Content

Resumé (dansk)

Transportdebatten i Danmark er stærkt polariseret omkring to synspunkter. Det ene synspunkt understreger at transport har stor betydning for den samfundsmæssige og økonomiske udvikling, mens det andet synspunkt fokuserer på at transport har store miljømæssige omkostninger. Disse to synspunkter medfører vidt forskellige konklusioner i forhold til transportens udvikling: I forlængelse af det første synspunkt skal transporten understøttes for at sikre en positiv samfundsudvikling, mens det andet synspunkt fører til anbefalinger om at begrænse transportens omfang . Disse to synspunkter repræsenterer en gordisk knude for transport planlæggere, politikere og forskere. Der ikke er nogle enkle eller åbenlyse løsninger, der tilgodeser begge synspunkter. I praksis betyder det at politiske handlingsplaner fra nationalt til EU niveau søger at løse denne gordiske knude ved at have målsætninger om 'bæredygtig transport', hvormed begge synspunkter søges tilfredsstillet. I praksis har det dog vist sig vanskeligt at begrænse transportens udvikling.

De to synspunkter og tilgange til transportproblematikken er velbelyste og godt forskningsmæssigt underbygget. Vi har stor viden om transportens udvikling, dens store samfundsmæssige og økonomiske betydning. Ligeledes har vi stor viden om dens miljømæssige konsekvenser. Mange forskningsprojekter er således i de senere år igangsat og inspireret af transportens gordiske knude, og har som formål at udvikle transport i nogle mere bæredygtige retninger.

Der synes således at være et stort behov for at finde nye svar i transportforskningen. Svar, der er resultat af nye spørgsmål. Nogle af dem kan formuleres således: Hvilke løsninger kan der findes på transportens paradoks? Kan de drivkræfter der styrer transportens omfang og struktur påvirkes i nye retninger, der kan tilgodese miljø og bæredygtighed? Er transport så dybt forankret i det senmoderne samfund, at det bliver en vanskelig opgave? Hvilke aktører vil deltage i en påvirkning af transportens udvikling og med hvilke midler? Hvordan får vi skabt en dialog omkring nye forståelser af transporten og dens konsekvenser?

I de senere års forskning inden for transport har begrebet mobilitet været i fokus. Det har især været sociologien, der har bidraget med denne nye forståelse.

Mobilitetsbegrebet

Mobilitet kan bruges som synonymt med transport og henviser derved til den fysiske og /eller kropslige bevægelse igennem tid og rum. Mobilitet kan også rumme aspekter af de potentielle muligheder der er tilgængelige for at foretage disse bevægelser. Mobilitetsforskningen vil dermed fokusere på de forskellige former for mobilitet og forskellige potentialer for mobilitet og vil fokusere på fx bilisme, flyrejser, godstransport osv. I denne sammenhæng anvendes mobilitetsbegrebet til at forstå, hvorledes mobilitet bliver en del af dem samfundsmæssige udvikling, og hvorledes mobiliteten og dens forskellige former indgår med forskellig vægt i samfundsudviklingen. Således kan bilismen siges at have afgørende indflydelse på det senmoderne samfunds mobilitetsformer.

Studiet af mobilitet kan ikke afgrænses til enkelte positioner og traditioner i forskningen. Det vil være ofte være et tværvidenskabeligt anliggende at studere mobilitet ligesom mobilitet også analyseres ud fra forskellige videnskabsopfattelser. Mobilitetsperspektivet udgør altså ikke et entydigt perspektiv på det samfundsmæssige, men dækker forskellige positioner. Disse positioner har dog det tilfælles, at de alle søger at karakteriserer det samfundsmæssige som særligt mobilt. Hvor det samfundsmæssige oftest tænkes som knyttet til struktur, til det faste

og stabile, tænkes det samfundsmæssige i mobilitetsperspektivet som konstitueret gennem bevægelse. Denne måde at tænke på medfører, at vi må tænke det sociale og miljømæssige på andre og nye måder. Det er imidlertid interessant, at flere mobilitetsforskere ikke inddrager transportens sociale og miljømæssige konsekvenser i deres forskning. Her findes en stor fremtidig udfordring i forskningsfeltet.

Det er især John Urry, der med hans nye bog, *Sociology beyond Society* (2000), der har givet inspiration til den danske debat og dermed til denne antologi. I sin bog, som han kalder et manifesto for en ny sociologi, foreslår han, at sociologien tager udgangspunkt i de mange mobilititeter, der udgør det samfundsmæssige. Han forstår her mobiliteter som kropslig mobilitet (fx bilisme, flyrejser, osv.); objekt mobilitet (alle former for ting og objekter: affald, penge, vare osv.); imaginær mobilitet (TV mv.) og virtuel mobilitet (fx internet). Disse mobiliteter ser han tilsammen som konstituerende for det sociale livs strukturer "...it is in these mobilities that social life and cultural identity are recursively formed and reformed." (2000:49). For at analysere disse mobiliteter udvikler han en række begreber, der muliggør dette. Han stiller spørgsmålstegn ved det rumlige som knyttet til fysisk sted og argumenterer i stedet, at det rumlige må ses som konstitueret gennem netværk og strømme. I disse netværk og strømme flyder de forskellige former for mobiliteter, eller 'komplekse mobile hybrider', som han også kalder dem. For at analysere disse mobiliteter foreslår han en række centrale dimensioner. Han lægger vægt på temporalitet, sanser og hybriditet, dvs. sammensmeltning mellem det menneskelige og teknologi, som væsentlige aspekter, der må undersøges nærmere i konkrete undersøgelser.

Men også andre forfattere sætter mobilitet centralt i forståelsen af det samfundsmæssige. Nigel Thrift, der er geograf, har søgt at indkredse de kulturelle konsekvenser af udviklingen i forholdet mellem menneske og teknologi gennem de sidste 200 år. Han understreger at vi nu er ved at se helt nye kulturelle former, som han kalder 'cultures of feeling of mobility' med inspiration fra Raymond Williams. begrebet 'structure of feeling' dækker over følelser, kropslige praksiser, den fysiske karakter af sted mv.'. Det ændrede kropslige engagement med teknologi opbygger således forskellige 'structures of feelings', som betyder at vi sanser og oplever på en anden måde.

Virilio, der er arkitekt og byplanlægger, har haft hastighed, eller 'speed', som gennemgående tema i sit arbejde. Hans grundlæggende teser er at hastighedens logik er, at den vil øges, og at den øgede hastighed vil afspejle sig i anvendelse af nye transportteknologier (tog, bil, fly) samt at indretningen af verden vil ændre sig i et forsøg på at tilpasse sig hastighedens logik. Således vil vores byer, liv og omgivelser indrette sig efter vor tids hastighed. Hastigheden sættes ifølge Virilio af samfundets fremherskende teknologi, som ofte er udviklet i militært regi. Således tænkes hastigheden i computerteknologien at have stor betydning for fremtidens mobilitet, ligesom bilen har haft det for vor nuværendes samfund. Virilio har et ret negativt syn på hastighedens acceleration, men har vanskeligt ved at give konkrete bud på om og hvorledes den kan standses.

Urry, Thrift og Virilio er tre eksempler meget forskellige eksempler på hvordan mobilitet begrebsliggøres og forstås som samfundsmæssigt perspektiv. Fælles mellem dem er dog, at de peger på en række dimensioner der oftest ikke står centralt i den samfundsmæssige analyse: tid, rum, krop/sanser, hastighed. Et mobilitetsperspektiv trækker derfor en række dimensioner frem som normalt ikke står centralt i vores forståelse af det samfundsmæssige, men som samtidigt er særligt interessante, når genstandsfeltet er transport. Disse perspektiver giver derfor mulighed for at stille andre spørgsmål i det empiriske arbejde og mulighed for at eftersøge andre svar. I det følgende vil vi give ordet til til oplægsholderne i to seminarer afholdt i efteråret 2000. De har taget bolden op og har ladet sig inspirere af mobilitetsperspektivet. I arbejdspapirerne stilles en række nye spørgsmål, som dermed giver os nogle nye perspektiver på transportdebattens paradoks.

De to seminarer

De to seminarer tog udgangspunkt i at synliggøre mobilitetsperspektivet som en mulig udviklingsvej for den samfundsvidenskabelige transportforskning og at præsentere og diskutere undersøgelser, der på forskellig vis bidrager til denne forskning. Det er der kommet en række spændende artikler ud af, som til en vis grad repræsenterer 'state-of-the-art' inden for den samfundsvidenskabelige transportforskning pt.

Det var behovet for at bringe nye perspektiver i spil i den danske transportdebat, som var udgangspunkt for to forskningsseminarer afholdt i anden halvdel af 2000. Det ene var forskningsseminaret 'Research seminar on Mobility' afholdt 2. november 2000 på Roskilde Universitetscenter i et samarbejde mellem Institut for Miljø, Teknologi og Samfund og Institut for Geografi (begge RUC) samt Sociologisk Institut, Københavns Universitet. Dette seminar havde John Urry som gæsteforelæser og endvidere bidrag fra danske transport og mobilitetsforskere. Artiklerne fra dette seminar findes i Del 1.

Det andet var workshoppen 'Trafikpolitik og mobilitetsforståelse' afholdt på Trafikdagene i Ålborg 28.-29. august 2000 arrangeret af Per Homann Jespersen og Lise Drewes Nielsen fra Roskilde Universitetscenter. På workshoppen blev der via korte oplæg givet en introduktion til en dansk debat om trafikpolitik og mobilitetsforståelse. Artiklerne fra denne workshop findes i del 2.

Begreber og teorier om mobilitet er relativt nye indenfor sociologien, ligesom der findes meget lidt forskning, der anvender og diskuterer disse i relation til genstandsfeltet transport. Mobilitetsperspektivet kan derfor ikke ses en fasttømret eller som et veletableret perspektiv på transportfeltet, og målet med de to seminarer var da heller ikke at demonstrer dette. Formålet med de to seminarer var at begynde at undersøge transportproblematikken med inspiration fra dette perspektiv, og derigennem forhåbentlig stille nye spørgsmål, finde nye svar og viden. Som sådan må seminarerne ses som indledende, og som en begyndelse til at tematisere og teoretisere transportproblematikken udfra dette perspektiv. I denne antologi har vi samlet bidragene fra de to seminarer for at give deltagere til seminarerne såvel som andre mulighed for at få indblik i dette arbejde.

Del 1. Mobilitets begrebets anvendelser

På forskningsseminaret 'Research seminar on mobility' tog Jörg Beckman udgangspunkt i sociologiske teorier om mobilitet. Han påpegede at den blinde plet er immobiliteten. Teorierne er imidlertid gode til at karakterisere de samfundsmæssige mobilitetsprocesser, men ifølge Jörg Beckman overser disse teorier de selvsamme processers immobiliserende kræfter. Med bilismen som eksempel viser han hvordan bilismen konstituerer mobilitet gennem vejsystemet samtidigt med at den også immobilisere andre trafikanter som fodgængere, steder som parkeringspladser, mv. Han foreslår derfor, at teorier har øje for de ambivalente processer der er indlejret i mobiliteten.

John Urry undersøgte i sit papir hvordan vi bebor [inhabit] bilen gennem vores sanser og gennem tid og rum. Først og fremmest præger bilen byrummet. Bilismen skaber temporal fleksibilitet, 'øjeblikkelighedstid' modsat køreplanens klokketid, dominans af det offentlige rum, skabelse af et vejrum præget af larm, dårlig smag og lugt samt ubønhørlig bevægelse, mens den visuelle sans, der skaber reciprocitet mellem mennesker udlukkes. Bilismen skaber imidlertid også bestemte konfigurationer mellem menneske og bil. I bilen skabes et fuldstændigt privatiseret rum, tilrettelagt for den enkelte bilist. Gennem de sociale relationer reproduceres familiære træk, såsom 'bagsæde-passageren', ligesom føreren er afhængig af passageren til at læse kort og navigere. Bilistens krop fragmenteres og disciplineres til bilen, hvor

øre, øje, hænder og fødder trænes til at respondere, mens andre måder at sidde på undertrykkes. Afslutningsvis argumenterer Urry, at byplanlægning må integrere mobilitet snarere end at søge at fastfryse den. Dette kunne måske gøres, foreslår han, gennem udvikling af nye typer biler og transportsystemer, der skaber nye konfigurationer mellem menneske og bil, og nye måder at 'bebo' bilen på.

Mens John Urry er interesseret i at undersøge bilismens indlejring i det sociale liv i byen, understeger Petter Næss betydningen af byens materielle strukturer for rejsemønstre og diskuterer sammenhængen mellem bymønstre og transport med udgangspunkt i et casestudie fra en mindre dansk by. Mens nogle undersøgelser afviser en sammenhæng mellem bytæthed og transport, viser Næss med sit studie, at der er tydelig sammenhæng mellem byens materielle struktur og transportadfærd og rejsemønstre. Her er det især lokalisering af beboelsesområder, der er vigtig for brugen af bilen, idet tæthed/fjernhed til servicefaciliteter i forhold til hjemmet bestemmer behovet for at nå daglige eller ugentlige destinationer. Mens hans perspektiv således primært er strukturelt, peger han også på betydningen af socio-økonomiske og lilvsstilsmæssige faktorer. Afslutningsvis argumenterer Petter Næss derfor for nødvendigheden af at ændre byplanlægningens mønstre, hvis der skal ske en reduktion i bilismens omfang.

Hvor de foregående artikler har sat fokus på persontransport tager Lise Drewes Nielsen og Per Homann Jespersen's artikel udgangspunkt i forskning med fokus på godstransport. Artiklen præsenterer metoder og angrebsvinkel på studier af godstransport med det formål at forklare hvorledes organiseringen af produktion og distribution, den logistiske organisering, influerer på stigningen i godstransporten. Desuden indeholder artiklen en beskrivelse af hvorledes kompressionen af 'time and space' har afgørende indflydelse på organisering og arbejdsvilkår i godstransportsektoren. Dermed bidrager artiklen, med udgangspunkt i godssektoren, til en dybere forståelse af hvorledes samfundets økonomiske organisering af produktion og forbrug via transportsektoren har sociale og miljømæssige konsekvenser, men også hvorledes disse organisationsformer er drivkræfter bag udviklingen i mobilitet. Dermed kan studier af godstransport også yde sit bidrag til en samfundsmæssig forståelse af mobilitet.

Den sidste artikel er af Michael Haldrup og sætter fokus på begrebet destination med udgangspunkt i turismeforskningen. Artiklens udgangspunkt er at mange teorier om 'tourist consumption and production' har en reference til begrebet 'space' af en næsten af programmatisk karakter. Destinationsbegrebet har ofte her en kulturel, social eller økonomisk dimension. Artiklens mål er således at diskutere 'place of space' begrebet i turismeforskning og levere en kritisk diskussion af turismen i senmoderniteten. Artiklen afsluttes med et ønske om at betragte turismeforskningen via mobilitetsforskningens briller og dermed følge turistens valg af destinationer og oplevelser via bevægelsen. Derved kan mobilitetsforskningen bidrage til at dekonstruere, konstruere og rekonstruere de destinationer, hvor turismen indlejres.

Del 2. Trafikpolitik og mobilitetsforståelse. En workshop.

Udgangspunktet for debatten på en workshop på Trafikdagene 2000 var, at det er nødvendigt at etablere en debat mellem to forskellige diskurser inden for transportområdet: én der fokuserer på de miljømæssige belastninger og én der fokuserer på mobilitetens nødvendighed. Workshoppen havde til formål at rejse debatten, at give indsigt i den eksisterende viden på området samt at lægge op til videre debat.

En håndfuld oplægsholdere var inviteret til præsentere forskellige tilgange til spørgsmålet om hvorledes der kan etableres en ny dialog.

Henrik Gudmundsson giver et analytisk approach til mobilitetsbegrebet og dets mulighed for at forstå den nuværende udvikling. Malene Freuendal-Pedersen, Kenneth Roslind Hansen og Katrine Hartmann Petersen fremlægger resultaterne af et projekt, hvor de har studeret ambivalensen mellem en viden om bilens miljøbelastninger og den daglige transport praksis for udvalgte familier. Jeppe Læssøe diskuterer, hvorledes nye praksisser inden for transportområdet bør introduceres ikke kun ved at anvende kraftgreb (f.eks. økonomisk regulering) men også ved at inddrage kulturelle læreprocesser (fingreb) med det formål at udvikle og erfare nye løsninger

Arne Kvist Rønnest og Tonny Lacomble Nielsen har undersøgt, hvorledes forskellige samfundsvidenskabelige discipliner forklarer trafikvæksten og diskuterer hvilke faktorer der anvendes som de forklarende variable. Til sidst oplister Per Homann Jespersen og Lise Drewes Nielsen begrundelser for indholdet i en ny transportpolitik ved at relatere politikken til udviklingen i det senmoderne samfund. Dermed åbnes op for alternative tankemåder og praksisser.

Lise Drewes Nielsen
Helene Hjort Oldrup

Litteratur

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Introduction

The debate on transport in Denmark is strongly polarised. One side in the debate argues that transport is of great importance for social and economic development, while the other side stresses the negative environmental effects of the current transport system. These two points of view lead to very different policy recommendations with relation to suggestions for the development of the transport system. Following the first argument, transport must be supported to ensure positive socio-economic development, whilst it follows from the second argument that transport volume must be reduced. These two points of view represents a paradox for transport planners, researchers and politicians. There is no simple or clear solutions which contains both perspectives. In reality this means that infrastructure plans from national to EU level has aims of sustainable transport systems, but in practice very little is done to reduce transport.

These two perspectives on the transport problem are well researched. We have a large body of knowledge on the development of transport and its social end economic value. We also have knowledge about transport's environmental effects. In recent years there have been many research projects aimed at developing models and solutions for sustainable transport systems. Nonetheless there seems to be a need to ask new questions and seek new answers in transport research. Some of them could be formulated as: What solutions can be found to solve the paradox of transport development? Is it possible to influence the forces behind transport development in new directions, which will minimise environmental effects? Is transport so deeply ingrained in the late modern society, that this is almost impossible? What actors can take part in changing the direction of transport development? How can a dialogue about new understandings of transport be created?

The concept of mobility

In recent years the concept of mobility has been central within transport research. Inspiration has particularly been drawn from sociology, which has contributed with new theoretical understandings. Mobility is used synonymous with transport and refers to the physical or/and bodily movement through time and space. Mobility can also contain aspects of the potential possibilities which exists for making these movements. Mobility research therefore aims at focusing at the different forms of mobility and the different potentials for mobility, and has as its empirical area different forms of movement, for example automobility, freight transport and air transport. In relation to this, the concept of mobility is being used to understand how forms of mobility take part in social development in different ways. For example, automobility can be said to have a decisive influence on forms of mobility existing in late modernity.
The study of mobility cannot be delimited to single positions or traditions in research. Rather, it is a cross-disciplinary task to study mobility, with different epistemological perspectives being used. The concept of mobility does not therefore represent a single perspective on the social world, but covers different positions. However, these positions share the characterisation of the social as being particularly mobile, as being constituted through movement. This is in opposition to how the social world is normally thought about: it is mainly seen as being connected to structure, to the immobile. It is however, interesting that many researchers of mobility do not include the social and environmental consequences of transport. This represents a future research field.

It is particularly Professor John Urry's new book, Sociology beyond Society (2000), which has given inspiration to the Danish debate and to this anthology. In this book, which Urry calls a manifesto for a new sociology, he suggests that sociology should take the many mobilities

which exist as its starting point. Urry understands mobility as bodily mobility (i.e. automobility, air travel etc.); object mobility (all forms of objects: waste, money, goods etc.); imaginary mobility (i.e. television) and virtual mobility (internet). These mobilities he sees as being constitutive of the structures of social life: '...it is in these mobilities that social life and cultural identity are recursively formed and reformed' (2000:49). To analyse these mobilities he develops a range of concepts which make this possible. He questions the concepts of space as being connected to place, and argues that space must be seen as being constituted through networks and fluids. It is in these networks and fluids that different forms of mobility flow, the complex mobile hybrids as he calls them. To analyse these hybrids he suggests some central dimensions, namely temporality, the senses and hybridity.

Other authors also place mobility centrally in the understanding of the social. Nigel Thrift is a geographer. In the book Spatial formations (1996) he seeks to analyse the cultural consequences of the development of the relations between machines and humans during the last 200 years. He argues that we now see new cultural forms which he characterises as 'cultures of feeling of mobility'. The concept 'structure of feeling' covers feelings, bodily practises, the physical character of place. The changed embodied engagement with technology thus builds up different structures of feelings which means that we sense and experience differently.

