local conveyors there were pioneers who saw that money could be earned by establishing automobile routes from Otta to Aandalsnes. After some time local entrepreneurs engaged themselves in this traffic. By doing that the automobile was in many respects integrated as a part of the local community. Early in 1909 Kristian's county got its first automobiles outside the towns in the hands of local conveyors. Consequently, the local transport technology focus gradually shifted from the horse and carriage to the automobile, although the farmers regarded the railroad as the backbone of the inter-urban transport system.

The gradual acceptance of the automobile in the countryside during the first decades of this century reflects the transition away from the automobile as a toy in the hands of the idle rich to a vehicle accepted by the local rural community. In 1916 county chief administrative officer, J.E. Christensen of Nordre Bergenhus county was asked how the automobile traffic was organised in his county. He answered: "We give the local community monopoly".³¹ By doing this the automobile was exclusively in the hands of the countryside, a fact which later created the foundation for establishing county transport companies financed through the county purse. This was, however, not the final solution. The Norwegian road transport scene was to be dominated by harsh conflicts between commercial drivers and the county transport companies. The dispute between the automobile companies in general and the railroad would also run for decades.

The "city-car" had spread from the Norwegian capital to the towns. It was not Krag's motor coach in the tourist service which won "the race". It was the city automobile which Skougaard had seen demonstrated in the streets of Paris, a city that he loved and cherished, which came first. It was also a vehicle Skougaard wanted to be seen more on the Norwegian roads. While the "city automobile" of Skougaard was accepted in the town outside the capital, Krag's tourist coach or "countryside automobile" was used in the countryside for conveying both tourists, the local population and mail. The automobiles were strictly scheduled. It was of the greatest importance that the farmers knew when it came, at least the very first years. They wanted to know when the automobile arrived in the same way as when the steaming locomotive approached the platform.

The first international road congress in Paris in 1908

In October 1908, almost at the same time as the conflict at Lesja, the first international road congress was arranged. All together 33 nations participated; 28 were officially invited. The organizing committee had underestimated the international interest for the conference. No less

³¹ Lillehammer Tilskuer, 5. April 1916

than 2400 people participated. Norway was formally represented by road director Skougaard. In his report from the congress Skougaard wrote: “An international road congress has never been arranged before, but the vigorous process of change in connection with the mechanical means of transport on the country roads, and especially the automobiles, has taken place in nearly all civilized countries. It is now necessary for both road technicians and the travellers on the road to come together and discuss what can be done from the road authorities’ side to meet the new challenge on both a practical and economical level”³² In Skougaard’s opinion “The automobile is namely an organism which demands international rules if it is supposed to fulfil its goal, to be a means of communication that can bring people closer to each other”.

The introduction of the automobile varied from country to country. The understanding of what the automobiles were and what they could turn out to be, was unclear. In this respect the international conference was a melting pot where the new vehicles for the first time were to be cast in an international mould. During this shaping process local information about the integration process of the automobile would pass through the central Norwegian authorities to the international meeting and back again, a continuous flow of information creating a long lasting evaluation and thus shaping progress.

The Norwegian road director stated that the automobile would turn out to be as important as the railroad and the bicycle in binding the population of Norway together and would open possibilities for stronger contact between people. Stronger contact would in this respect also lead to cultural diffusion between central Europe and Norway, and between the Norwegian cities and the countryside.

Skougaard regarded the introduction of the automobile as an international event. By doing this, the integration of the new technology was not to be regarded as a Norwegian incident, but had to be seen and treated on an international level. At the congress it was decided to establish an “Association Internationale Permanente des Congrès de la Route”, a permanent international committee where governments, road associations and individual members could participate. The goal was to come up with new reforms in connection with building, maintaining and using the automobile to a greater extent. From my point of this was equivalent to accepting all kinds of automobiles on Norwegian roads. In many respects the automobile was brought back to where it had started, on the European scene of communications, but with a much larger momentum.

By establishing networks between the Norwegian road authorities and their European counterparts, both on a central and a regional level, the introduction of the automobile to the Norwegian countryside became a scene for circulation of knowledge, artefacts and cultural scenarios. The European car was instrumental not only in reshaping transport/mobility patterns, but to diffuse “European” tastes, fashions and habits.