Virilio is a French architect and town planner who has speed has a recurrent theme in his work. His suggestion is that the logic of speed is that it will increase (reflected in the development of new transport technologies (train, cars, planes)) and that the surrounding world (i.e. towns) will change as to conform to the logic of speed. According to Virilio, speed is being determined by the dominant technology, mainly developed by the military. He therefore sees the speed of computer technology as being of great importance for current and future mobility, just as the car has in the current society. Virilio is sceptical concerning acceleration of speed, but does not give any concrete answers as to how it will continue.

Urry, Thrift and Virilio are very different examples on how mobility is being conceptualised and understood as a perspective on social development. However, they all include dimensions which are often excluded from social science analysis: time, space, body, senses and speed. Using mobility as a perspective therefore points to a number of dimensions which are particularly interesting in relation to transport, but which are not always included. Working with the concept of mobility therefore enables asking new questions in relation to the empirical work.

Two seminars on mobility and transport

It was the need to present new perspectives into the Danish transport debate which formed the background for two research seminars held in the autumn of 2000. Both these seminars took as their starting point the mobility perspective as possible routes for social science research on transport. The aim was to present and discuss studies which in different ways contribute to this. The result of these seminars is a number of interesting articles which also to a certain degree represent 'state of the art' within current social science transport research.

One seminar was 'Research seminar on Mobility' held the 2nd of November 2000 at The University of Roskilde in a co-operation between the Institute of Geography, the Institute of Environment, Technology & Social Science (both University of Roskilde), and the Institute of Sociology, University of Copenhagen(This seminar was supported by The Danish Transport Council). This seminar had professor John Urry from the UK as visiting researcher as well as a number of Danish transport and mobility researchers. The articles from this seminar are placed in Part 1 of this anthology.

The second seminar was the workshop 'The Politics of Traffic and Understandings of Mobility' organised by Per Homan Jespersen and Lise Drewes Nielsen from the University of Roskilde as part of the conference 'The Traffic Days' at Aalborg University, 28-29th August 2000. The articles from this workshop are placed in Part 2 of this anthology.
The mobility perspective is relatively new within transport research, and the aim of the seminars was not to demonstrate it as a well-established or as a well-defined perspective. Rather the aim was to make visible mobility as a useful perspective which enable us to ask new questions within transport research. As such, the seminars must be seen as an attempt to thematise and theorise transport from this perspective. In this anthology, articles from the two seminars are included and it is hoped it will inspire further research and contribute to the debate on the development of the transport system.

Lise Drewes Nielsen
Helene Hjorth Oldrup

Part 1.
The mobility perspective

Introduction

Lise Drewes Nielsen and
Helene Hjorth Oldrup

At the seminar 'Research seminar on mobility', Jörg Beckman took sociological theories of mobility as his starting point, and argued that their blind spot is immobility. While these theories are useful in characterising social processes of mobility, they ignore how the processes simultaneously contain immobilising forces. Using automobility as an example, he shows how mobility is constituted through the road system, which immobilises other travellers such as pedestrians, and other places such as parking areas, etc. He therefore suggests that theories of mobility must be aware of the ambivalences of mobility.

John Urry investigates in his article how we inhabit the car through our senses and through time and space. Automobility creates temporal flexibility, dominance of the public sphere and production of urban places characterised by noise, bad smells and continuous movement. The visual sense which creates reciprocity between people is made impossible. Automobility also creates specific configurations between humans and cars. Through the social relations of the car, features of the family are being reproduced in the car: the back-seat passenger and the driver. The drivers body are being fragmented and disciplined by the car, where eyes, ears, hands and feet are being trained to respond, while other ways of sitting are suppressed. Finally Urry argues, that town planning should integrate mobility rather than seek to freeze it. One way of doing this could be by creating new types of cars and transport systems, which creates new configurations between humans and cars, new ways of inhabiting the car.

While John Urry is interested in how the car is integrated into the social life of cities, Petter Næss is stressing the importance of the material structures of urban areas for travel patterns, and discusses the relationship between town patterns and transport using a case study from a smaller Danish town. While some studies dismisses a connection between urban density and transport, Næss demonstrates with his study that there is a clear connection between the material structures, travel behaviour and travel patterns. It is especially the location of housing areas, which are important for the use of the car, as it is the closeness/distance to service facilities which determines the need for daily and/or weekly destinations. While Næss' primarily takes a structural perspective, he also points to the importance of socio-economic and lifestyle factors. In conclusion Næss argues that it is necessary to change the patterns of town planning, if automobility is to be reduced.

Where previous articles have focused on the transport of persons, Lise Drewes Nielsen and Per Homan Jespersen look at freight transport. The article presents methods and perspectives for the study of how the organisation of production and distribution, together with logistical organisation, are influencing the increase in freight transport. The article also describes how the time and space compression within the sector has a decisive influence on organisation and working conditions. The article therefore contributes to a deeper understanding of how society's economic organisation of production and consumption via the transport sector has social and economic consequences, as well as how these organisational forms are driving forces behind the development of mobility. Studies of freight transport can therefore contribute with a social understanding of mobility.

The last article by Michael Haldrup focus on the concept of destination within tourism research. The starting point for the article is that many theories on tourist consumption and

production make an almost programmatic reference to space. The concept of destination here has often a cultural, social or economic dimension. The aim of the article is to discuss the concept of space in tourism research and make a critical discussion of tourism in late modernity. The article is concluded with a wish to look at tourism research through the lenses of mobility and follow the tourist choice of destinations and experiences through movement. In this way mobility research can contribute to deconstruct, construct and reconstruct the destinations, where tourism unfolds.

Heavy Traffic
Paradoxes of a modernity mobility nexus

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Abstract

In 'liquid modernity' (Bauman 2000) 'all that is solid melts into air' (Berman 1988). In 'the civil society of automobility' (Urry 2000) 'time-space compression' (Harvey 1990) coerces people into continual motion. In 'the new structure of feeling called mobility' (Thrift 1996) 'the aesthetics of disappearance' (Virilio 1991) mould our experiences of social reality.

These are only few of the contemporary sociological concepts that refer to notions like mobility, movement and motion. All these concepts point at the inherent thrust of modernity to 'liquefy' and 'mobilise' human and non-human agents equally, globally. They seem to suggest that modernity is synonymous with mobility. But what about those goods and people who stay put? What about those who are immobilised instead of mobilised solidified instead of liquefied?

In this paper[1], I will approach mobility through its significant Other. My hypothesis is that even under the condition of an ever-growing mobility, immobile cultures continue to exist. Either these cultures are involuntarily excluded from a society in motion, or they express conscious resistance towards the speeding-up of everyday life and the acceleration of physical mobility; either they are paralysed by the risks and dangers of liquid modernity, or they reflexively respond to them by a more sedentary way of life.

It is in particular the demobilisation of humans qua force, which represents the flipped, dark side of the mobile coin. Examples that drastically illustrate how mobility immobilises are manifold. They span from 19th century colonisation of endogenous American, African and Asian people (and their ultimate demobilisation through 'extinction') to the forecasted 2,5 million fatal car-accidents world wide in the year 2030 (Teufel 1993). However, these past and future events are, first and foremost, descriptions of immobilising phenomena. Departing from here, I will argue in this paper, that immobility is not only a 'phenomenological issue', but also an issue of structural importance. Or put in other words, *mobility relies on immobility.* Only because certain cultures, objects, informations are immobilised others can travel. Rather than seeing modernity as a continual process of 'setting free' and 'letting go', I see it as equally immobilising[2]. Mobilisation needs immobilisation!

In order to develop this argument of mine, I will first show how modernity has been seen as tantamount to mobility. Secondly, I will make reference to the automobile as 'the avatar of mobility' (Thrift 1996: 272). Automobility, serves as a case, by means of which I hope to show how the setting free of one culture always hinges on the fixing of others. For this purpose, I shall draw upon a number of 'auto-phenomena' and use them to illustrate my point. In the conclusion, I will return to my main hypothesis (the 'structural coupling' of mobility and immobility) and draw upon some practical implications for the reflexive organisation of everyday mobility.

Modernity as mobility

Many contemporary social scientists are now equating modernity with mobility. Often the equation is forwarded as an axiom, as a statement, which needs no further explanation. It is presented as so obvious an argument that it renders any deeper explanation superfluous. Already the semantic similarity seems to justify treating these highly complex concepts as equivalents. One can get the idea that just because it sounds good, modernity is equated with mobility.

In contrast to the occasional use of the mobility modernity nexus as a fashionable semantic bubble, more distinguished social philosophers and sociologists have provided both illustrative descriptions and thorough explanations of how they couple modernity with mobility. The basic argument that frames the modernity mobility nexus can be summarised as follows: Modernisation brings about a social formation in which agents interact over an ever-larger territory. It entails an inherent thrust to set individuals free from their local context. The movement of people and goods in modern societies is extended and accelerated to the beat of new transportation and communication technologies.

How is such argument reasoned? How do sociologists (of transport and mobility) explain the very assumption that modernity and mobility form a structural couple? One of the more recent attempts to weave together mobility and modernity draws upon the elective relationship between modernisation and mobilisation (Rammler 2000). By employing Weber's 'Wahlverwandschaft', German sociologist Stephan Rammler points out that mobility and modernity are neither linked to each other by a stringent causal relationship nor is their co-dependence merely coincidental. Instead, he argues that modernisation fosters mobility, which in turn further fuels an ongoing modernisation process. Here, the relationship between modernity and mobility is depicted by 'mutual penetration and attraction as well as reciprocal promotion' (Rammler 2000)[3].

The value of Rammler's contribution to the debate lies in the employment of sociology's classical concepts. He turns to Marx, Weber, Simmel, Spencer, Elias and others to search for explicit and implicit transport-related approaches in the works of these social thinkers. In opposition to Rammler, however, John Urry's latest book (*Sociology beyond Societies*) turns away from classical theories and aims at "reconstructing the 'social as society' into the 'social as mobility'" (Urry 2000: 2). Urry presents his work as a manifesto for a more mobile sociology that does away with the experimental certainties of its precursor. He states that, his book "is about mobilities and this involves the rapid dissolving of the new fixed points that sociology had precariously established over the past few decades. In such a maelstrom of social and intellectual mobility I ask whether any fixed points can remain" (Urry 2000: 17). Urry ties modernity to mobility in quite a different fashion. He sees traditional sociology as the genuine product of modernity. The modernisation of modernity, however, washes away this sociology as a specific academic practice of orthodox modern societies and simultaneously introduces a new one. In second or reflexive modernity, the social as society is replaced by the social as mobility. For the social theorising of late modern societies mobility has become the central category.

Apart from these two recent ground-breaking works other sociologists have more or less explicitly viewed mobility in line with modernity. So for instance Anthony Giddens, who holds that "the advent of modernity increasingly tears space away from place by fostering relations between 'absent' others, locationally distant from any given situation of face-to face interaction" (Giddens 1990: 18). The overcoming of distance between absent others is enabled, by what he calls 'time-space ordering devices', such as train-time tables, automobiles or e-mail addresses. The setting free from spatial constraints is clearly powered by the invention of such ever-faster transportation and communication technologies, resulting into a 'shrinking world' in which time and space are increasingly compressed. Throughout the recent past, as

David Harvey argues, “time horizons of both private and public decision-making have shrunk, while satellite communication and declining transport costs have made it increasingly possible to spread those decisions over an ever wider and variegated space” (Harvey 1990: 147). According to these authors modernisation both demands and enables mobility. It produces social relations that foster the mobilisation of people, capital, machines, information, knowledge, images, pop-songs, etc. For the individual this entails being repeatedly uprooted from established social structures and propelled into another spatio-temporal context, due to a new home, job or relationship. The proliferating mobility of modern subjects, like the ones seen by Harvey or Giddens undoubtedly poses severe social problems. However, for others mobility is also seen as a personal opportunity that fuels the wishes and expectations of those who are already ‘on the road’ as well as the ones who are not-yet mobilised. Tourism, for instance, no matter whether it comes across as ‘mass-tourism’ or ‘backpacking’ promises diversion from the known. It may simply displace the person from a ‘well-known’ to a ‘familiar’ context, or contribute ‘personal growth’ in that it leads to a new insight into ones own culture by virtue of visiting another. It is against this background that Lash and Urry relate mobility to reflexivity, when they speak of travel as a mediator in the reflexive regulation of everyday life (Lash/Urry 1994: 54). On this view, mobility comes across as a facilitator of reflexivity – through travel we may be able to acquire a more reflexive – i.e. self-critical – view of ourselves and our surroundings. For Lash and Urry, “modern society is a society on the move” (Lash/Urry 1994: 252) where mobility is “responsible for altering how people appear to experience the modern world, changing both their forms of subjectivity and sociability and their aesthetic appreciation of nature, landscapes, townscapes and other societies” (Lash/Urry 1994: 256).

Whereas Lash’s and Urry’s ‘Economies of Signs and Spaces predominantly emphasise the emancipating capacities of travel and understand mobility in terms of accessibility, that is to say the possibility of ‘getting to’ places and activities, Zygmunt Bauman approaches mobility in terms of its alienating thrust. He views mobility as, what might be called, ‘exitability’. For him mobility enables absenteeism just as much as it permits proximity. Bauman regards the individual’s escape velocity as an indicator of power. He states that “the prime technique of power is now escape, slippage, elision and avoidance, the effective rejection of any territorial confinement” (Bauman 2000: 11). The capacity to disengage, withdraw and move away is the privilege of Bauman’s global elite. Mobility, here, has become the most stratifying aspect in modern societies. Such stratification, however, is not merely a question of whether one is able to move or not, more than that it is a question of the particular quality of mobility. The difference in mobility, Bauman tries to highlight by virtue of his much cited ‘mobile metaphors’ the ‘vagabond’ and the ‘tourist’. Whereas the former gets pushed away, the latter gets pulled towards a place. The vagabond is continually forced to move away from hostile contexts, the tourist, however, is enabled to move onwards to places where his presence is welcome. Here, Bauman is explicitly concerned with risks of mobility. His contribution is different in so far as he continually highlights the ambivalences of mobility. Still, also in his universe, society is first and foremost liquefied, rather than solidified; his subjects are mobilised rather than immobilised.

To summarise, what all these authors share is that they view modernisation primarily in terms of its mobilising thrust. None of them turns modernity’s immobility into a central category. In all contributions the undoubtedly mobilising aspects of modernisation are emphasised and universalised. In doing so, they override the ‘heavy’, ‘bulky’ and ‘static’ features of modernisation processes that inhibit, limit, reduce, confine, slow-down or restrict the movement of goods and people. Moreover, they ascribe only one meaning to mobility-inhibiting entities like borders, barriers, speed-limits etc., that is to say the meaning that evolves from modernity’s need to tare them down[4]. Little relevance is given to modernity’s inherent drive to erect new institutional barriers, geographic borders, psychological railings, organisational obstacles, cultural perimeters and social boundaries.

Clearly, modernity is full of contradictions. Modern life is paradoxical and ambivalent. The very achievement of modernist culture is that we have come to recognise this contradictory nature of our existence. Structural differentiation, rationalisation, individualisation and domestication – as modernisation's constitutive dimensions – are all pregnant with their contrary (Loo/Reijen 1992).

- With structural differentiation, de-differentiating dependencies evolve amongst both established and newly emerging actors.
- With rationalisation, institutions pluralise and universalise their own aims and objectives. A process, however, that is accompanied by the generalisation of norms and values running contrary to the pluralising effects of any rationalisation.
- With individualisation, the human being is not only set free from traditional social relations, but is also embraced by ever wider ranging collectives.
- And with the domestication of nature and the human body, new forms of psychological and social conditioning and dependencies arise.

Against this background, it seems surprising that modernity's immobilities have not received more attention. It is therefore that I argue in opposition to the prominent wedding of modernisation and mobilisation that modernity must be understood both in terms of its mobilising as well as immobilising features. Moreover, I claim that mobility relies on immobility. The 'liquidification of modern society'[5] (Bauman 2000) is not possible without the erection of social, cultural, technical, organisational walls that both frame motion, mobility and movement and serve as a target for further cross-border movement.

The vehicle of modernity

In order to elaborate how modernity both mobilises and immobilises, and illustrate how the mobilisation of some agents relies on the immobilisation of others, I will turn to a specific hyphenated mobility, that is to say automobility. Automobility, I understand as *the* modern mobility paradigm. It is tightly interwoven into the tissue of contemporary society. For many of us it provides normal corporeal mobility, i. e. the type of mobility routinely exercised day after day.

Most of the prominent transport sociologists have highlighted the metaphoric value of the automobile. For all of them, the car manifests, constitutes or symbolises modernity. Nigel Thrift, for instance, presents the car as the technological manifestation of modernity, when he speaks of it as 'the avatar of mobility' (Thrift 1996: 272). For Sheller and Urry modern societies are societies of automobility (Sheller/Urry 2000) and Rammler presents the automobile as both an ideological stabiliser for Fordist mass consumption as well as a symbol for the 'egalitarian principles of a democratic modernity' (Rammler 1999).

In line with these views, I place my understanding of automobility as *the* modern mobility paradigm. However, I do so not merely because of the car's mobilising potency, but equally so for its immobilising capabilities. Automobility is of ambivalent character. It can be classified as both liberating and subjugating. When seen as a freeing as well as a coercing artefact, the car comes across as a doubtful joy. It cannot be reduced to only one category. This anomalous nature of automobility is central to its social scientific understanding. It holds crucial implications for a critical analysis of both contemporary transportation research and politics.

Many of the immobilising, restricting and limiting potencies of the car are known and hardly a revelation to both critical transport experts as well as walking or cycling 'lay' transport users. Planner, psychologists and sociologists have touched upon these 'unintended auto-consequences' and shown how the hegemony of the car has hampered the movement of non-

drivers (Freund/Martin 1993). Sheller and Urry see this confining feature of the car as one out of six components through which automobility should be examined. For them, "automobility is the predominant global form of 'quasi-private' mobility that subordinates other 'public' mobilities of walking, cycling, travelling by rail and so on; and it reorganises how people negotiate the opportunities for, and constraints upon, work, family life, leisure and pleasure" (Sheller/Urry 2000: 2)

Even though, the car's character is unmasked as Janus-faced and automobility's flaws are posited next to its virtues, the ambivalences of driving have not really impeded on the one-dimensional theorising of modernity as mobility. In the paragraphs below, I aim at filling this omission by showing how automobility is part of and contributes to the paradoxes of structural differentiation, individualisation, rationalisation and domestication.

In traffic, it seems, there is only one type of hegemonic hyphenated mobility, that is to say automobility. Automobility epitomises the mobile side of modernity. Here the expanding, extending, exploding forces of modernisation have fuelled car production, consumption and private use. The growth-dynamics of the auto-system were tremendous and have now amounted to a global car population of more than 500 million vehicles.

The expansion of automobility certainly counts as a modern phenomenon and can be tentatively explained by virtue of the above named constitutive dimensions of modernisation.

- Structural differentiation has given rise to a further-reaching division of labour, powering the increase of both passengers and goods transportation.
- Individualisation has set the individual free from traditional institutions and local contexts and thereby enabled and reinforced the use of transportation and communication technologies.
- Rationalisation has framed a particular way of ordering spatial functions. It has reinforced the erection of a car-oriented transportation system solely aiming at overcoming ever more distance in ever less time.
- Domestication has lead to the exploitation of natural resources and the manage ment of bodily constraints[6], so that goods and people can travel at an ever-higher speed[7].

These four examples must not be understood as unidirectional processes. In the same fashion differentiation, individualisation, rationalisation and domestication stimulate automobilisation, the proliferating use of cars (and other mechanical vehicles) fosters the furthering of these processes.

Still, what I have described above is only one side of the coin. Automobility in conjunction with these four dimensions has severely immobilised other mobile cultures. The modernisation of the auto-system, the differentiation, individualisation, rationalisation, and domestication that goes hand in hand with this modern mobility paradigm has grid-locked non-automobilities. It has produced paradoxical situations and created contradictory circumstances with regards to any of the three dimensions of mobility – its subjects, vehicles and spatio-temporalities[8].

Automobility's immobilised others

The modernisation of everyday mobility is tantamount to automobilisation. It brings about paradoxical situations in which people, places and carriers are both mobilised and immobilised. With respect to automobility's immobilities non-drivers are 'secured', certain vehicular movements slowed down and specific places prevented from being accessed or left. Below, I will address these three dimensions – the subjects, the vehicles and the spatio-temporalities –

separately and provide illustrations for how automobility has rendered other modern 'actants' less moveable.

Secured subjects

A gaze at any urban intersection, where the movement of different subjects is rationally ordered by light signals suggests the following: If one type of mobile culture moves, the other has to stop. Automotive motion brings pedestrian movement to a halt. Now and then, it grants the walkers a time slot to manoeuvre themselves between a row of impatiently waiting 'car-driver hybrids' (Sheller/Urry 2000). Not only are mobility and immobility posited next to each other – rather they mutually depend on each other. The stopping of the stroller is a necessity for the motorist to move.

Parallel to the spreading of the motor-car, walking has become subordinated to the logic of automotive movement. The pedestrian now has to walk to the revolutions of the car's engine. Neither is the walker free to choose where to go, nor how fast to go. For the urban stroller the expansion of automobility is endowed with restrictions, limitations and immobilisations. Most obvious is this to those social groups that depend on walking as their only mode of movement. Children, for instance, have lost their right to stay (and play), once the car acquired its right to move on the road. Within the frame of reference of an auto-logic, the abandoning of children from public spaces is interpreted as a successful attempt to increase traffic safety. Another case where automobility as normal mobility is inflicting upon non-automotive motion is the mobility of disabled persons. Automobilisation adds to the discursive construction of the mobile body as superior to the impaired body. Whereas both cars and the urban road infrastructure enhance the mobility of the already mobile, they confine the movement of disabled people (Imrie 1997).

Vanishing Vehicles

The priority that is given to the automobile on our urban roads inflicts upon the design and use of other means of transportation. Most prominent is the hegemony of the car whenever light rails or bicycles are being moved to residual spaces, that is to say under ground or to the side of the road. Once public transport has vanished out of sight it seems to be out of mind[9]. The incarceration of certain mobilities in favour of car-use is problematic, because it prohibits the traveller from seeing the built environment he or she is travelling underneath. Stripped of seeing the space between origin and destination, the underground traveller develops a mental map that shows extensive 'blind-spots'. For the subterranean traveller the urban space that lies in between tube stations are non-places, that is to say unknown territories. Moreover, the visual experience is so central to travel that the metro-passenger is ridded of one of mobility's most important aspects. In fact, one could argue that one of automobility's core innovations is to see the space that one travels in a rather different way. Driving weaves moving and seeing even closer together. However, at the same time it does so for those, who are able to make use of the car, it excludes others from such visual joy by banning them underground. Through 'blinding' these travellers, their mobility becomes impaired.

Prohibited places

For many the automobile has provided access to more places further away and, hence, enlarged the territory in which people's everyday activities are located. Simultaneously though it has created prohibited places, that is to say places that cannot be accessed by non-drivers. Urban freeways and interstate highways epitomise the exclusiveness of car spaces. They exclude any non-motorists from usage, and they form architectural barriers that fragment urban and rural geography. This fragmentation of space is the opposite side of the car's capability to weave together distant spatial entities. With automobility urban space is separated into distinct categories, that is to say housing areas, technology parks, shopping centres, leisure facilities, pedestrian zones. Under automobility, these spatial units must be separated from each other, because otherwise, automotive traffic, generated by one spatial function, would pose significant

problems to another.

The pedestrian precinct, for instance, has restricted an area of town to pedestrians. The idea was to preserve and protect the urban walker from the car. The flâneur/flâneuse, the stroller, the saunterer were moved away. No longer was any street 'strollable'. Pedestriansiation entrapped the city walker between the shop-windows of retailers and franchisers. Automobility's opposites enabled a singular use of urban spaces. Each area had to have a particular function, because a mix of functions would produce conflicts between those driving and those living and walking in these areas. Such spaces display a lower mobility, in that they prevent coexistence of different types of mobility. With increasing automobility the variety of spatially grounded 'mobility-styles' decreased.

The most striking paradox, however is automobilty's self-induced fixing. The rampantly growing auto-system has produced hostile conditions for automobility itself. The purposively rational attempt to accelerate urban traffic by means of the automobile frequently ends in the jam. Rather than being smoothly transported from origin to destination the grid-locked car driver is fastened in his vehicle[10]. During peak-hours, when car traffic comes to a complete halt and the myth of the 'freeway' turns into a demobilising nightmare, the secured driver finds himself a victim of a frustrated, road raging fellow commuter.

These and other dangers of driving have lead to the establishment of a safety complex that further fosters the demobilisation of both car-drivers and others. Clearly, the 'safer' the motorists have become through safety interventions like seat belts, ABS and air bags, the more fatal dangers they pose against non-drivers (Adams 1995). Being virtually tied to their seats, the car driver is now secured and protected against himself. Once inside the car there is only vehicular movement. Bodily movement is prohibited by the fastened seat belt and the metal cocoon. Once on the road no mobility other than automobility is possible. The 'perfection' of the auto-system prevents us from trying other mobilities, i. e. from being mobile in terms of moving by different means and for different ends. If automobility is all-pervasive, and the car driver is embedded into a variety of safety features, then mobility is reduced to the utilisation of a particular type of transport technology. The moment we replace our legs by means of pneumatic tires we create a new type of technological dependency and limit our ability for self-determined and independent movement – in other words, mobility persuades us into immobility.

If the mobilisation by means of the car as a modern phenomenon has produced such anomalies, paradoxes and contradictions, can one then continue to conceive of modernisation itself as merely a mobilising project? Or shouldn't one instead rather highlight the paradoxes of modernity and see it as both a mobilising as well as immobilising?

Conclusion

To answer these questions sufficiently would need more social theorising and analysing than that provided in this brief paper. Nevertheless, the inquiry into modernity's most pervasive mobility, that is to say automobility, has shown that doubts regarding a one-dimensional interpretation of the mobility modernity nexus are justified. These doubts alone are justification enough to continue looking out for the depraving, solid and static aspects of modernity. Moreover, the doubtful mobilisation of people and goods has implications not only for how modernity is theorised, but as well for contemporary transport politics and planning. If mobility is always pregnant with its opposite, what does that imply for urban planning? Or put differently, what kind of modern mobilities do we want? Do we allow others to move as freely as we do ourselves, or will we continue to restrict certain mobilities in order to accelerate our own locomotion?

To know about and be aware of the inherent contradictions of automobility has consequences for the reflexive organisation of late modern mobilities. Against this background, transport users and experts may be asked to reconfigure their 'traffic solutions' and acknowledge that solving one transportation problem will always create a number of new ones. To conceive of every new emerging 'bottleneck' as a technical challenge, will not provide equal access and accessibility, but merely enhance the systemic growth dynamics of automobility as the hegemonic type of everyday mobility. A change of this socially dominant 'mobility view' (Beckmann 2000) would, first and foremost, entail that 'mobility is always defined as the mobility of the Other'[11]. It would require that the modern traveller measures his or her own mobility always against that of others. Under a reflexive mobility view, the leitmotif of conventional traffic planning (as auto-planning) would have to be reformulated. No longer could it be the acceleration of one type of mobile subject, but rather equal access to mobility/ immobility for all individuals that frames such reflexive mobility view.

The core concept in such reflexive mobility view would be the notion of 'motility' rather than 'mobility'. Whereas terms like mobility, travel, transport or traffic refer to 'realised motion', motility depicts 'possible motion'. We are *mobile*, when we perform movement, and we are *motile*, when we are capable of movement without necessary manifesting this capacity. The leitmotif here is to enable movement rather than to practise it. For transport planning, this would imply a fine balance between erecting barriers, borders and speed limits and dismantling them. Under the realm of this new 'traffic morality' (Khisty/Zeitler 2000), not every 'bottleneck' would have to be widened, not every 'missing link' closed. *Motile planning* would allow to maintain old and erect new barriers. This maintenance and erection of barriers is meant to slow down some of the more mobile cultures in order to sustain the capacity to move for those less mobile.

Note

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Note

1 The paper is based on a PhD-thesis at the Department of Sociology, University of Copenhagen. The study analyses how ‘risks of automobility’ are seen through the ‘mobility view’ of the Danish automobile club FDM.

2 I am very grateful to Jessica Enevold who unmasked this paper’s lack to address differences in the mobilities of men and women. This omission of mine is the more problematic, the clearer one sees men’s mobilities as inextricably bound to the ‘situation’ of early modern women, who, traditionally “have been constituted as immobile place-bound domesticity”(Enevold 2000: 406). In her recently published article ‘Men and women on the move’ Enevold illustratively deals with this issue, exemplifying through a literary analysis the persistent “gendering [of] the travel experience as a ‘male’ identity project which sociospatially constructs women as Others” (Enevold 2000: 403).

3 Rammler arrives at this assumption by conceiving of modernisation in terms of its constitutive dimensions, that is to say differentiation, individualisation, rationalisation and domestication (Loo/Reijen 1997). He assigns central importance to the first of these four processes when he shows how structural differentiation enhances transport growth. For Rammler, transportation not only allows for differentiation (that is to say increasing specialisation and flexibilisation of work, growing spatial fragmentation etc.), but equally provides the glue for the reintegration of the sum of social sub-systems.

4 Marx’s image that ‘all that is solid melts into air’, is taken for another axiom by many modern thinkers. Every modern construction is erected merely to be torn down again. This axiom of modernisation has been employed as a cardinal argument, for instance, Marshall Berman (1982). Berman writes: “And yet, the truth of the matter, as Marx sees, is that everything that bourgeois society builds is built to be torn down. ‘All that is solid’ – from the cloths on our backs to the looms and mills that weave them, to the men and women who work the machines, to the houses and neighborhoods the workers live in, to the firms and corporations that exploit the workers, to the towns and cities and whole regions and even nations that embrace them all – all these are made to be broken tomorrow, smashed or shredded or pulverized or dissolved, so they can be recycled or replaced next week, and the whole process can go on again and again, hopefully forever, in ever more profitable forms” (Berman 1982: 99).

5 For me, Bauman's concept of 'liquid modernity' evokes a rather different image than an unboundedly expanding society beyond any limits. Unlike a solid object, a liquid needs a frame to maintain its shape. Oil is stored and kept in its position in tanks, water is bottled in order to prevent it from spilling or evaporating. The tank and the bottle are immobile boundaries that make possible the transport of both oil and water. Accordingly, a liquefied modernity couldn't do without solidifying institutional frames that hold together what seems to fall apart …

6 Driving sickness, for instance, is no longer felt as a bodily constraint if treated properly, that is to say medically.

7 Paul Virilio's (1991) categories of metabolic and mechanical speed are illustrative in this context. With modernisation metabolic speed is gradually substituted by mechanical speed.

8 This three-dimensional model of mobility results from a genuine understanding of everyday mobility as a social action during which *a person* overcomes *geographical distance and takes up time* by means of some *technical or organisational device*.

9 An underground rail trip may very well be an 'exciting' event in cities like London or Moscow. However, in other cities it can as well be a frightful and boring experience that offers no incentive for the urban commuter to use such systems. The sensual experience of 'riding the tube' is of a different and often less attractive character than driving above ground with its heightened visuality.

10 Sometimes frustration over such 'entrapping' traffic conditions culminates in deadly incidents of road rage. The shoot-outs on the freeways are final stages of the demobilisation of the car-driver.

11 To claim that mobility is always the mobility of the other is inspired by Rosa Luxemburg's "Freiheit ist immer die Freiheit des anderen".

Mobility and Proximity[1]

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Abstract

In this paper I discuss just why travel take place. Why is travel necessary especially in the light of new communications technologies? I emphasise how *corporeal* proximity in diverse modes appears to make travel both necessary and desirable. I examine aspects of conversational practice and of 'meetings' to show the importance of travel for sustaining the 'compulsion to proximity'. I go on to consider the roles that travel plays in establishing and sustaining pertinent social networks. I use here Putnam's recent analysis of social capital and draw out the implications of different kinds of travel for the distribution of social capital. I examine what kinds of corporeal travel are necessary and appropriate for a rich and densely networked social life across all social groups. And in the light of these analyses of proximity and social capital I show that virtual and imaginative travel will not in a simple sense substitute for corporeal travel since at least intermittent co-presence appears obligatory for sustaining many forms of appropriate social life. However, virtual travel does seem to produce a strange and uncanny life on the screen, that is near and far, present and absent, and it may be that this will come to change the very nature of what is experienced as 'co-presence'. I conclude by showing how issues of social inclusion and exclusion cannot be examined without identifying the complex, overlapping and contradictory mobilities that are necessarily involved in the patterning of an *embodied* social life.

Why travel?

This paper is concerned with a very simple question: why do people physically travel? Even before the recent emergence of the internet and the mobile phone, there were diverse forms of communication between people who were geographically distant from each other. Such 'modern' media of communication include the letter, the postcard, the telegram, the telephone, the fax, print media, film and the TV. Each of these communications can in rather different ways substitute for physical transportation. Elsewhere I elaborated four different kinds of 'travel' (over and above communication through the telephone, letter, fax, mobile): the physical movement of *objects* which are brought to producers or to consumers whose physical travel may be consequently reduced; *imaginative* travel, to be transported elsewhere through the images of places and peoples encountered on radio and especially the ubiquitous TV; *virtual* travel, to 'travel' often in real time on the internet with many others so transcending geographical and often social distance; as well as the physical, *corporeal* travel of people, as being 'on the move' has become a 'way of life' for many (Urry 2000: chap 3).

Given the significance of imaginative and virtual travel within contemporary societies why is there still an increasing amount of physical, corporeal travel? Why bother with the risks, uncertainties and frustrations of corporeal movement? Will computer-mediated communications restructure the very relationship between 'physical travel' and 'communications' enabling, through the latter, much of what has only been possible through physically moving to *sense* the other person or event or place?

Elsewhere I suggest that the explanation of different forms of travel is centrally important within a reconstituted sociology that takes mobility as its central concern (see Urry 2000, for

a manifesto for such a sociology). Sociology has tended to focus upon those ongoing and direct social interactions between peoples and social groups that constitute a proximate social structure. In this paper I argue that central to sociology should be both the analysis of those processes by which such co-presence is only on occasions and contingently brought about, and the forms of socialities involved when one is *not* involved in ongoing daily interaction but with whom a sense of connection or belonging is sensed and sustained. It is important to investigate not only physical and immediate presence, but also the socialities involved in occasional co-presence, imagined co-presence and virtual co-presence. Indeed all forms of social life involve striking combinations of proximity and distance, combinations that necessitate examination of the intersecting forms of physical, object, imaginative and virtual mobility that contingently and complexly link people in patterns of obligation, desire and commitment, increasingly over geographical distances of great length.

The discipline of geography has most investigated such mobilities but the geography of transportation has concerned itself relatively little with the *social* bases of travel and of its likely transformations. The geography of transportation has regarded travel patterns as largely responsive, as being *necessarily* generated by work, household, family and leisure needs. Its most radical turn has been to show that new transportation structures themselves generate new patterns of travel, indeed that there is often a 'predict and provide' model of transportation forecasting and planning (Adams 1995; Whitelegg 1997). There is also a related 'environmental' critique of physical travel, arguing that the current hugely costly system of 'hypermobility' cannot, and should not, continue indefinitely into the future (Adams 1999). However, what this literature omits are the *social* bases of corporeal travel, and the present and future intersections and trade-offs possible between physical, imaginative and virtual travel. Indeed the critique of 'hypermobility' must examine just how and why there is an apparent compulsion to travel physically, a compulsion stemming from the significance of intermittent corporeal co-presence within much social life.

First though, I note how the scale of contemporary travelling is vast, and this provides the context both for the environmental critique of 'hypermobility' and for the belief that travel has become so central to contemporary socialities that sociology neglects it at its peril. There are 663 million international passenger arrivals each year (1999, compared with 25m in 1950 and a predicted total of 1 billion by 2010); at any one time 300,000 passengers are in flight *above* the US, equivalent to a substantial city; a half million new hotel rooms are built each year worldwide; there are 23m refugees across the globe; and there is one car for every 8.6 people worldwide (WTO 2000; Kaplan 1996: 101; Makimoto and Manners 1997: chap 1). International travel now accounts for over one-twelfth of world trade constituting by far the largest ever movement of people across borders. International *and* domestic tourism together account for 10% of global employment and global GDP. And this affects everywhere; the World Tourism Organisation publishes tourism statistics for over 190 countries (WTO 2000). There is more or less no country which is not a significant sender and receiver of visitors. Such mobilities are enormously costly for the environment, transport accounting for around one-third of all CO_2 emissions. There is a projected tripling of world car travel between 1990-2050 (Hawkin, Lovins, Lovins 1999).

Kaplan captures the socialities involved in such extensive mobility (1996). Because her family was scattered across the USA and across various continents, travel was for Kaplan 'unavoidable, indisputable, and always necessary for family, love and friendship as well as work' (1996: ix). Indeed she says that she was 'born into a *culture* that took the national benefits of travel for granted' as well as presuming that 'US citizens [could] travel anywhere they pleased' (Kaplan 1996: ix). Implicit in such a culture is the idea that one is both *entitled* to travel and indeed *should* travel. It ought be an essential part of one's life and is a fundamental human right. Prato and Trivero describe 'transport' becoming the primary activity of existence and a key marker of status; it is no longer a metaphor of progress when it characterises

how social life within households is so constituted (1985). If household members are regularly on the move then the distinction of home and away loses its analytical power (see Pearce 1999, on lengthy car travel and the sustaining of family life). People can be said to *dwell* within mobilities; bell hooks writes that at least for richer households of the 'west': 'home is no longer one place. It is locations' (1991: 148).

Moreover, households in developing countries also develop similarly extensive mobility patterns as their incomes increase; indeed the proliferation of 'global diasporas' seems if anything to have extended the range, extent and significance of all forms of travel for far-flung families and households. Miller and Slater argue in the case of Trinidad that one can really only be 'Trini' by going abroad; around 60% of nuclear families have at least one member living abroad (2000: 12, 36). Clifford writes: 'dispersed peoples, once separated from homelands by vast oceans and political barriers, increasingly find themselves in border relations with the old country thanks to a to-and-fro made possible by modern technologies of transport, communication, and labour migration. Airplanes, telephones, tape cassettes, camcorders, and mobile job markets reduce distances and facilitate two-way traffic, legal and illegal, between the world's places' (1997: 247; see Cohen 1997).

Such travel between locations occurs of course for many reasons. However, one unifying component to physical travel is indicated by the particular term used here, *corporeal* travel. This highlights how such travel is embodied and that as a consequence people come to be bodily in the same space as various others, including work-mates, business colleagues, friends, partner or family, or they bodily encounter some particular landscape or townscape, or are physically present at a particular live event. In other words travel result in intermittent moments of *physical proximity* to particular peoples, places or events and that in significant ways this proximity is felt to be obligatory, appropriate or desirable. This paper seeks to put the body into the analysis of the social organisation of mobility.

The most useful source on how social life requires moments of such physical proximity is Boden and Molotch's analysis of what they term the 'compulsion to proximity' (1994; and see Schwartman 1989, on the dynamics of 'meetings'). Initially I set out their main claims and in passing draw out some ways that proximity or 'co-presence' seems to make corporeal travel 'necessary'. I then examine some shifts in the nature of contemporary social life and consider the role that travel plays in establishing and sustaining pertinent social networks. I use here Putnam's recent analysis of social capital and draw out the implications of different kinds of travel for the distribution of social capital (2000). I go on to examine what kinds of corporeal travel are necessary and appropriate for a rich and densely networked social life across all social groups. And in the light of these analyses of proximity and social capital I show that virtual and imaginative travel will not in a simple sense substitute for corporeal travel since at least intermittent co-presence appears obligatory for sustaining many forms of appropriate social life. However, I also show how virtual travel (especially via new mobile devices that travel with one 'on the road') produces a kind of strange and uncanny life on the screen, a life that it near and far, present and absent, and it may be that this will come to change the very nature of what is meant by 'co-presence'. I conclude by showing how issues of social inclusion and exclusion cannot be examined without identifying the complex, overlapping and contradictory mobilities that are necessarily involved in the patterning of an embodied social life.

The compulsion to proximity

Boden and Molotch maintain that imaginative and virtual travel will not significantly replace physical travel since for them 'co-present interaction' is the fundamental mode of human intercourse (1994). The modern world implies no dilution in the degree to which face-to-face

or co-present interaction is both preferred and necessary across a wide range of tasks. They analyse how such 'thick' co-presence involves rich, multi-layed and dense conversations. These involve not just words, but indexical expressions, facial gestures, body language, status, voice intonation, pregnant silences, past histories, anticipated conversations and actions, turn-taking practices and so on.
In particular, co-presence affords access to the part of the body that never lies, the eyes, the windows onto the soul. Eye contact can enable the establishment of intimacy and trust but can also reveal insincerity and fear. Their argument here parallels Simmel who considers that the eye is a unique 'sociological achievement' (Frisby and Featherstone 1997: 111). Looking at one another is what effects the connections and interactions of individuals. Simmel terms this the most direct and 'purest' interaction. It is the look between people (what we now call 'eye-contact') which produces moments of intimacy since: '[o]ne cannot take through the eye without at the same time giving'; this produces the 'most complete reciprocity' of person to person, face to face (Frisby and Featherstone 1997: 112). The look is returned and trust gets established and reproduced.