Summary

The introduction of the automobile to the Norwegian countryside was a multi-faceted process with a large group of actors, at all levels: local, central, national and international. The integration of the automobile in Norway was not a distinctive Norwegian process, isolated from

³² Meddelelser fra Veidirektøren bind II-Indberetning fra veidirektør Skougaard angaaende den 1ste internationale veikongress, Kristiania 1909

the rest of Europe. The road directors went abroad to get vital and necessary information about the new technology. They were, however, not alone. Their engaged corps of engineers contributed to a large extent to the flow of information from Europe to Norway. This was not only a technological flux but also contained elements of culture. In this perspective the road engineers increased the knowledge of the European automobile technology and culture and acted as supervisors for the road director, especially Krag, when the new vehicles were concerned.

Norway had, perhaps more than any other country in Europe, except perhaps Switzerland and Scotland, a topography and national economy that made it extremely difficult to establish a road standard suitable for the new vehicles. Furthermore Norway had more horses per acre of cultivated land than any other central European country.³³ As a result, the automobiles came closer to the horse and wagon in Norway than in most other European countries. Another crucial point was that the horse in many ways represented the culture of the Norwegian countryside, while the automobile was a symbol of the culture of urban life. Even more frightening was that the new technology represented impulses from foreign countries to a nation which for many decades had been in the hands of Denmark and later Sweden. The integration of the automobile in rural Norway was also a process of cultural adoption where the farmers had to face the automobile pioneers not only from the Norwegian capital, but also as agents from abroad. In this respect the automobile, an imported technology produced in Germany and France, became a catalyst for a cultural transformation of local and rural communities of the Norwegian countryside.

The Norwegian counties had an historic heritage connected to self-government in small local communities. This focus on the right of local communities to rule was crucial when the first automobiles were to be integrated in the Norwegian countryside. The county road engineers represented in many ways the local rural communities. They were also firmly attached to the daily work of the county chief administrative officer. In relation to the planning and execution of road projects it was indirectly the local communities in the countryside which gave the premises, although the road director was formally in charge.

In the cities the situation was different. The roads were sufficiently built for the increased automobile traffic. The technological environment was also different. The city horse was used to noise and heavy traffic. The "city automobile" did not in most cases represent a challenge either to the county road engineers or the county chief administrative officer. The integration of the automobile in the towns of Norway could in many respects develop freely and the new technology was spread from the Norwegian capital, Kristiania (Oslo) to the much smaller towns of rural Norway.

Road director Krag had a strong focus on the tourist automobile. In this regard the "Krag automobile" won the battle of the countryside. For his successor Skougaard the new vehicles were something more. He was strongly attached to the urban culture based on his impulses from Paris. He saw clearly that Norway would benefit from the new technology only if the automobile was accepted on a broader scale. In this respect the "Skougaard automobile" won the towns of the countryside, even if this was a far easier victory than the integration of the automobile in general.

The automobile spread from the main capital to the towns, while the countryside to a much stronger degree was dominated by the long tradition connected to the expansion of the railroad. Not without heavy opposition, the farmers in the countryside finally accepted the motor coach in

³³ "Forslag til Lov om Smaabaner", Dokument nr. 153 (1894) fra Jernbanekomiteen, side 41

strictly scheduled routes from Otta to Aandalsnes, but in the hands of local entrepreneurs. The automobile pioneers had to fight a battle against the farmers who looked upon the railway as a more convenient means of transportation. Being a community with its own railway station was far more prestigious than having a commuting station for the automobiles. In this perspective the Norwegian farmers became agents for the railroad and antagonists against the automobile.

In many respects the first Norwegian automobiles in the countryside became “minimalistic” in the sense that the scheduled automobile route and nothing else was all the farmers could accept. Krag’s theses: “Sufficient but not lavish” was not a covering phrase only where road building was concerned. It was in many ways representative of a national attitude at a time when the young Norwegian national state had very restricted economic resources.

The first international road congress in Paris in 1908 in many ways brought the automobile back to the European scene of transportation on a macro level where it has stayed ever since. At that congress and at following international road conferences road director Skougaard had the opportunity to open up the problems connected to the integration of the automobile in Norway. The flow of information was in many respects reversed. The automobile battle of the integration of the automobile on the micro level in the Norwegian countryside was, however, clearly won. The shift from a “horse culture” to a “car culture” was not a momentous step. The Norwegian countryside would be dominated by the horse drawn carriages for decades.

Map of Norway



12: Kristian's County (Oppland)