Boden and Molotch also demonstrate how co-present bodies are actively involved in turn-taking within conversations, with a tilt of the head indicating a willingness to receive an utterance. Likewise co-present people can touch each other, and there is a rich, complex and culturally variable vocabulary of touch. Boden and Molotch summarise the embodied character of conversation that is 'a managed physical action as well as "brain work"' (1994: 262; see Urry 2000: chap 4, generally on the senses in social life).

Such co-presence is located within time and space. Participants travel to a given place to meet together, they each commit themselves to remain there for the duration of the interaction, and each uses and handles the timing of utterances and silences to perform the pertinent conversations. There is an expectation of mutual attentiveness and this is especially the case within the kinds of focused interactions known as 'meetings'. Such meetings are multi-functional, for making decisions, seeing how one is heard, executing standard procedures and duties, distributing rewards, status and blame, reinforcing friendship as well as distance, judging commitment, having an enjoyable time and so on (see Schwartzman 1989).

Co-presence afford opportunities to display such attentiveness and hence commitment, and simultaneously to detect were there appears to be a lack of commitment in others. Conversations often begin with small talk, participants often protect the other in order not to embarrass them, and much loose talk involves helping and moulding the conversational flow. Co-presence is likely to be necessary to talk through problems, especially the unmediated telling of 'troubles'. Face-to-face conversations are produced, topics can come and go, misunderstandings can be corrected, commitment and sincerity can be directly assessed. Trust is something that gets worked at and involves a joint performance by those in such co-present conversations. Boden and Molotch argue that by contrast letters, memos, faxes and email are poor substitutes for establishing long-term trust relations especially over emotional, personal or financial domains of activity, partly because they are much more functional and task-oriented (1994: 263-7).

Managers in the US can spend up to half of their time in face-to-face meetings and much of their time lies in working with and evaluating colleagues through extensive physical co-presence (Boden and Molotch 1994: 272). This reflects the shift within organisations described by Sennett from the 'individual work ethic' to the 'collective team ethic' where face-to-face social and leadership skills are especially valorised (1998: chap 6); this is marked where organisations have been 'blown to bits' by new technologies (Evans and Wurstler 2000: 217, on the fluidities of 'deconstructed' organisations). The higher the position in an organisational hierarchy the more significant is establishing and nurturing 'complex interpersonal nets' - where unwritten and informal co-presence is most salient (see Boden and Molotch 1994: 273, on the importance of face-to-face talk for crime networks).

Such nets also facilitate the 'inadvertent' meetings that happen because like-minded people from similar social networks are informally encountered - in certain parts of towns or cities, on golf courses, campuses, cafes, bars, conferences and so on. Where people live geographically distant from each other, then certain sites of what can be called 'informal co-presence' will be regularly travelled to, even if most of the specific encounters are un-planned (such as the 'small worlds' of international conferences; see Lodge 1983). The importance of such informal encounters is connected to the growth in the number of telecommuters who may be able to live much further from their notional workplace that is then only occasionally visited (what we may call the academic-isation of the wider workplace!). This will in turn change the character of such workplaces away from that of the formal 'office' to that of a 'club' where informal conversation is the main activity, as Cairncross argues in *The Death of Distance* (1997).

Overall Boden and Molotch argue that this general need for co-presence 'limits the degree and kind of organizational, temporal, and spatial reshaping that the new technologies can induce' (1994: 277). Elsewhere Boden shows this in relationship to new technologies operating in the global futures markets (2000; Thrift 1996: chap 6). As the world financial system has become progressively disembedded from place, so its very universalism necessitates new particularistic face-to-face relationships. Because of the fragile symbolic communities formed in electronic money-space, re-embedded intense meeting-places are necessary in order to cement trustful relationships in the financial world. Boden summarises: 'Surrounded by complex technology and variable degrees of uncertainty, social actors seek each other out, to make the deals that, writ large across the global electronic boards of the exchanges, make the market. They come together in tight social worlds to use each other and their shared understanding of "what's happening" to reach out and move those levers that move the world' (Boden 2000: 194). Similarly, members of many other kinds of organisations intermittently come together to 'be-with' others in the present, in moments of intense co-present fellow-feeling. These moments of co-presence include festivals, conferences, holidays, camps, seminars and sites of protest (Szerszynski 1997). Such intense moments of co-presence appear to be necessary in order to sustain normal patterns of social life that are often organised on the basis of extensive time-space distanciation with often lengthy periods of solitude (see Cohen 2000, on the neglect sociology has paid to the important topic of solitude).

Thus social life often appears to depend upon 'tight social worlds', of rich, thick co-presence, where trust is an ongoing accomplishment and which simultaneously permits disembedded relations to straddle the globe (of globally networked if solitary financial traders). Some issues raised by the analysis of such 'tight social worlds' include:

- How, when and why do such social worlds come together? How frequently does this have to occur?
- How much sense of obligation is involved? What power relations operate in the determination of the time-space location of such 'meetings'?
- How does trust get generated and sustained?
- How much do we simply seek co-presence because the available means of transportation are accessible?
- Does the possibility of co-presence involve negotiation over whether or not corporeal travel will take place?[2]

Moreover, not only do people feel that they 'know' someone from having communicated face-to-face, but they also believe that they know a place from encountering it directly. To be there oneself is what is critical, whether it is a place that occupies a particular place in the global tourist industry or simply a place that one has been told about by a family member or friend. Many places need to be seen 'for oneself', to be experienced directly: to meet at a particular house say of one's childhood or visit a particular restaurant or walk along a certain

river valley or energetically climb a particular hill or capture a good photograph or feel ones hands touching a rock-face and so on. It is only then that we know what a place is really like (see Lewis 2000, especially on the touch of the rock-climber, as well as Macnaghten and Urry 2000). There is then a further sense of co-presence, that of physically walking or seeing or touching or hearing or smelling a particular place.

And in particular, Sennett argues that: 'the body comes to life when coping with difficulty' (1994: 310). Especially putting one's body through its paces demands that people physically travel from time to time to that place of difficulty and subject the body to a direct encounter of what we could call 'face-to-place' (as opposed to 'face-to-face'). Especially those places where the body comes to life will often be geographically distant – indeed 'other' – to sites of work and domestic routine. These are places of 'adventure', islands of life involving bodily arousal, from bodies that are in motion, natural and rejuvenated as people corporeally experience environments of adventure 'face-to-place' (see Macnaghten and Urry 2000; Simmel 1997). These places to be faced will have to be travelled to although there are some alternatives (such as one river valley rather than another). They can also be travelled to at different times (such as an out-of-season visit).

But there is a further kind of travel to place where timing is everything and that is where what is to be experienced is a 'live' event, an event programmed to happen at a very specific moment, what we might term co-presence involving 'face-the-moment'. Examples include political, artistic, celebratory and sporting occasions, the last are especially 'live' since the outcome is unknown. Each of these generates intense moments of co-presence, whether for the State opening of Parliament, opera at Glynebourne, a New Year party or the Olympic games. Each of these cannot be 'missed' and this can set up enormous demands for mobility at very specific moments.

So far then I have elaborated three bases of co-presence, to be face-to-face, face-the –place and face-the-moment. In the following I set out a typology that attempts to elaborate various bases for co-presence; and to do that is to establish when and why corporeal travel will occur, although actual journeys will normally involve a number of these bases of co-presence as well as the complex geography of location. Incidentally co-presence does not at all imply that resulting travel is uncoerced and equal in its volition by relevant parties; indeed the power to determine the corporeal mobility of others is an important form of power in mobile societies[3]. The following are the main bases of co-presence

- *Legal, economic and familial obligations either to specific persons or generic types of people*: to have to go to work, to have to attend a family event (wedding, christening, marriage, funeral, Christmas, Easter and so on), to have to meet a legal obligation, to have to visit a public institution (court, school, hospital)
- *Social obligations*: to see specific people 'face-to-face', to note their body lan guage, to hear what they say, to meet their demands, to sense people directly, to develop extended relations of trust with others, to converse as a side-effect of other obligations
- *Time obligations*: to spend moments of quality time with family or partner or lover or friends
- *Place obligations*: to sense a place or kind of place directly, such as walking within a city, visiting a specific building, being 'by the seaside', climbing a mountain, strolling along a valley bottom
- *Live obligations*: to experience a particular 'live' and not a 'mediated' event (political event, concert, theatre, match, celebration, film [rather than video])
- *Object obligations*: to sign contracts or to work on or to see various objects, technologies or texts that have a specific physical location (see Dant 1999: 55, on some related properties of 'objects')

So far then I have suggested the importance of physical co-presence for the desire for travel and I have identified a number of bases for co-presence. The sensing of people, places, events or objects face-to-face requires corporeal travel. In the next section I consider the significance of such mobility for the building up people's social capital.

Mobility and social capital

Societies are built up of different socialities that necessitate diverse and often extensive forms of mobility (as I try to show in Urry 2000). And because of the importance of co-presence corporeal travel constitutes social and economic life and is not simply an optional add-on. There are no simple ways to distinguish between those journeys that are, and those that are not, 'justifiable'.

According to Putnam social inclusion depends upon complex, rich and multi-layered forms of social capital that produces *both* social well-being as well as economic success (2000; and see 1993, on how social capital correlates very well with economic growth across the different regions in Italy). Societies with high social capital are characterised by dense networks of reciprocal social relations, well-developed sets of mutual obligations, generalised reciprocity, high levels of trust in one's neighbours, overlapping conversational groupings, and bonds that bridge across conventional social divides. Like Boden and Molotch, Putnam is especially concerned with the social causes and consequences of 'conversation' within everyday life. But while Boden and Molotch argue that the pleasures of conversation are so profound that virtual and imaginative travel will not erode people's compulsion to physical proximity, Putnam laments how declining social capital within the US is already reflected in far less frequent face-to-face conversations. For Putnam co-presence is not fixed, as Boden and Molotch appear to argue, but has already reduced since the 1960s and will decline much further unless American society comes to be massively restructured. Putnam's US data overwhelmingly bears out Wellman's claim that 'community interactions have moved inside the private home …and away from chatting with patrons in public spaces' (2001: 7). The household is what gets visited, telephoned, emailed and, according to Putnam, receives those TV images that are the particular destroyer of conversation and social capital (see Putnam 2000: chap 13).

Putnam, like Boden and Molotch, does not much elaborate on the mobility implications of his argument except in one chapter where he argues that lengthy commuting car journeys result in reduced social capital (2000: chap 12). He notes that two-thirds of all car trips involve 'driving alone' and this proportion is increasing; that the time and distance of especially solitary work commutes is also rising; that each additional growth in daily commuting time cuts involvement in community affairs – fewer meetings, fewer committees chaired, fewer petitions signed, less conversation and so on - both by commuters *and by non-commuters*; and that this spatial fragmentation between home and workplace is generally bad for community life and especially for community groups that historically straddled class, ethnic and gender divides (2000: 212-4). He also notes how 1950s and 1960s slum clearance programmes destroyed those close-knit community ties that had involved intensive short-range mobility (2000: 281).

Putnam strongly favours re-establishing dense social networks but, given the sprawling character of American cities (particularly post-slum clearances), these will involve extensive mobility for the foreseeable future. Putnam especially criticises the counter-suggestion that we should encourage much more TV watching and the use of the phone and the internet, so that people travel less and live 'life on the screen' (see Turkle: 1996). Indeed he argues that the widespread growth of TV has been, together with generational change, the main cause of declining social capital within the US. He summarises how TV 'privatizes leisure time…TV watching comes at the expense of nearly every social activity outside the home, especially social gatherings and informal conversations' (Putnam 2000: 236-7).

At the end of *Bowling Alone* Putnam outlines what might reverse declining social capital. Amongst many suggestions is the following: 'Let us act to ensure that by 2010 Americans will spend less time traveling and more time connecting with our neighbors than we do today, that we will live in more integrated and pedestrian-friendly areas, and that the design of our communities and the availability of public space will encourage more casual socializing with friends and neighbors' (2000: 407-8). Most observers would echo these comments but regard them as socio-spatially implausible. After all, the development of American cities has been dominated by commercial interests which have found it most profitable to locate housing (especially gated communities), (gated) workplaces, retailing (gated shopping centres), leisure (gated theme parks) and so on in separate zones; such zoning in turn being characteristic of much urban planning. These zones require extensive car-based mobility to get from one to the other. There have minor modifications of this through some city centre housing and apartments, pedestrianizing city centres, and so on, but none of these have countered the way that co-presence in American life mostly requires very extensive mobility in order to move from zone-to-zone even within quite small cities. And rural areas even more depend upon extensive automobility for the sustaining of social capital.

Putnam's account also ignores what his own practice as an academic shows, namely the widespread *growth* of longer range mobility especially by air, as conferences, holidays, family connections, diasporic relations, work connections and so on are increasingly internationalised. The compulsion to proximity often involves those in other societies, what we might loosely call the 'globalisation of intermittent co-presence'. I noted earlier how Boden shows the importance of intermittent, deeply embedded co-presence for the maintenance of patterns of global futures trading, that increasingly 'small social worlds' are periodically re-constituted of those who otherwise live in geographically dispersed locations (2000). Certain kinds of social capital seem to depend upon extensive long-range travel. The global world appears to require that whatever virtual and imaginative connections occur between people, moments of co-presence are also necessary and that co-presence requires extensive corporeal travel (as the comments from Kaplan 1996, suggested). For many people it is the lack of mobility that is the problem and that they will seek to develop ways of enhancing their social capital through greater mobility, although much of that mobility may well be 'coerced'.

Social capital depends upon the range, extent and modes of mobility, and interventions that reduce, channel or limit such mobilities may weaken social capital and hence generate new forms of social exclusion. Mobility in general is central to glueing social networks together, while physical travel is especially important in facilitating those face-to-face co-present conversations, to the making of links and social connections, albeit unequal, that endure over time. Such connections derived from co-presence can generate relations of trust that enhance both social and economic inclusion. What is crucial here is how patterns of social trust can be extended and sustained in the absence of co-presence, or rather the quality and frequency of co-presence will determine the patterning of social trust that gets established.

In conclusion, then, to be a full, active and engaged member of a society sharing in its range of rights and duties stretches consideration beyond legal, political and economic rights to include socio-spatial access to participate within the main practices of one's society. Such participation in order 'to be admitted to a share in the social heritage' (Marshall and Bottomore 1992: 6) depends upon extensive social capital within all localities and regions and within each 'society'. In particular, participation involves various aspects issues of transportation – namely, how to facilitate widespread participation in society by all social groups, especially ensuring that divisions of class, gender, ethnicity, age, do not result in significant forms of socio-spatial exclusion, of what might be termed patterns of 'mobility-exclusion'.

Empirically, car-driving and its resultant socialities are often central to social capital; hence changing the demand for driving is by no means simple in its effects and may undermine

existing patterns of social capital. Car-driving has become a central element of social citizenship and therefore many restrictions upon car-drivers are unpopular and strongly resisted (see Hodgson and Conner 2000; more generally, see Sheller and Urry 2000). And yet mobilities themselves, as Putnam shows with regard to commuting, generate forms of social exclusion that in turn may reduce social proximity, social trust and social capital (and see Putnam 2000: 143 on declining civility on American highways). In the next section I consider whether and in what ways virtual proximities may engender some of the characteristics of co-presence and could thus enhance social capital without the need for continuous increases in corporeal travel, especially that of automobility which has especially detrimental effects upon the social capital of those not using that particular mode of corporeal mobility (see Sheller and Urry 2000a).

Virtual proximity

Two points should be initially noted here. First, we should not describe pre-virtual forms of co-presence as involving an integrated set of community relationships, which are then compared with the airy, the fragile, and the tenuous relations of the virtual world. The relations of co-presence typically involve nearness *and* farness, proximity *and* distance, solidity *and* imagination. Even those communities that are based around co-present propinquity depend upon diverse mobilities within a community's boundaries - such as walking along well-worn paths, driving or cycling familiar roads and so on (see Urry 2000: chap 6). And any such community is interconnected to many other places through various kinds of corporeal travel. Raymond Williams in the *Border Country* is 'fascinated by the networks men and women set up, the trails and territorial structures they make as they move across a region, and the ways these interact or interfere with each other' (Pinkney 1991: 49; Williams 1988; Cresswell 1997: 373). Second, we should not posit any simple 'substitution' of virtual travel for corporeal travel as though there is a fixed amount of travel that is to be met in one way or another. Both the virtual and changing forms of physical travel are transforming the very nature of co-presence.

In section 2 I suggested that the main bases of physical co-presence are legal, economic and familial obligations; social obligations involving sensing the other; time obligations; place obligations; obligations to see events live; and object obligations. There are also what we might call security obligations - to escape from persecution, torture, hunger and so on. I now consider what are the properties of virtual travel and virtual co-presence and to what degree, and in what ways, do they simulate one or more of these bases of physical co-presence? These are complex questions because such phenomena are so new, there is a paucity of relevant research and virtual relations are strange and difficult to classify in conventional terms of presence and absence or power and status (see Evans and Wurstler 2000: 13, for relevant data on such growth). Evans and Wurstler incidentally note how virtual travel is deconstructing organisations that were once huge centres of work and enforced proximity (2000). Now organisational relations are most importantly made with consumers and this is a matter of both branding and appropriate 'navigation', neither of which demands the physical unity and organisational hierarchy located within a single site (Evans and Wurstler 2000: 107-9).

The first point then is that virtual travel results from what Benedikt terms the apparent 'dematerializing the medium and conquering … space and time' (1991: 9). Cyberspace, Heim argues, 'feels like transportation through a frictionless, timeless medium. There is no jump because everything exists ... all at once' as we effortlessly leap across hypertext links (1991: 71). There is (more or less) instantaneity and simultaneity. Such virtual travel reconfigures humans as bits of information, as individuals are coming to exist beyond their bodies (see Sheller and Urry 2000b, on the consequent implications for what remains 'private'). Persons leave traces of their selves in informational space, and can be more readily mobile through space, or simply stay in one place, because of a greater potential for 'self-retrieval', for the

retrieval of their personally information at another time or place. If people bank electronically, for example, they are able to access their money in many parts of the world; if they need to establish personal contacts with family and friends, they can do so from most anywhere in the world including at home; if people want to work on texts with others they can do so from any networked computer. People are able to 'plug into' global networks of information through which they can 'do' things to at least certain objects (especially with increasing bandwidth) and 'talk' to people without being present in any particular place, without their bodies having to travel. 'Persons' thus occur as various nodes in these multiple networks of communication and mobility. Their body's corporeal location is largely irrelevant in these networks of person-person communication, communication that will be increasingly visual and hence may foster a kind of 'telepresence' (Wellman 2001).

Second, such virtual travel and the separation of the body and information results from the array of technical and instrumental means of communications being combined with humans. They have partially at least replaced the spatiality of 'co-present sociality' with new modes of objectified stranger-ness (see Bogard 2000, for a Simmelian reading of cyberspace). Such hybrids involve 'strangeness…a contradiction between nearness and remoteness, or mobility and fixation…Cyberspace communications, in a word, are strange – at the push of a button, territories dissolve, oppositions of distant and close, motion and stasis, inside and out, collapse; identities are marginalized and simulated, and collectivities lose their borders' (Bogard 2000: 28). As a consequence there are always now 'strangers' travelling in our midst, but they are often hybrid strangers since cyberspace not only dissolves the distances between people (the 'stationary wanderer') but, more importantly, between persons, machines and organic and technical systems. In the near future many sensory experiences as will be digitised, informationalised, exchanged and replayed (see Gibson 1984; Bogard 2000: 33; Makimoto and Manners 1997). Bogard proceeds to characterise such a collapse of distance as an impure or indeterminate relationship: the cyborg is neither the monad nor a dyad, neither private nor public, neither intimate nor distant (Bogard 2000: 40). Virtual travel produces a kind of strange and uncanny life on the screen, a life that it near and far, present and absent, live and dead, and the kinds of travel and presencing that this involves will change the character and experience of 'co-presence', since people can feel proximate while still distant, especially it seems if they are also 'on the move'.

Third, these bits of information themselves travel, tracking where people are, where they are moving to and on occasions why. Deleuze and Guattari suggest that there has been a recent shift in the west away from *disciplinary* societies à la Foucault, to societies of *control* where social relations are based upon numbers and de-territorialisation (1986). Bauman refers to these as 'post-Panopticon' societies organised around 'liquid modernity' (2000). Such smooth de-territorialised spaces result from computerised digitisation where what counts is not the barrier but the computer that tracks each person's position (Thrift 1996: 291). Bauman similarly talks of power becoming 'exterritorial', no longer bound by the resistances of space (2000: 10-11). In particular, quaternary relationships occur where new electronic media facilitate the obtaining of information about others, without those people knowing about the information flow or about the specific details (Lyon 1994, 1997: 26-7). Examples include the use of databases to generate details of creditworthiness, surveillance cameras and satellites to monitor travel movements, computer hacking, the targeting of potential customers using information acquired from other sources, illegal tapping of phone calls, the use of GIS software to produce highly differentiated insurance rates and so on. Even the most intimate 'private' is no longer entirely 'personal' as information flows about each individual are recorded, monitored and instantaneously circulated, as power is liquefied and separated from territory (see Sheller and Urry 2000b). Many individuals can thus be tracked without physical, corporeal surveillance.

Fourth, *intermittent* 'co-presence' is significant even within virtual communities. They do meet up corporeally from time to time, dwelling together in a shared place for periods (see

Rheingold 1994: 235-40; Baym 1995: 157). This physical co-presence reinforces the 'magical, intensely personal, deeply emotional bonds that the medium had enabled them to forge among themselves' (Rheingold 1994: 237). Thus face-face conversation appears crucial for the development of trustful relationships even or perhaps especially within cyberspace. Koku, Nazer, Wellman argue on the basis of research on research scholars that 'Frequent contact on the Internet is a complement to frequent face-to-face contact, not a substitute for it' (cited Putnam 2000: 179). Other research in the US suggests that those who are on-line are also those most active within their neighbourhood (Wellman 2001: 10). Their range of contacts is predominantly local but much broader than those who are not online. Virtual travel would appear to promote more extensive local ties, *contra* Putnam, and hence more corporeal travel. Wellman summarises how the distinction between on-line and off-line may gradually dissolve since 'many community ties are complex dances of face-to-face encounters, scheduled get togethers, dyadic telephone class, emails to one person or several, and broader online discussions among those sharing interests' (2001: 11). Thus networked ties exist in both physical space and cyberspace. Virtual proximities involve multiple networks, where people can switch from one to the other, using connections from one network as a resource within another. This will be enhanced through the shift to a personalised wireless world and its furthering of person-person connectivity (via WAP, GPRS, UMTS and the more general development of the 'mobile internet'). Each person links their *particular* set of networks and they may do so wherever they have appropriate access across cyberspace. Virtual travel offers various social affordances as cyberspace is transformed into multiple cyberplaces (see Wellman 2001, as well as Miller and Slater 2000, on how in Trinidad using the internet is becoming central to being a 'Trini').

In cyberplaces it is possible to sense the other, almost to dwell with the other, without physically moving oneself or without moving physical objects. Cyberplaces are thus hybrids, networks of bits of information as the 'person' gets distributed across cyberspace. Cyberplaces are focused on multiple, non-overlapping person-to-person connectivities that are interconnected with diverse modes of co-presence. Being on the screen involves a strange combination of proximity and distance, nearness and farness, what is virtual and what is non-virtual.

How do these characteristics of virtual proximity provide ways of simulating the nature of co-presence?

- *Legal, economic and familial obligations to either specific persons or generic types of people*: these will be mostly impossible to simulate and hence corporeal travel will continue
- *Social obligations*: this is difficult to simulate since it requires co-presence but it may be that the frequency of co-presence will reduce – that some conversation-work in cyberplaces will replace some co-present conversations
- *Time obligations*: impossible to simulate although the moments of such co-present time may be further shortened and made more intense with increased information, scheduling and monitoring of arrangements, journey times and so on
- *Place obligations*: increased visual and VR information about different places and their unique characteristics will probably heighten the desire to be corporeally present at the place in question
- *Live obligations*: there is considerable possibility here of live mediated events on TV and the internet replacing attendance at many live events – indeed that the notion of what is 'live' will change to that which is mediated
- *Object obligations*: with much greater bandwidth the increasing capacity to send multi-media simulations of objects will mean that virtual travel can simulate corporeal travel, although many new media of virtual travel and communication will simultaneously emerge

Overall then there are significant possibilities of virtual proximity simulating physical co-presence especially with regard to those proximities around objects and events. It may also be that virtual travel will make the compulsion to co-presence based upon social obligations less frequent. And the strange and uncanny 'life on the screen' will more generally change the character of social life. Miller and Slater argue that internet use in Trinidad 'has permeated all sectors of society' as hot, stylish and fashionable (2000: 27). We should regard: 'Internet media as continuous with and embedded in other social spaces, that they happen within mundane social structures and relations that they may transform but that they cannot escape into a self-enclosed cyberian apartness' (2000: 5). As virtual travel thus becomes part of everyday life so it produces a life that transforms what is near and what is far, what is present and what is absent. It indissolubly changes the character of co-presence, even where the computer is resolutely fixed in place.

However, new modes of transport and communication are increasingly converging and this will transform the requirements and characteristics of co-presence. Already the fashionable mobile phone with SMS text messaging is enabling the flexibilisation of people's paths through time-space, making arrangements on the road as to where and when to 'meet'. There are countless new means of communication emerging that are small, mobile and embedded within, or part of, the very means of mobility – these include mobile computers, palmtops, computer connections on trains and aircraft, ICTs embedded in car-info systems, cars being developed as 'portals' to the net, voice-activated telematics and so on (Gow: 2000; Sheller and Urry 2000a, develop some implications of such changes for urban life). These involve the convergence of travel and communications and they will further transform the conditions of co-presence.

Mobilities and the good life

I have therefore suggested that virtual travel will have some transforming consequences upon social life and the conditions for corporeal co-presence. Certain at least of the bases for co-presence can be met through virtual travel but many cannot. In conclusion I consider certain ethical implications of this discussion of mobility and proximity. If all other things were equal, then a good society would be one that would not limit, prohibit or re-direct the desire for co-presence. The good society would seek to extend the possibilities of co-presence to all social groups and would regard any infringements of this right as involving undesirable social exclusion. This is partly because co-presence is desirable in its own right but also, according to Putnam, because there are widespread other desirable consequences. It is he says 'good to talk' since this minimises privatisation, expands highly desirable social capital and promotes economic activity, in a mutually self-sustaining way. A socially inclusive society is one that would elaborate and extend the possibilities of co-presence to all members. Significant inequalities with regard to access to such co-presence would constitute bases of undesirable social exclusion. A good society would seek to minimise 'coerced immobility' (as well as the many forms of 'coerced mobility') and maximise conditions for co-presence.
However, such a 'right' hugely depends upon the socio-spatial organisation of any particular society and of its inter-linkages with other societies. And the right to corporeal travel in order to realise these bases of co-presence can never be unlimited. Such need for co-presence is not without massive other consequences so societies will not normally allow the realisation of such 'needs' without extensive limitation, especially related to the transportation infrastructure as well as to its more general socio-spatial ordering. The following are some of the crucial social issues that this analysis of the compulsion to proximity raises:

- If there are limitations upon the compulsion to proximity how should it be decided that such co-presence is more important for some social groups, for some geographical areas, or for some kinds of organisations, than for others?

- What are the socio-spatial inequalities with regard to co-presence that can and should be eliminated over time and which cannot or should not?
- How should decisions be made about new investments that will enhance the physical co-presence of some groups rather than others (say of commuters, or air travellers, or car-drivers and so on)?
- Is it possible to develop ways that differentially value different forms of movement for co-presence, of family or work or education or pleasure or shopping and so on?
- Should we be bothered if virtual proximity, such as banking on-line and missing out on the face-to-face conversations with bank staff, replaces such conversations? Does the example of imaginative travel via the TV show that there will be less conversation and a weakening of social capital if more and more relationships are conducted on-line (see Putnam 2000: chap 13)?
- How can we ensure that sufficient corporeal travel occurs so that the pleasures of proximity do not disappear as more or more people live Putnam's dystopia of hugely privatised 'lives on the screen'?

Finally, I have talked about corporeal mobility without much discussion of the various *modes* of travel. However, there are huge variations, not only in the functional saving of time or the covering of more space within the same period of time, but in the pleasures and pain involved in such different modes of mobility. Travel is a 'performed art' involving anticipation and day-dreaming about the journey, the destination and who/what might be encountered on the way (Adler 1989). Travel also can involve entering an unbounded 'out-of-time' zone between departure and arrival. Travelling permits certain novel socialities, the domestic regime of the car, the solitary reverie on the plane, the business meeting on the train, the talk down the mobile while walking the city, the dangers to cyclists from untrammelled car use, and so on. Different modes involve very varied combinations of pleasure, expectation, fear, kinesthetics, convenience, boredom, slowness, comfort, speed, danger, risk, sociability, playfulness, health, surprise and so on, as has been shown elsewhere in the case of automobility (see Sheller and Urry 2000a, on its complex pleasures and costs for other modes). We should further consider whether societies should demand that travel to generate co-presence is undertaken by all social groups in the same performed fashion (such as on public transport?). How much should there be equality in access to the same *modes* of mobility, knowing that different modes are socially divided by gender, age, ethnicity, social class and so on? And how much is the choice of different modes of transport is itself dependent upon distinctions of social taste directed against those that are deemed to possess less symbolic capital?[4]

Thus the analysis of why people travel, and whether they should travel in the way they currently are, is to interrogate a hugely complex set of social practices, social practices that involve old *and* emerging technologies that reconstruct notions of proximity and distance, closeness and farness, stasis and movement, the body and the other. These intersecting mobilities and diverse proximities are surely topics fit for a twenty-first century sociology.

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Note

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2 Incidentally I do not consider here the corporeal travel of escape - *from* the co-presence of torturers, child molesters, violent partners, exploiters, sources of poverty, famine and so on.

3 I am grateful to Mimi Sheller for emphasising to me the complex intersections of power and mobility.

4 I have not dealt here with many of the huge environmental issues that different modes of corporeal travel raise; see Adams 1999; Hawkin, Lovins, Lovins 1999; Whitelegg 1997.

Residential Location and Transport in a Small Danish Town

- A contribution to the discussion on the influence of land use on travel behavior

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Abstract

This paper presents the results from an investigation of travel behavior among residents of eleven residential areas in the Danish municipality of Frederikshavn. The town of Frederikshavn is located in Northern Jutland, about 60 km to the north of the regional center of Aalborg. The study is one among several empirical investigations conducted as parts of a research program entitled "Transportation and Urban Planning" at Aalborg University. The theme of this program is how spatial planning can be used to influence the extent and modal split of traveling, and hence also energy use for transportation. The geographical level of the study in Frederikshavn is the town and its nearest surroundings. Besides Frederikshavn, the research program includes detailed studies in two larger urban areas (Aalborg and the Copenhagen area) and two investigations focusing on the pattern of development at a regional scale.

National and international targets of reducing the energy use and emissions from transportation make up an important part of the background for the chosen topic. For governments, a number of imaginable measures exist in order to influence the amount of transport, the modal split between different means of conveyance, and the energy use and related emissions from transportation. Some of these measures (e.g., radical increases in gasoline fees, road pricing with restrictively high rates per kilometer, or the establishment of maximum quota for each person's purchase of fuel) could potentially change transportation patterns significantly in the course of a short time. However, it has proved to be extremely difficult to gain political backing for such measures. Part of the reason for this is probably the fact that the very mobility that has given most people in modern societies increased freedom to reach a wide range of destinations and activities, has also given us a society where a high mobility is increasingly becoming a requirement. The location of built-up areas and activities in urban regions is an obvious example. During the last half of the 20th century, it became not only possible, but also necessary for people to transport themselves considerably longer distances to reach daily and weekly activities.

In order to break the self-perpetuating interaction between increased mobility and a transport-generating land use, there will be a call for specific transport policy measures as well as a location and structuring of future development aiming to limit the needs for transportation. In short, a coordinated land-use and transport planning.

Theoretical point of departure

Within studies of the interaction between land use and transport, a basic assumption shared by most researchers seems to be that the material structure of an urban area constitutes a set of

incentives, facilitating some kinds of transportation behavior and discouraging other types of behavior. People are assumed, *ceteris paribus*, to minimize their efforts to reach their daily activities. The efforts may include money, time, inconvenience, etc. In order to estimate a person's total efforts associated with making a trip, transport economists have introduced the concept of generalized traveling costs. The concept is closely cognated with the concept of *friction of distance* within geography. The closer a destination is to the place where you are, and the faster, cheaper and more convenient ways of transportation are at hand, the lower will be your generalized traveling costs of going to this destination, and the higher will be its accessibility. In addition to the accessibility of a location, the trips to a destination of course also depend on the reasons people may have for going there. Here, factors like the number and diversity of jobs and service facilities in the area, or the number of residents, will be important for the extent to which trips are attracted to a certain location.

However, in practice, also a number of other factors influence transportation behavior. These factors include personal socioeconomic characteristics of the travelers (age, sex, income, professional status, etc.) as well as their values, norms, lifestyles and acquaintances. Human behavior is influenced by structural constraints and incentives (among which the material urban structure is only one category), as well as the resources, preferences and aspirations of individuals. Also symbolic and cultural features attributed to an area may affect the number of visitors attracted. The emerging transportation pattern is a result of people's resources, needs and wishes, as modified by the constraints and opportunities given by the structural conditions of society (see Figure 1).

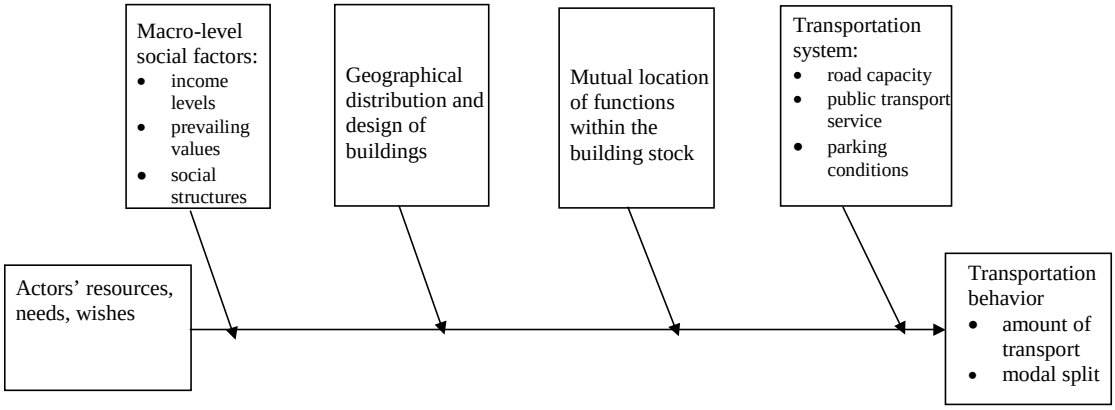

Figure 1. Transportation behavior as a function of land use characteristics as well as individual characteristics of the travelers and freighters.

The situation is further complicated by the fact that increased accessibility may create new needs. For example, the increased accessibility facilitated by the shorter average distances between different functions (residences, jobs, service facilities etc.) in dense and concentrated cities, might be utilized by increasing the radius of action to include a wider range of opportunities, rather than by reducing the amount of travel. The multitude of structural and individual factors likely to influence transportation behavior make the study of relationship between land use and transportation a challenging exercise.

Most studies within the field of land use and transport have taken into consideration only a few factors influencing travel behavior. The first generation of studies was dominated by model simulations of hypothetical patterns of development. The obvious constraint of this approach is the fact that the results of model computations depend entirely on the model's assumptions about the influences between its variables. Model simulations can illustrate and synthesize already existing knowledge about transportation consequences of alternative ur-

ban structures, but cannot be used to investigate whether the assumptions on which the model is based are correct. Gradually, the number of empirical studies into the land use – transport relationship has increased. The first ones of these (among others, Keyes, 1976; Newman and Kenworthy, 1989) were comparisons of transportation activity at an aggregate level (typically between cities or metropolitan areas). Later on, an increasing number of studies have been carried out at a disaggregate level, with households or individuals as units of analysis. At first, few of these studies took into account other factors of influence than the urban structural variables on which the studies were focused. Gradually, several empirical investigations have been carried out, incorporating urban form variables as well as demographic and socioeconomic factors in the analyses. The latest development of the field of research implies a widening of the scope also to include several attitudinal or "lifestyle" factors, e.g. residents' attitudes to traveling and different means of conveyance (cf., among others, Handy, 1996).

Location of residences

Traditionally, many European cities have had a concentration of workplaces and service functions (particularly civil service, cultural institutions, restaurants, entertainment and specialized stores) in the central parts. The closer to downtown the residences of such cities are located, the more workplaces and service facilities are likely to be available in the proximity of the dwelling. Therefore, inner-city residents could be expected to make shorter daily trips than their outer-area counterparts, and a high proportion of destinations might as well be easily reached by foot.

Figure 2 shows schematically how the location of residences relative to the center of the city could be expected to affect the amount of transportation as well as the distribution between different modes of conveyance. If the residence is situated close to the center, the distances to the above mentioned downtown facilities will be short. This also implies that a higher share of the residents will find it acceptable to walk or bike to these destinations instead of using motorized transportation. The location of a residence within an urban area also affects the likelihood of being surrounded by a high-density or low-density local community. Usually, there is neither tradition nor demand for the same densities in peripheral parts of a city as in the inner and central areas (Mogridge, 1985a; Holsen, 1995). With a higher density of residences and/or workplaces in the local area, the population base for various types of local service facilities will also increase. Hence, the average distance from residences to local service will also be shorter, possibly encouraging some of the residents to make their trips to these facilities by non-motorized modes.

By influencing the distances to the downtown facilities as well as to local facilities, the location of the residence relative to the city center could, according to the above line of reasoning, be expected to influence both the residents' traveling distances and their modal choices. A central location of residences could be expected to contribute to shorter average traveling distances and a lower proportion traveled by car. Both would contribute to limit the use of energy for everyday traveling purposes.

Investigations in a number of towns confirm that those living in the outer parts travel considerably longer by motorized means of transportation, compared to the residents of inner and central parts of the town. The same main pattern has been found in cities as different as Paris (Mogridge 1985a, Fouchier, 1998), London (Mogridge, ibid.), New York and Melbourne (Newman and Kenworthy, 1989), San Fransisco (Schipper *et al.*, 1994), Greater Copenhagen (Nousiainen, 1998), Greater Oslo (Næss, Røe and Larsen, 1995; Røe, 1999), Bergen (Duun, 1994) and Trondheim (Synnes, 1990). Admittedly, most of these studies have not controlled for the influence from socioeconomic factors. Because, among others, income level, household structure and age of the inhabitants often vary between inner and outer parts of the city, there

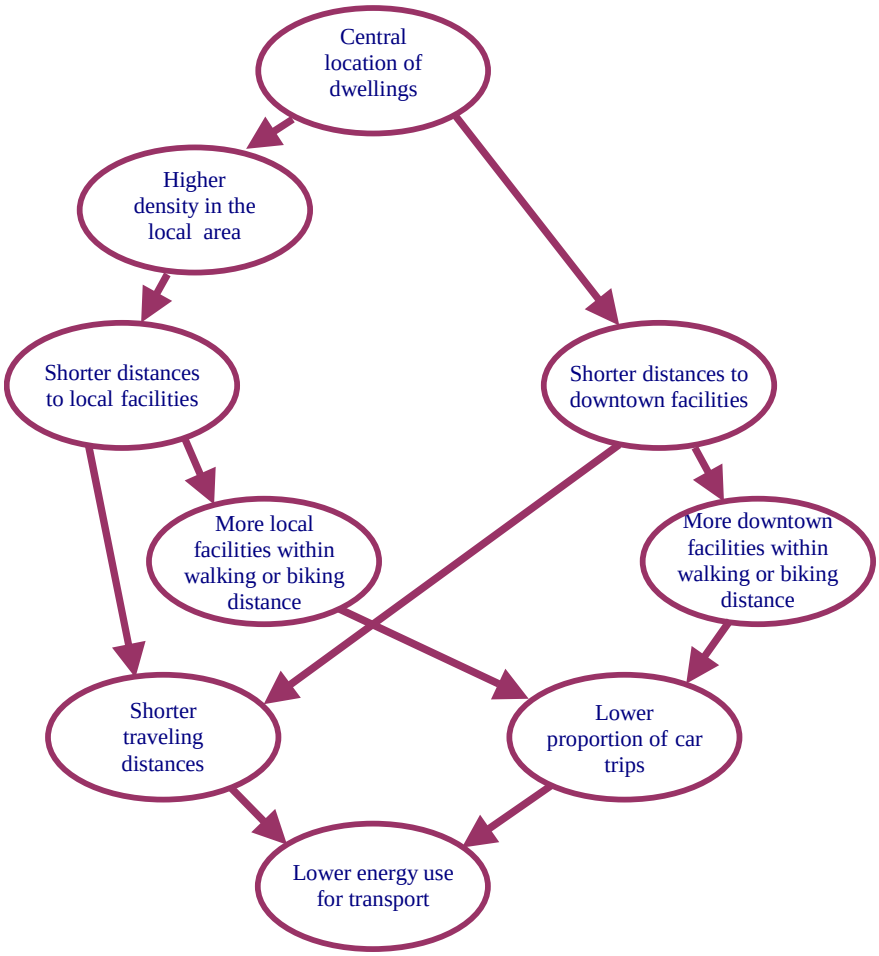

Figure 2: Schematic illustration showing how the location of residences relative to the center of the city could be expected to affect the amount of transportation and the distribution between different modes of conveyance.

is a risk that differences in the transportation pattern actually caused by such factors are being explained with differences in the location. However, in a few of the examinations mentioned, socioeconomic factors have been controlled for. This includes the investigation of transportation pattern among households living in different areas within Greater Oslo, (Næss, Røe and Larsen, *ibid*.), where the correlation between the distance of the dwelling from the city center and the motorized traveling distance per capita was still present when controlling for income, household composition, car ownership and a number of other potential factors of influence. The central and peripheral residential areas did not differ much regarding the modal split between car and public transport. Thus, the energy use for transportation varied approximately according to the same pattern as the travel distances.

The case of Frederikshavn: a closer look into the relationship between residential location and travel behavior

Most previous studies into the relationship between location of dwellings within cities and the residents' travel behavior have focused on large and medium-sized cities. Few studies have examined the situation in small towns, although a considerable proportion of the inhabitants of European countries live in settlements with less than 50 000 inhabitants. Frederikshavn, comprising 35 000 inhabitants within the municipality and 26 000 within the continuous built-up area around the municipal center, belongs to a settlement size where the

relationship between land use and transport has hardly been investigated before. Distinct from many larger cities, where multinuclear or hierarchical center structures are more common, Frederikshavn is a typical monocentric town.

In addition to gaining experience about this relationship from a small Danish town, we also wanted to go beyond the scope of most previous studies and investigate a broader and more detailed range of urban form characteristics, as well as controlling for a higher number of other factors of influence. In particular, we were curious to see whether the relationships found between urban form variables and travel behavior were altered when the residents' attitudes and activity preferences were taken into consideration. Some debaters (among others, Kitamura et al., 1997) have hypothesized that the values and attitudes of the inhabitants of different parts of a town, for instance regarding car use, may be different, creating a possible source of error in the research carried out till now.

Seen in a wider energy use and greenhouse gas emissions perspective, an important question arising is whether a modest extent of local transportation will result in extended transportation in other places, as long as the total purchasing power does not change. Is it so – given a certain level of income – that "the sum of vices is constant", and that households managing on a small everyday amount of transportation, create even heavier environmental strain through for instance weekend trips to a cottage or long-distance holiday trips by plane? In the professional debate, some parties (e. g. Kennedy, 1995) have claimed that people living in high-density, inner-city areas, to a larger extent than their low-density counterparts, will seek out of town in the weekends, for instance to cottages etc., in order to compensate the lack of access to a private garden. In addition to this "hypothesis of compensation" others, including the Swedish mobility researcher Bertil Vilhelmson (1990), have launched a "hypothesis of opportunity" implying that the time and money people save due to shorter distances to daily destinations, probably will be utilized by increasing the length of their leisure journeys.

In line with the above, the study in Frederikshavn focused on the following research questions, of which the first could be characterized as the main one and the three next as secondary questions:

- What relationships exist between the urban structural situation of residential areas and the residents' travel behavior (amount, modal split and energy use) during the week, when taking into consideration demographic, socioeconomic as well as attitudinal factors?
- Are the relationships between the urban structural situation of dwelling and the residents' travel behavior the same across population groups, or do the location and structure of residential areas influence travel behavior differently among different subgroups of the population?
- Is the effect of a residential situation where the need for everyday transportation is low, offset by a tendency to compensate this by making more frequent and long trips during vacations and weekends?
- Does the urban structural situation of the dwelling put constraints on the range of activities in which people engage?

In a theory of science perspective, the study takes a "probabilistic" position where we believe that it will, to some extent, be possible to predict how humans adapt their actions to their physical surroundings. The physical conditions constitute a set of framework conditions contributing to make some types of human activity and actions possible, and other types impossible. Furthermore, within the range of *possible* actions, the physical surroundings make some forms of behavioral adaptations more *likely* than other ones, for instance because differences in geographical proximity make some choices more time-consuming, costly or inconvenient than other alternatives. The *theories* that can be developed from research on the

relationship between land use and travel are "modest" in the sense that they apply to more or less strong probability relationships, valid within a limited geographical situation and a confined period of time. In this respect, a study in a single town, such as the Frederikshavn investigation presented in this paper, must be considered a *case study*. Seen in isolation, it can only provide a base for generalization within a quite narrow time-space context. However, if results are available from similar case studies in other geographical contexts (e.g. cities in countries with different social, political, and cultural conditions, or cities of varying sizes), comparisons across such cases may provide a base for more ambitious synthesizing and generalizing. The same may apply if experience exists from investigations carried out in different historical periods. The generalizations that could be made will be of the same nature as those made in multiple case studies (see, among others, Yin, 1994:31, 51).

For an aggregate of individuals (e.g. the inhabitants of an urban district) such research may form the basis for grounded predictions about which type of travel behavior (e.g. a high amount of car transport) will be the dominating adaptation to the physical/spatial situation among a large number of individuals. However, because of the multitude of factors and mechanisms influencing travel behavior it will not be possible to make meaningful predictions about how or how much a specific individual will travel. Neither should we expect to find a strong similarity in travel behavior among individuals living under identical urban structural conditions. The 'events' that take place (i.e. travel) are complexly composed effects of influences from different 'mechanisms', where some mechanisms amplify each other, while other mechanisms reduce each other's influences (Sayer, 1992:117). Analyses of the travel activities among a large number of respondents, may, however, help us identify the prevailing combination and proportions of causal powers. Such analyses may thus improve our knowledge of whether a specific causal relationship tends to be activated seldom and/or counteracted by oppositely directed causal relationships between the same structural properties (e.g. a peripheral residential location) and categories of events (e.g. travel distance), or if it is strong and stable enough to manifest itself with a high degree of generality.
(For a more thorough discussion, see Næss and Saglie, 2000, and Næss and Jensen, forthcoming.) Neither should we expect that a large proportion of the variation in the travel behavior of individuals could be explained by the physical/structural conditions.

How the study was conducted

The main part of the study in Frederikshavn was a questionnaire survey in June, 1999 among households living in 11 residential areas, nine of which in the main urban settlement and two in smaller, peripheral settlements. In addition to the survey investigations, qualitative interviews were made with six households in their homes. Three of these households live in the center of the town and three in one of the two satellite settlements. Figure 3 shows the approximate location of the 11 residential areas.

Our gross sample included all residents within the delimited residential areas. Each household member at least 15 years old was asked to answer a range of questions about her/his travel activities, as well as about employment and education, leisure interests and shopping preferences, and attitudes to mobility, means of transportation, and environmental issues. We also asked about the personal income of the respondent. In addition to these questions concerning characteristics of the individual respondent, one person per household was asked to answer a few questions about the household. The focus of these questions was on the household's vehicles and their driving distances (which were to be registered by noting the mileage at the beginning of the period and again at the end of the period a week later). In addition, we asked about the number of household members, their sex and age, and the total household income.

The questionnaires were quite extensive, with one set per household member and a requirement to record the traveling distances by different modes for each day of the week, as well as the vehicle mileage at two times. The respondents were also asked to differentiate between trips within and outside the municipality, and between private and official trips. Not surprisingly, then, the overall response rate was only 24%. In total, we received completed questionnaires from 381 households and 628 individuals aged 15 or more. Sample characteristics were compared with statistical data for the municipality as a whole as well as for the census zones among which the residential areas were chosen. This comparison shows that our respondents do not differ much from the municipal population in terms of household size, sex, employment or income. Persons above 45 years make up a somewhat larger part of our sample than in the municipality, but this bias is not serious. Our respondents also include a higher proportion of persons with a long education than in the population at large. In general, still, the sample must be considered fairly well representative for the inhabitants of Frederikshavn. Anyway, because the questionnaire included a number of questions about socioeconomic as well as attitudinal characteristics of the respondents, a statistical control for the influence of these factors can be made in the analyses of the relationship between the urban structural situation of dwelling and the residents' travel behavior.

The persons participating in the qualitative interviews had on average longer education than the sample of respondents, thus differing even more from the municipal average. However, they represented a broad variation of occupations, including an assistant social worker, a clerical assistant, a nursing assistant, a trainee teacher, a shipyard workman, two carpenters, two teachers, a chief archivist and a chief secondary school administrator.

In addition to the information provided through the questionnaires and the qualitative interviews, a number of urban structural characteristics have been registered and measured, based on maps, archival statistical data and our own visits in the areas. The extension "Network Analyst" of the GIS software ArcView was used to measure distances along the road network from each dwelling to various types of facilities, and the number of facilities of Figure 3 certain categories within a given distance from the residence. The provision of public transport near the dwelling was recorded by means of route tables and maps from the operators. The GIS-based information was supplemented by visits in the areas and studies of detailed maps, among others in order to identify walking distances in areas where it would be more convenient to follow footpaths than the roads.

Analyses have been carried out with the individual respondents as well as with the households as units. The analyses with individuals as units include a larger number of socioeconomic and attitudinal characteristics than the analyses of the households, and thus provide a better basis for controlling for a number of factors of influence apart from the urban structure. However, the information about the distances driven by private motor vehicles must be considered more reliable in the analyses with households as units. Here, a distinction was also made between local trips and trips to destinations outside the local area (defined as destinations more than 25 km from the town center). In the analyses of individual respondents it was not possible to make this distinction. Altogether, the analyses of individual respondents and households, combined with the qualitative interviews, are considered to provide a good basis for drawing conclusions about the influence of the urban structure on the traveling patterns of residents of Frederikshavn.

Figure 3. The location of the 11 residential areas. Scale: Approx. 1/110 000.

Results from the study

As mentioned above, no distinction could be made between local and non-local trips in the analyses with individual respondents as units. In order to reduce the source of error long-distance trips constitute, seen in the relation to the purpose of our analysis, respondents with outlying travel distances (i.e. values larger than 1.5 times the interquartile range above the value of the upper 25th percentile) as car driver, car passenger, train passenger or bus passenger were excluded. Omitted were also persons who did not report any transport at all although they obviously or most likely must have made trips during the week of investigation. Furthermore, respondents who stayed overnight away from home more than three nights during the week were excluded, as their daily activities would to a high extent take place from

a base different from the residential address. For the purpose of our analysis, such respondents would be irrelevant. The exclusion of the above-mentioned respondents narrowed down the sample included in the analyses from 628 to 510. In the separate analyses, among others, multivariate regression analyses, the number of units can be further reduced due to missing values for one or more of the variables included in the specific analysis.

As mentioned earlier in the paper, investigations in a number of cities have shown a clear relationship between the distance from the dwelling to the urban center and the travel activities of residents. Simple scatterplots of averages for each of the 11 investigated residential areas indicate that such a relationship is present also in such a small town as Frederikshavn, both regarding the total travel distance, travel distance by car, and the proportions of the distance traveled by car and non-motorized modes. This is true also when we only include persons who hold a driver's license and do not use their car for official trips ten times a month or more. As the percentage of respondents holding a driver's license varies considerably between the areas, and since official trips have not been subtracted from the travel distance in the analysis with individual respondents as units, it seemed immediately clear that it would be important to control for these two variables.

Figure 4 shows arithmetic means and median values for total travel distance (to the left) and the proportion of distance traveled by non-motorized modes (to the right), with the investigated areas placed along the horizontal axis according to their distance from the center of Frederikshavn. In all these averages, respondents without a driver's license and respondents using their car for official trips more than 10 times a month have been excluded.

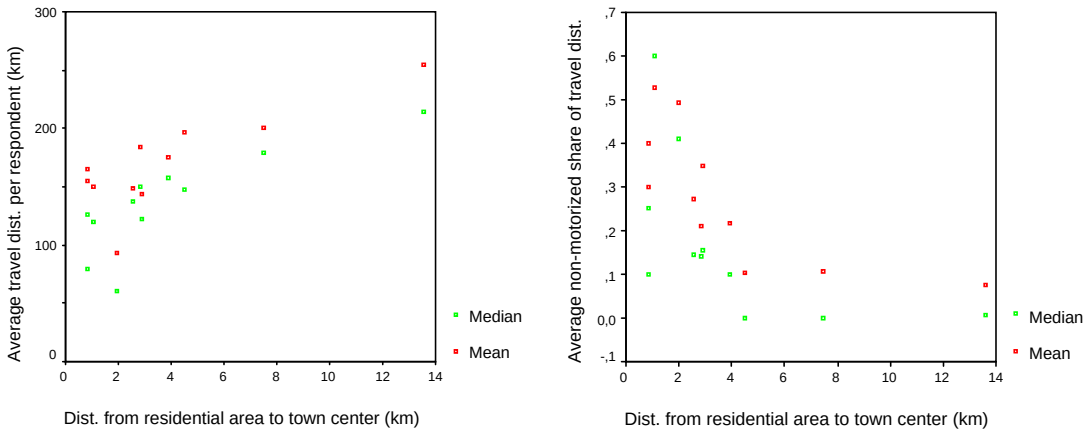

Figure 4
Mean and median values for total travel distance (to the left) and the proportion of distance traveled by non-motorized modes (to the right) among respondents from residential areas located in varying distances from the center of Frederikshavn. Respondents without a driver's license and respondents using their car for official trips more than 10 times a month not included. N = 11 residential areas including 375 counting respondents, min. 21 and max. 70 in the separate areas.

As can be seen from Figure 4, the relationship between the distance from the town center and travel behavior does not appear to be linear. A curved or S-shaped graph seems to represent the relationship in a better way than a straight line. Tests were made with bivariate and multivariate analyses where the distance from the residence to the center had been transformed by means of several mathematical functions: logarithmic, power, quadratic, cubic and hyperbolic. The latter proved to yield a better fit than the other alternatives. In the analyses, therefore, the distance from residence to the urban center has been transformed by means of

a hyperbolic tangential function with its turning point at a distance of 3 km from the center. Such a curve might mirror a situation where the accessibility to relevant facilities decreases from a high level in the central area to a low level in the outer suburbs, where only the most elementary facilities are available, with no further decrease when moving further away from downtown.

Although respondents with outlying travel distances have been excluded, respondents having traveled considerably longer than the average exert a strong influence on the results of the linear regressions analyses. Replacing the ordinary travel distances with the logarithms of the distances traveled reduces the influence of the longest travel distances, which may to a high extent be a result of accidental circumstances (cf. note 2). Thus, such a transformation of the dependent variable reduces the scope for accidental variation and may provide a better picture of the factors influencing the more routine transport. Actually, we have carried out analyses with the total travel distance, the distance traveled by car and the energy use for transport measured in ordinary kilometers and kWh as well as by logarithmic values. However, the power of explanation of the investigated variables turned out to be higher when the logarithmic values were used.

Based on multivariate analyses with logarithmic travel distances, Figure 5 shows the relationship between the total distance traveled by the individual respondents during the week, and the distance from their dwelling to the center of Frederikshavn. In this analysis, as well as in the other analyses of factors influencing travel behavior, the following independent variables were included in the regression: Hyperbolic tangent to the distance from residence to the center of Frederikshavn, public transport provision near the residence, sex, age, number of household members below 18 years, number of years of education, employment, whether the respondent is a student, personal income, driving license, use of car for official trips, responsibility for regular transportation of children, number of days at the workplace or school during the investigated week, attitudes to transportation issues, attitudes to environmental issues, and preferences for leisure activities. Of all these variables, the location of the dwelling relative to the town center turned out to have the strongest influence on the travel distance. This can be seen in Table 1, where the absolute values of the Beta coefficients indicate the relative strength of each variable's effect on the distance traveled. The location of the dwelling relative to the town center was the most influential variable also when measuring travel distance in ordinary kilometers instead of logarithmic values.

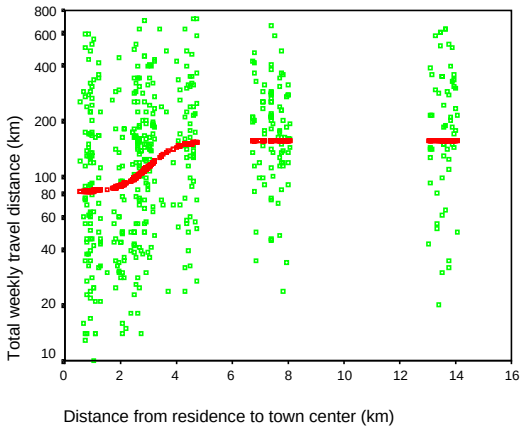

Figure 5
Total weekly travel distance (km) among respondents living i different distances from the center of Frederikshavn (km). N = 453. The regression curve for the controlled relationship between travel distance and the distance between the residence and the town center is shown in red, based on a regression model where travel distances have been measured in logarithmic values, cf. Table 1. Sig. = 0.000. Ten respondents with travel distances less than 10 km are not shown in the diagram.

Table 1
Results from multivariate analysis of the influence from various independent variables on the *logarithm of the total travel distance (km)* during the week of investigation.
The table only shows variables with a level of significance of 0.15 or lower. N = 453. Power of explanation (adjusted R^2): 0,281.

	Unstandardized regression coefficient (B)	Standardized regression coefficient (Beta)	Level of significance
Hyperbolic tangent to the distance in km along the road network between residence and town center (turning point at a distance from the center of 3 km)	0.137	0.240	0.000
Driver's license for car (has driver's license = 1, does not have driver's license = 0)	0.247	0.193	0.000
Index for domestic or non-domestic preferences for leisure activities and shopping (non-domestic preferences = high value)	0.0166	0.160	0.000
Number of cars per adult member of the household	0.219	0.154	0.001
Use of private car for official trips at least 10 days a month	0.208	0.134	0.001
Index for environmental attitudes (high emphasis on environmental protection = high value)	-0.0200	-0.121	0.003
Sex (female = 1, male = 0)	-0.0879	-0.095	0.020
Student (being a student = 1, not being a student = 0)	0.112	0.064	0.122
Constant	1.800		0.000

As can be seen from Figure 5, the travel distance changes little within the 1 to 1.5 km closest to the town center. Moving further outwards, the travel distances rise sharply until some 5 kilometers away from the center, whereupon the curve levels off. When controlling for the other independent variables with a level of significance of 0.15 or lower, the weekly distance traveled increases from 84 km close to the town center to 156 km when the distance to the center exceeds 5 km. These figures are based on the analysis with logarithmic travel distances. If ordinary distances are used, respondents with very long trips exert a stronger influence, and the estimated travel distances increase by about 50 km in the central as well as in the peripheral areas. The difference between the city center and the outskirts is a little bit larger in the analysis based on non-logarithmic values (82 km, as compared to 72 km in the logarithmic analysis). From Figure 5 we can see that there is a large individual variation in travel distances among respondents living in thee same distance from the city center. For the sample as a whole, however, the tendency is very clear, and the significance level of 0.000 also indicates that it is highly unlikely that the relationship between location and travel distance found among our respondents could occur by accidence.

None of the other effects found in Table 1 are surprising. Car ownership and holding a driver's license makes you more mobile, and the effects of these variables are in line with findings from numerous previous studies. For persons frequently the car for official trips, such trips will probably make up a considerable share and contribute to a high amount of total traveling. Also the effects of the two attitudinal variables are in line with expectations. Preference for non-domestic leisure activities and shopping where commodities are cheapest rather than at the closest store contributes to increase the traveling distance, whereas a high concern for environmentalism has the opposite effect. Along with a number of other studies, our data show that being a male contributes somewhat to increase the amount of traveling. The same applies to being a student. The latter effect is probably due to the fact that some of the students travel one or more of the weekdays to the university or other educational establishments in the region center city of Aalborg.

Our material also shows that the respondents' choice of mode of transportation is affected by the location of the dwelling. Non-motorized modes account for a considerably higher share of the total distance traveled by residents of the central parts of Frederikshavn than what is

the case among those who live in the outskirts of the built-up area or in the satellite settlements. This can be seen in Figure 6. Similar to Figure 5, the regression curve has been controlled for other variables influencing the modal share with a significance level of 0.15 or lower. Walking and biking could be expected to account for 38 per cent of the distance traveled by a dweller of the central area of Frederikshavn, as compared to only 15 per cent when the distance to downtown exceeds 5 kilometers. In addition to the effect of a central residential location, the following characteristics were found to contribute to increase the share of non-motorized transport: A low car ownership, transport attitudes not oriented towards the car, no driver's license, staying frequently at the workplace or school, and not being a frequent user of car for official trips. Apart from the effect of going frequently to workplace or school, all these effects are in line with expectations. The latter effect may perhaps reflect a tendency among part-time workers and people outside the workforce to utilize a less scheduled week to make more frequent leisure, shopping or visit trips by car.

The proportion of distance traveled by car shows a similar relationship with residential location as for the share of non-motorized transport, but with the highest proportions of car travel among residents of the peripheral areas. Keeping the other variables constant at mean values, a resident living more than 5 km away from the town center could be expected to travel 77 per cent of the weekly distance by car, as compared to 54 per cent for a resident of the central area.

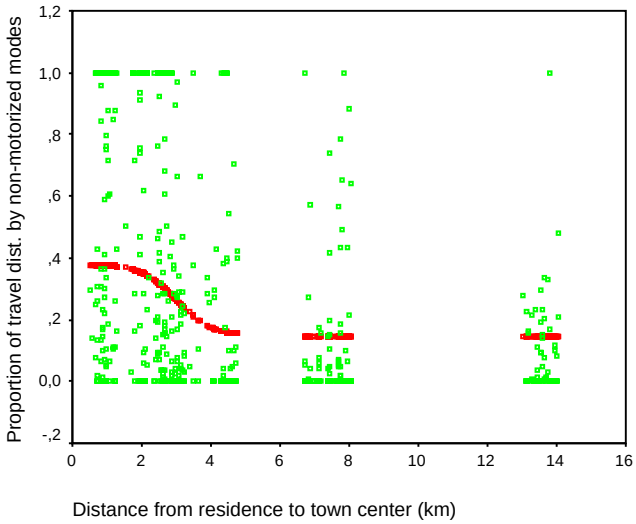

Figure 6
Proportion of total distance traveled by non-motorized modes among respondents living i different distances from the center of Frederikshavn (km).
N = 448. Sig. = 0.000. The regression curve for the controlled relationship between travel distance and the distance between the residence and the town center is shown in red.

Table 2
Results from multivariate analysis of the influence from various independent variables on the *proportion of the total distance traveled by non-motorized modes* during the week of investigation.
The table only shows variables with a level of significance of 0.15 or lower. N = 448. Power of explanation (adjusted R^2): 0,392.

	Unstandardized regression coefficient (B)	Standardized regression coefficient (Beta)	Level of significance
Number of cars per adult member of the household	-0.321	-0.285	0.001
Hyperbolic tangent to the distance in km along the road network between residence and town center (turning point at a distance from the center of 3 km)	-0.116	-0.258	0.000
Index for attitudes to transportation issues (car-oriented = high value)	-0.0121	-0.202	0.000
Driver's license for car (has driver's license = 1, does not have driver's license = 0)	-0.189	-0.183	0.000
Number of days at the workplace or school during the investigated week	0.00149	0.104	0.010
Use of private car for official trips at least 10 days a month	-0.119	-0.097	0.010
Constant	0.691		0.000

Public transport plays a modest role for local transport in Frederikshavn. On average for the respondents, public transport (mainly bus, and in a few cases train) accounts for only 5 per cent of the traveling distance. Within the main urban settlement, distances are short enough that the bike most often appears as a more relevant alternative to the car than going by bus. Non of the urban structural factors, including the public transport provision near the residence, appear to exert any influence worth mentioning on the share of the public transport mode. This is true also if we make separate analyses of the three residential areas located furthest away from the town center. From theoretical considerations, one might expect public transport to be more competitive in these areas, as they are located so far away from a number of facilities that the non-motorized modes are less attractive.

Consistent with our findings about the influence of residential location on the total travel distance and the proportion traveled by car, we see a clear effect of the location of the dwelling on the weekly distance traveled by car as well as on energy use for transport. Based on logarithmic travel distances, our analyses show a difference in predicted travel distance by car of 65 km between a resident in the central area and a person living more than 5 kilometers from the town center. In these figures, the effects of the other investigated variables have been adjusted for. When non-logarithmic values are used, the difference is somewhat larger (87 km). The corresponding differentials in estimated weekly energy use for transport are 36 kWh and 37 kWh, respectively.

The above findings from the analyses with individual households as respondents are highly consistent with our analyses with households as units, where more accurate measurements of the vehicle kilometers of cars and other private motor vehicles could be used, and where a distinction between local and non-local trips were made.

Due to high multicollinearity, local area density or variables measuring the accessibility from the residence to various facilities could not be included in the regression models together with the location of the dwelling relative to the town center. Separate analyses were carried out where the accessibility variables, or indices based on groups of such variables, were replacing the location of the dwelling relative to the town center. The accessibility indices were then found to influence the transportation activity variables (except the share of public transport), but the effects were no as strong as the effect of location of the dwelling relative to the town center, and the power of explanation was lower. The same applies to the population density of the residential area when this variable was included in the regression instead of the location of the dwelling relative to the town center.

The location of the dwelling relative to the town center of Frederikshavn is the factor which, according to our analyses, exerts the strongest influence on both the total distance traveled

during the week of investigation, and the travel distance by car. The proportions of distance traveled by car and by non-motorized modes, as well as energy use for transport, are also clearly influenced by the distance from the residence to the urban center. The accessibility to workplaces and various types of facilities is strongly related to whether the residence has a central or peripheral location. Thus, the location of the residence relative to the town center emerges as a key factor influencing a range of urban structural factors at a more detailed level, all of which influencing the residents' need for transportation: accessibility to workplaces, local administration, shopping opportunities, leisure activities and schools and kindergartens.

This is confirmed by the qualitative interviews. Five of the six adult interviewees living in the central part of Frederikshavn have their workplaces within 2.5 kilometers distance, and they do their shopping in the immediate vicinity of the residence. Distinct from this, five of the six adult household members living in the satellite settlement have to travel at least 7 km to reach their jobs, and shopping takes place 4.5 km or more away from home. Two of the families of the central area have previously lived in satellite settlements, 8 and 13 kilometers from the town center. Asked about the main reason for moving to the town center, both immediately pointed to the advantage of not having to depend on so much transportation to reach daily activities. One of the interviewees, a 56 years old chief school administrator, claimed that the family had saved DKK 500 (approx. US$ 65) a month in gasoline expenses when they moved in 1994 to the town center from Jerup, 13 kilometers to the north:

> "The reason [for moving] was solely that my job – as a leader of the municipal secondary school – that I had to commute to and from four or five times a day, even though there is 13 kilometers each direction. ... As a leader I have an administrative responsibility, but apart from this there are activities in the afternoon in the secondary school, with classes in the evening as well, and if there were meetings in between, I am sure you can figure out that there would be some kilometers. ... When we moved here, we discovered that the gasoline bill had dropped by DKK 500 a month."
>
> His wife, a 53 year old assistant nurse:
> "Besides – although you drove all these times – then you also had a wife, who had to travel. And we have only one car, so it was – who of us is to take the train? Because we do not start working at the same time in the morning. I start at seven and he does at eight o'clock. ... Now we don't need to discuss who is going to have the car, because each of us has only five minutes to the workplace, so everything has become easier."

Two of the three interviewee households presently living in a satellite settlement 7 km to the west of the town center (shown as area no. 2 in Figure 3) used their car for most traveling purposes. The members of the third family were eager cyclists and normally used their bikes both for the journey to work and for shopping (which was mostly carried out on the way home from work). For this family, the provision of cycle tracks along the road to the town center was crucial. Without this infrastructure, they would not have settled in this neighborhood.

> The wife, a clerical assistant 38 years of age:
> "The cycle track is an important reason why we live out in this place. When we were looking for a place to live, we also considered Kilden [another peripheral area], where there was a view to the sea. But even for the smallest shopping or for children to get to school, you had to travel down that hill."
> Her husband, a 38 year old carpenter:
> "If it had been necessary to cycle on the main road, then I would not go by bike."
> The wife:
> "Then we would never have moved to this place."

This family was quite atypical for their neighborhood, although some of the other residents also used to go by bike. However, among those outer-area residents who for health or environmental reasons prefer cycling to driving in spite of the long journey to work, the provision of a good cycle track has facilitated the replacement of several vehicle kilometers of car traffic each day. On the other hand, there is no indication that the more detailed design of the streets and paths within the residential area (degree of traffic separation and differentiation, cul-de-sacs versus thoroughfares) has any influence worth noticing on the residents' choice of travel mode.

Judged from the interviews, the location of the dwelling seldom prevents people from engaging in the activities in which they are interested. At least, this is true for the majority of households who own at least one car. For those without a car, living far from relevant destinations is more troublesome. In particular, this is true if you are not physically fit. A woman of the peripheral area who had gotten her vigor reduced from disease, had the following answer to our question about what the car meant to her:

> "Everything. I would feel imprisoned if I had not got the car. Our buses do not go on Saturdays or Sundays."
> (Female teacher, 56 years.)

The statistical relationships of residential location with total traveling distance, traveling distance, the proportion of distances traveled by car and by non-motorized modes, as well as with energy use for transport are distinct also when splitting our sample into subgroups according to demography, socioeconomic status or attitudes. The only exception found is among female employees with working-class occupations. Among this group, the traveling patterns appear to be less influenced by urban structural conditions than among the remaining respondents. A possible explanation could be that these women are to a higher extent than other population groups compelled to choose among the job opportunities available in the local area. At the same time, this group of women is often without a specialized education, and hence less dependent on finding other types of jobs than those available in the local community. (Jørgensen, 1992.)

We do not find any tendency that households managing on a small everyday amount of transportation create the heavier environmental strain through long and polluting leisure trips. Also when controlling for other potential factors of influence, there are no indications that living close to the urban center contributes to more extensive car driving to non-local destinations, more frequent trips out of the county or a higher number of trips by airplane. On the contrary, if any pattern can at all be seen, there is a slight tendency that living in the outskirts of the municipality contributes to somewhat more travel by car to destinations more than 25 km away from downtown Frederikshavn.

It is worth noticing that income, believed by many transport economists to be the main factor influencing travel behavior, has virtually no direct effect on travel distances and only a modest influence on the proportion of distance traveled by car. A high income contributes to some reduction in the use of public transport, but apart from this, the direct effects of income on travel behavior during the week of investigation are modest. However, income plays an indirect role by influencing car ownership. The income level is also the factor found to exert the strongest influence on the frequency of flights and other trips outside the county of Northern Jutland.

Conclusions

The Frederikshavn study shows that urban structural variables influence the inhabitants' amount of transport and their choice of means of conveyance also in a small Danish town of around 30 000 inhabitants. As one might expect, socioeconomic factors (in particular, driver's license, car ownership and use of car for official trips) and the respondents' attitudes (in particular attitudes to transportation, but to some extent also environmental attitudes and leisure activity preferences) play a role for the respondents' traveling patterns. But also when controlling for these factors and a range of other potential explanatory variables, we find clear relationships between urban structural characteristics and travel activity. The location of the residence relative to the town center is the factor which, according to our analyses, exerts the strongest influence of all variables on the total traveling distance and the distance traveled by car, and the second strongest influence on the proportions of the distance traveled by car and by non-motorized modes, as well as on energy use for transport. The distance from the residence to the downtown area is a key factor influencing the accessibility to a number of facility types. The proximity or remoteness of these facilities from the residence has a strong influence on the distances needed to reach daily or weekly destinations.

Our finding about the influence of residential location on travel behavior is in line with conclusions from investigations in a number of cities, including Paris, London, New York, San Fransisco, Melbourne, Greater Copenhagen, Århus, Greater Oslo, Bergen and Trondheim. In spite of such evidence, it is still common among debaters on sustainability and urban form to question whether density and other urban structural factors really have any influence worth mentioning on transportation's energy use and emissions (e. g., Breheny, 1992; Williams, Burton and Jenks, 1999). Those who downplay or deny that urban density affects transportation, often refer to studies concluding that the urban structure exerts little or no influence on the travel behavior of the inhabitants. Frequently, however, such conclusions stem from model simulations where the results may simply reflect that the assumptions of the model do not capture the actual influence of the urban structure on travel behavior (see, e.g., Dasgupta, 1994; Simmonds and Coombe, 1999). In other cases, the lack of relationship between urban form and transport is the outcome of studies not including the variables that could from theoretical considerations be expected to influence each other. For example, some studies have focused on trip frequency (among others. Kitamura et al., 1997; Boarnet and Sarmiento, 1998) or travel time (Gordon and Richardson, 1997; Snellen et al., 1998) as transportation activity variables, without investigating the influence of urban structure on travel distances or modal split. In some other studies, including Breheny (1995), conclusions are made about an absent or insignificant relationship between urban structure and travel, based on a comparison of travel survey data from towns of varying population size. However, the number of inhabitants is hardly a good indicator in order to test whether urban structure affects travel behavior. Among empirical studies where the influences on travel from urban densities and the location of residences within the urban area have been investigated, the converging conclusion is that dense and concentrated cities do contribute to reduce traveling distances and the use of cars.

The difference in traveling distances with motorized modes of transport is almost as large between the central and peripheral residential areas in the small town of Frederikshavn as in the much lager city of Greater Oslo. Immediately, this might seem surprising. However, Frederikshavn has a typically monocentric structure, whereas larger cities often have a hierarchy of local centers in addition to the downtown area. In Frederikshavn, the accessibility from the residence to facilities depends mainly on the distance to the town center. In larger cities, the accessibility to facilities is usually determined both by the distance to the downtown area and how the residence is located in relation to local centers.

Developmental patterns that can contribute to reduce the amount of motorized transport in urban areas are also favorable in order to limit the need for energy for space heating in buildings. Such urban structures are also favorable when evaluated against a broader set of criteria of an

environmentally sustainable urban development (Næss, 2000). Yet, the location of new residences can only influence a modest part of the total energy use in Denmark. In order to achieve improvements that can really help reducing the national contribution to global environmental problems, a much broader range of strategies and measures will be called for. However, within such a broad effort, urban planning could play an important part.

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Notes

1 Here, the term “probabilism” refers to a position assuming that one can not only distinguish between *possible* and *impossible* actions (“possibilism”), but in a number of cases also be able to predict which aggregate-level behavioral patterns will be *typical* or *dominating* an among individuals acting under a certain set of conditions.

2 Firstly, people have different material, economic and knowledge-related resources. This implies, for example, that distance probably will make up a more important deterrent when members of a low-income family without a car choose their travel destinations, than what is the case for a high-income family with several cars in the household. Secondly, people have different objectives, preferences, values and social networks. This influences what each individual considers to be rational actions, both regarding destinations, travel mode and travel frequency. Thirdly, people’s behavior is to a different extent influenced by social norms, and there is also a considerable difference from individual to individual and between different population groups regarding *which* norms are being attended to. Forth, no action follows by logical necessity from a motive or an intention. There is always a gap between the existing motivations, impulses etc. and the resulting action, and it is the *choice* that fills this gap (Østerberg 1986, quoted from Rasch 1992, pp. 13-14). Finally, mere chance may also lead to considerable variation in the transportation carried out during a short investigation period. For example, many people redecorate their house or take part in organizing flee markets or sports events for a local club now and then, and have to drive a lot around in connection with such extraordinary tasks. Whether this occurs in the very period when their travel activities are registered, is a matter of chance. Thus, human actions are influenced by a number of circumstances that are difficult or impossible to survey as a basis for statistical analyses, in addition to the factors that may practically be mapped. In analyses of factors influencing the actions of individuals, it must therefore be expected that a considerable, and often dominating, proportion of the variation will be left unexplained. On an aggregate level, for example when comparing different residential areas or cities to each other, much of the individual variations will be leveled out. A larger proportion of the variation in the dependent variable will then be attributable to variables that may practically be surveyed in the investigations.

3 To be more specific, area no. 5 in Figure 9.

4 I.e. area no. 2 in Figure 9.

5 When stating that residential location *influences* travel activity, we mean that it is a contributory cause – understood as an *INUS condition* (an insufficient but necessary part of a condition which is itself unnecessary but sufficient for the result). The relationships found in our study between residential location and travel activity, come within what Mackie (1965:260-261) terms as cases of “functional dependence”. This causal condition forms part of an intentional explanation, as it contributes to clarify why an acting subject considers one specific act of traveling (or more correctly, a certain, repeated pattern of transportation activity) as the best mean to realize his or her wishes.

6 Based on analyses with logarithmic dependent variables, the differential in travel distance by car between a central and a peripheral location was estimated to be 66 km in the analysis with individuals as units (including trips outside the local area), compared to 47 km in the household analysis (where non-local trips were excluded). The latter figure is based on a presumed average car occupancy of 1.6 persons.

7 Shown as area no. 9 on the map in Figure 9.

8 Compared to simple, bivariate analyses, the relationships between urban structural variables and travel behavior in our Frederikshavn data become somewhat weaker when controlling for demographic and socioeconomic variables. However, the inclusion of attitudinal variables does not imply a further weakening of these relationships. On the contrary, the relationships between residential location and travel behavior turn out to be a little stronger when attitudinal variables are included in the multivariate analysis.

Time and Space in Freight Transport

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Abstract

This paper presents ongoing projects at Roskilde University. The purpose of the projects is to explain in which way transport growth is induced by changes in logistical principles and development of infrastructure. The projects aim to develop methods of studying relations between infrastructure, logistical restructuring and growth in freight transport. The paper presents the analytical framework as well as the project design and pose some questions about in which way studies of freight transport can contribute to the understanding of mobility.

Background and aim

Within the last decennia the structure of freight transport growth in Europe has changed in several ways, the most important being the shift from rail to truck and the growth in logistical reach (distance). One explanation to this development relates to the change in the logistically induced demand on transport, especially the flexibilisation of the production and distribution structures, another relates to the improvement of infrastructure.

The purpose of this paper is to describe how the freight transport sector is influenced by logistical principles of production and distribution. The article will introduce new ways of understanding freight transport as an integrated part of the changing trends of mobility. But it will also describe how the driving forces behind mobility influences the actors within management and labour in the transport industry.

The article presents research carried out by the authors at Roskilde University. The presented research is a part of a research programme consisting of four projects:

- 'Production, distribution and freight transport – environmental consequences and line of action' (in collaboration with COWI and funded by the Danish Environmental Protection Agency)
- 'Infrastructure, transport and the environment – the bridges and the logistical map of Denmark' (funded by the Danish Transport Council)
- 'The Content of Transport in Food-Products' (funded by the Danish Transport Council)
- 'The flexible transport company' (funded by the Danish Transport Council)

The synergetic effect of comparing the four projects is:

- To develop a common analytical framework describing the relations between growth in transport, logistical principles and investments in infrastructure
- To present case research and empirical evidence from Denmark (a total number of 15 cases) in order to deconstruct conventional thinking of logistics and transport as sy stems of flows build up as top down, holistic and strategic arrangements. Only empirical evidence can install new and differentiated pictures of a sector full of contradictions, and processes of differentiations.

Logistical principles and transport

The logistical systems are composed of supply chains in which transport forms an integrated part. These supply chains have in recent years undergone a series of transformations and restructuring resulting in significant consequences for the development in the total amount of traffic and in a broader sense also the environmental impact. The changes are represented in a number of new principles for organising the flow of goods and can be seen as a reflection of how manufacturing and consumption are directed by a continuous flow of management philosophies coming from the world of management. Often the new principles are introduced as a response to the demands from the market/customers. New principles emerge while others become obsolete and are phased out i.e.

- Just-in-time manufacturing/delivery
- Postponement
- Centralisation/decentralisation of warehousing
- Door-to-door delivery
- Globalisation of supplier relations
- Quick consumer response
- Focused factory

Decisions on such principles are mostly taken at a strategic management level. The hauliers and transport operators, however, also have influence on the structure of the supply chains. With regards to e.g. environmental issues, the hauliers hold several possibilities for developing environmentally friendly transport solutions:

- Design the supply chains in a more environmentally friendly way
- Improve the utilisation of capacity, decrease empty running and improve the consolidation
- Employ intermodal transport where different modes of transport are utilised according to the environmental impact

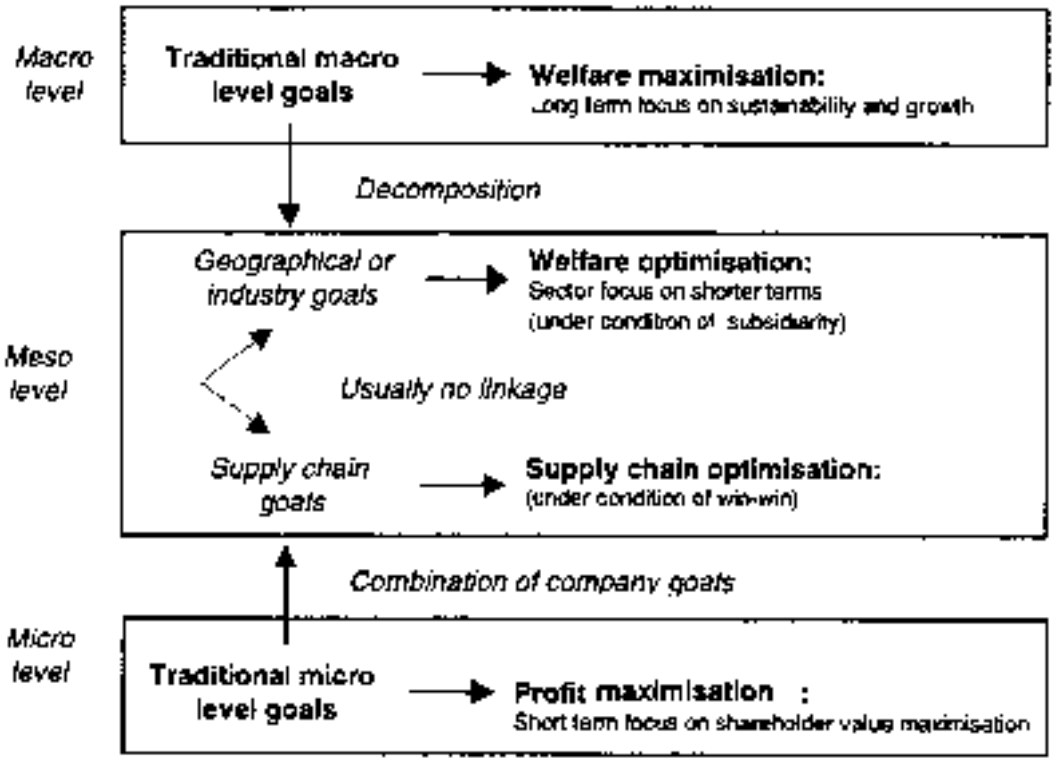
Presently the transport industry undergoes big changes. With the purpose of developing new integrated transport solutions, mergers, strategic alliances and other forms of network relations are formed across the industry. Certainly this structural development also exerts an important influence on the development of the supply chains and the location of activities related to transport. There are different opinions of the general trend; some hold that this development implies a centralisation of transport related activities yet others hold that the development will result in the construction of a network of decentralised warehouses capable of reaching the market as quickly as possible. As the location of transport related activities is of great significance for the development of regions, the structural development within the transport industry is also bound to have consequences on a regional level.

Research within the field of logistics has traditionally had a strong focus on the internal strategic processes of the company. However, a change of focus to also include the external logistics tasks has provided an opening to additionally include transport and transport related activities in the logistics research (Giannopoulos & Gillespie, 1993; Wandel & Ruijgrok 1993; Drewes Nielsen & Hansen & Kornum & Nedergaard & Aastrup 1999).

Within the field of transport research analyses have been conducted that address the influence of different principles of organisations on transport (Ojala 1993; Velden 1994; Gillespie & Capillo 1993). There are, however, considerable disagreements as to which consequences different concepts of logistics management have on transport. Conversely, the need for more specific studies within this area is unanimous.

Transport and goals of sustainability and growth

Figure 1. Migration towards Supply Chain focus (TNO, 1999)



Recent scientific research under the EU and the OECD has attempted to uncover the relations between logistical structure and transport growth. Figure 1 illustrates three different levels of analysis and the corresponding differences in goals of optimisation.

The figure describes three levels of relations between logistics and transport. The first level, the micros level express the companies' goals of profit maximisation. Transport is at this level one cost among others and the companies have an interest in minimising the costs related to transport. The second level, the meso level, expresses the supply chain goals. The development of production chains as a result of the restructuring of economy (global, economic and technological) indicates an economic potential in optimising the whole supply chain. One big question is however in which way this chain optimisation influences the transport sector. For sure, the travelling of products in these globalised chains in some ways influence the chains use of transport, but tendencies to optimise the chains may indicated potentials of diminishing transport. The meso level also consists of goals related to aggregates at a regional or industrial level. These goals often are expressed as welfare optimisations. Transport might have a double-sided influence on these welfare optimisations. The same influence exists on the macro level where the societal long term focus on sustainability and growth is related to transport in a twofold way. Transport is an integrated part of the economic restructuring (and has always been) on the other hand mobility and transport induces welfare diminishing through problems with environment and congestion. In this way the figure illustrates some main scientific questions around the study of logistics and transport:

- First point: Is there differences in the goals on the different levels, and to what extent can the goals converge?
- Second point: How difficult is it to 'translate' goals from one level to another, and how will the reactions of the level specific actors develop.

- Third point: Is there also a different time horizons between the goals and levels. Where short term goals at the micro level conflict with long-term goals at the macro level.

A hierarchy of logistics

Through case studies of selected industries (OECD: TRILOG 1999; REDEFINE 1999) this research attempts to establish an overview of these relations at an aggregate or meso level. The cases is analysed and divided in the following categories describing a hierarchy of logistical decision-making. McKinnon (1998) originally develops the four logistical hierarchies:

1. *Structure of logistical systems* describes the logistical systems in their territorial extensions, the localising of production, warehouses, freight terminals and stores describes.
2. *Pattern of trading links* describes the network of trading relations in the structure of production and distribution schedules by commercial interests.
3. *Scheduling of product flows* describes how the pattern of trading links is transformed into planning of production and distribution and under different principles.
4. *Management of transport resources* describes how the transport resources are managed under decisions taking in level 1-3. It also describes how these resources are developed in the relations and mutually interdependencies.

McKinnon has together with other extended the model with a fifth level: The product design, which indicates that the design of the product also influences the design of the supply chain, the systems of deliveries, the subcontracting, the distribution and even the transportation of spare parts and final products. Although this is clearly of importance when discussing possible actions and policies, we have not included it in our research so far.

The different levels of decision form a hierarchy (McKinnon & Woodburn 1996), i.e. the decisions at one level establish the framework for decisions on the subsequent levels. This is surely a valid description of most industrial branches, but for many of the branches in the new economy the hierarchy seem to be toppled around. For example, companies heavily dependent on just in time as for example the computer industry, scheduling of product flow seems to be the uppermost layer in the hierarchy. And for some types of e-trades management of transport resources is crucial to the success of the firm, and must thus be regarded as top of the hierarchy. This transformation of the traditional hierarchy might be a core in the understanding of the present revolution in logistics Case analysis will indicate how and why these shifts will take place.

Four concepts and a model

Simple relationships between logistical principles and transport growth are, however, difficult to verify both theoretically and empirically (McKinnon 1998; Cooper et al 1998). Therefore in our project, intermediate categories have been developed in an attempt to 'translate' logistical principles into transport related concepts (Homan Jespersen & Drewes Nielsen & Petersen 2000).

- Transport distance – how far
- Speed of transport – for how long
- Frequency of transport – how often
- Point in time of transport – when

To the extent that logistical principles can be described by these categories, the consequences for transport can be empirically investigated. The four dimensions can be related to some essential characteristics related to modern principles of production- and distribution and to characteristics related to tendencies in the post-modern society. Three main characteristics are close related to understanding of mobility and transport.

5. Space-compression. The shrinking of the world as a result of the development in transport and technology is a manifestation of space compression (Harvey1990)
6. Time-compression follows the space. It is possible to extend activities in time and space. It influences the wishes of realising the possible, to reach more within specific times. The concept of mobility often includes the concept of the potential mobility besides the real (Gudmundsson 2000). But time compression also relates to changes in the characteristics of time. Urry describes the changes from clock-time (scheduled time) to instantaneous time (Urry 2000). This also influenced the speeding up of mobility (Virilio 1986).
7. Flow society. A third characteristic is the flow society, where relations in the flow create the dynamics of the development in production and distribution. The relations in the flows are developed through IT and expand worldwide (Castells 1999).

These three characteristics of the late modern society have in common and each of them relation to mobility and transport and is transformed in the four concepts of distance, speed, frequency and point of time.

The use of these four concepts (distance, speed of transport, frequency and point of time) seems to include potentials for relating logistical principles with more general societal trends. Figure 2 is an attempt to set up a hypothesis concerning the relationship between McKinnon's four levels of logistical hierarchies of decision-making dimensions of hierarchy and our use of the concepts of time and space. The relationships are going to be verified (or falsified) in our ongoing case research at Roskilde University.

	Distance	**Speed**	**Frequency**	**Point of time**
Structure of logistical systems	++	-	-	-
Pattern of trading links	++	-	-	-
Scheduling of product flows	+	++	++	++
Management of transport resources	+	+	+	+

(++ Strong relations, + relation, - no or little relation)

Figure 2. Relations between four levels of logistical hierarchies of decision-making and four concepts of time- and space compression

Decisions at the two highest levels primarily influence the distance of transport. At the third level the decisions influence distance, speed, point of time and frequency. The management of transport resources (level four) influences the distance and the frequency.
Two case studies will in the future put evidence to the figure from a Danish perspective.

In the project *The content of transport in food* the goal is to develop and compare different methods of describing and measuring the role of transport in the environmental load of food.

Three different methods are used to describe the same case studies – potatoes and black bread:

- A Life Cycle Assessment (LCA) approach aimed at deconstructing the whole supply chain from mineral extraction to consumption and estimating the amount of transport in every part of the chain
- A macroeconomic approach based on analysis of input-output statistics (I/O-analysis)
- An approach coined Logistical Structural Analysis which is based on the thoughts in this paper supplemented with the development of some indicators of trans port

It is still too early to give results, but it is already obvious that whereas the LCA can give very detailed results, but with a substantial burden of data collection, which has to be repeated for every case study, the I/O-analysis give more coarse results, but once the methodology is developed it can be reused with minor adjustments for different types of food (and other products).

In comparison to these methods the Logistical Structural Analysis is less focused on quantity, but more on understanding the dynamics of logistics and on the actors and the possibilities for acting.

The project *Infrastructure, transport and the environment – the bridges and the logistical map of Denmark* focus on the problem of influences of infrastructure on logistics and transport. With regards to its infrastructure, Denmark is at present in a unique situation. The construction of two large bridges yields prospects of changes in the patterns of transport. The assessments of the influence of these bridges are numerous and often contrasting. On the one hand, the bridges are presumed to cause an increase in transport as the "friction" embodied in the ferry services has ceased to exist. On the other hand, the bridges are presumed to improve the planning, organising and consolidation of transport thus not necessarily increasing the total amount of transport. There is, however, a lack of studies within this area.

Nonetheless, the fixed links – the bridges – undoubtedly influence the formation of the logistical structures and hence the organisation of transport and related activities (transhipment, warehousing, packaging etc.). Presently, there are already examples to be found on how the Great Belt fixed link has resulted in a restructuring of transport.

Hitherto, a number of studies of the connection between infrastructure (especially larger installations) and industrial development have been conducted with a focus on analyses of "before" (*ex ante*). This has served to substantiate the political decision making behind the development of infrastructure. Thus, the analyses have been influenced by expectations to a future development and therefore do not build on actual results (Hjalager 1993; AKF 1993; Bjørnland 1997). *Ex post* analyses, on the other hand, have often focused on quantitative estimations of traffic flow. Focusing on both the Great Belt (came into use 1998) and the Oresund (came into use 2000) fixed links, this analysis has the opportunity to observe the processes before, during and after the restructuring of distribution systems.

Time and space in freight transport

As described, the freight transport sector is affected by the changes in time- and space compression and the developing of the network economy. Actually, the principles of logistics might be defined as tools of time- and space compression and of building up networks.

When studying the transport sector it might seem obvious to analyse the logistical structure and its influence on transport systems. The problem is, however, that the field of logistics normally only includes analyses of logistics as a strategic, management tool with focus on the internal processes of production or a holistic view on the supply chains from a top-down level. Little research has focused on transport in this field. Transport has been considered only as a consequence of logistics in a simple cause effect relationship. But in the discipline of transport logistics the need for research of the interrelationship between logistics and transport is dealt with.

On the background of qualitative explorative research of the Danish transport industry (focus on shippers and hauliers) we can describe some characteristics of the sector. The description will be divided into to approaches: Economic and technological restructuring and organisational and working life restructuring.

Economic- and technological restructuring

In Europe the flow economy relates units of production in widely geographically spread activities. The flow economy has been build upon systems of freight mobility, systems of flows of handling freight in the flow economy. The flow systems of mobility is mainly organised around big transport companies organising transport corridor concepts offered to the transport buyers as total concepts. But flow systems of mobility is also organised by small and medium sized transport companies some times dedicated to specific products or to local/ global transportation.

The systems of freight mobility consist of a chaotic organised network around actors in the field. Interorganisational relations between firms are based on both vertical and horizontal relations, integration and disintegration, competition and cooperation, network and hierarchies etc.

The time pressure in the transport industry has changed dramatically during the last few decades. The transport customers and their logistical organising dominate and subordinate the transport industry. As a service sector, the transport industry eagerly tries to cope with time pressure. Time seems to be the most important parameter of competition.

The time pressure has different outcomes. The time of delivery has changed from a wider range of days to a specific delivery point of time within few hours or even minutes. Handling the flow of goods in terminals has been speeded up, the time schedule changed from hours to minutes.
The flows of transport have been more fluid (instantaneous). The places with time stops in the flows have been moved away. The highway systems, the end of boarder controls and the continuous elimination of flow interruptions bounded to places in the handling of the goods have fluidised the flows of goods. New transport solutions that represent barriers against this fluidisation have difficulties in breaking through (intermodal transport systems including transport via rail, shortseashipping etc.). The lorries have until now been the adapted technology to the demands of transport. The congestion might, however, in the future represent a barrier to the car/highway flexibility and might open up for other transport solutions.

The studies of the transport industry from these perspectives also implement knowledge of time, space, and flow compression to other field of research of the late modern society. The transport flow opens up the knowledge of territorial and time specific induced changes in the systems of production. These perspectives can induce changes in the understanding of the conditions of accumulation in the late modern society also when studies have other foci than transport.

Organisation and working life

A parallel lesson can be learned from the analysis of organisation and working life in the transport sector. The adaptation between the flow of material goods and the human resources in the sector of transport and logistics is a story of subordinating the human capital to the material. The time specifications in the scheduling of the product flow dominate the adaptation of human capital. The fluidising of the flows also means that every barrier against the fluidising process has been removed during the past few decades. In Europe, the drivers lament the construction of the highway system and the end of boarder controls. No places of meeting, no stop at exotic places diminish the senses of travelling and removing the respect of the work. When this is compared to the principles of lean production, where the volume of human capital is cut down to a minimum, the working conditions suffers from the development (Drewes Nielsen 1999).

The work in the transport industry is characterised by time compression in different ways. Overwork, extra hours, speed, stress and short-planning horizons often burden the working environment. The culture in the firms are often characterised by conflicts, hard tone and even quarrels. There is no room for reflection, and with Virilios expression the development of the work can be characterised as a movement from reflection to reflex (Virilio 1986)
Conversely, you can also find proudness around the speed of work. Speed is a lifestyle. The satisfaction around solving intricate tasks and condense the solutions in one transport or the possibility of being able to service a customer in a trustworthy and respected way.

From a human capital point of view the transport sector includes crucial stories of flexibility. Transport is most commonly outsourced to independent hauliers. In Denmark only around 20% of the transport is organised by the production and distribution firms. But the transport industry also to a great extent outsources transport further to subcontractors. A lot of capital is bounded in the transactions around these outsourcing activities. Transport is sourced out to other transport companies, and often to a lower level in the hierarchy of transport companies. But also transport related activities such as warehousing, administration, IT etc. in hierarchies; overwork, stress and conflicting working conditions are everyday stories.

The combination of time compression and lean production are the main explanation why there is no room for learning, no room for solving potential conflicts. The transactions costs are at the individual level extremely high and the organisation is unable to benefit of the competencies build up at different operative levels of the companies. There is no systematically induced learning or teaching activities and the daily routines do not leave any room for organisational learning. There is no time for exchange of competencies as Sennett has described work in the flexible accumulation era (Sennett 1998). Other employee's expressions about the work and their firms indicate that the feeling of belonging to a firm has changed, that the feeling of a corporate culture has disappeared together with the restructuring of the work.

The transport industry has always included flexible work outside normal working hours. But the story of speed and time compression and the following symptoms of stress in the daily work are related to the last few decades. The interviews indicate a strong longing back to the past, where everything was calmer and where there was room for social contact and for experiencing the travelling spirit of the sector.

Conclusion

Two contradictions is the lesson from studying the freight sector. On the one hand the economic and technological restructuring tend to create placeless flows of mobility. Corridors of transport and the fluidising of the material flows supported by big infrastructural investments are

examples of that. But on the other hand the social practices around the work in the flows: the warehouses, the shippers, and the drivers combined with the environmental consequences of transport is the witness of localised consequences of mobility.

The study of freight transport in the mobility perspective is very new and premature. As we have described it is new in a twofold way. The lessons from studies of freight transport have new dimensions to supplement the field of logistics and also new dimensions to supplement the field of mobility-studies, where studies of passenger transport dominate.

Our intention at FLUX – The transport research group at Roskilde University is to present both empirical evidence of this development and theoretically reflections. The analyses of relations between the developments of the transport demand, the logistical restructuring of flows and the management of the transport systems will focus on the contradictions of transport. The contradiction between flows and spaces, between mobility and immobility, between flexibility and rigidity and between mobility and environment. Transport is organised in 'placeless' flows as responses to economy and technology, but the transport activities and its human and environmental consequences are spatially localised.

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Deconstructing Destinations?

- the place of space in tourism studies[1]

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Abstract

A central element of many social theories of tourism consumption and production is the centrality of space. However the reference to space is mostly of a programmatic character and its conceptualisation superficial. This is most evident in relation to the concept of the "destination", which is widely used in tourism studies whether of cultural, social or economic kind. Sometimes the concept is employed as synonymous with place image, sometimes the local business networks and sometimes simply as synonymous the local resort area.

In this paper the place of space in tourism studies are being discussed, Through a critical discussion of tourism in late modernity, partly inspired by the work of Michel de Certeau on consumer tactics and their role in the production of place and space. In conclusion a tentative typology of different tactics employed in the performance of tourism is presented.

Tourism and the making of destinations

Tourism has from its very origin as a social phenomenon been a disputed topic. In recent social theory 'the tourist' has played a dubious role as an emblematic figure for social life in (post) modernity. Critical social theorists of various orientations have questions tourism - its agents and its practices - have by critical social theorists of different orientations from the perspective of the general social diagnosis of these authors. Boorstin (1962) thus portraits the tourist as a seducable addict to false representations of reality; Graburn (1978) as a pilgrim on a sacred jouney, MacCannel (1989) as an anthropologist seeking authenticity as a compensation for the inauthenticity experienced in everydaylife, or even a modern cannibal consuming the lives of "the other" (1992) and Urry (1991, 1995) presents the tourist as a skilled semiotic constantly interpreting signs and texts - the very incarnation of the postmodern individual.

Parallel to this cultural criticism of tourism and modern life, the rising public expectations to the importance of tourism as a main source for global economic growth, have in recent years been followed have been followed by an institutionalizing of empirical "tourism research" as an independent sub-discipline in most European Countries - including Denmark.[2]

A recurrent complaint in this more empirical driven research is the intangibility of tourism as an empirical object. As a recent review of studies within economic geography puts it

> "[T]he tourism industry does not need any special analysis or policy consideration *per se* because it simply does not exist." (Smith 1998; p 31)

Despite this intangibility of the tourism industry it the production of what we usually understand as tourist experiences shares its basic characteristics with other kinds of service industries.

Like these tourism business is characterized by the merging of production and consumption, and to a large extend the intangibility of tourism production is a result of this. The provision of the conglomerate of services that make up the "tourist product" is difficult to distinguish from the labour implicated in the provision of the product and the spatio-temporal context of production/consumption. In John Urrys words:

> ["T]he 'service' partly consists of a process of production which is infused with particular social characteristics, of gender, age, race, educational background and so os. When the individual buys a given service, what is purchased is a particular social composition of the service producers (...)." (Urry 1991; p 68)

This is a feature that is present in all kinds of consumer services (See Crang 1994 on restaurant work and McDowell & Court 1994 on merchant banking). What makes tourism a particular intriguing case is that it is impossible to delimit "tourism services" to one or more sectors of the employment structure. When tourists consume they are not only consuming, say, the meal they are enjoying, the setting of the restaurant and the interaction with waiters and hotel receptionists. At the same time they are consuming the place mythologies attached to the specific, the natural and cultural landscape, yes they may even consume labour processes and local forms of social organization, which in never was intended to make up part of the social process which make up the service. To push it to the edge: tourism makes all "locals" part of the tourist product.

According to Crang (1997) tourism contrary to other kinds of service production is characterized by an 'extension' of the spatio-temporal context of production and consumption:

> "The production and consumption of tourism are fundamentally 'geographical' processes. At their heart are constructions of and relationships with places and spaces. These places include destinations, which are differentiated through processes of social and spatial distinction and symbolically and materially restructured through their incorporation within the economy of taste (...) They also include the spaces of mobility that construct travel to these destinations, which are likewise ressources of both self-formation and economic valuation (...). In turn, these places operates as settings for the performances of both producers and consumers, helping to establish the precise character of a tourism product and its performance." (Crang 1997; p 143)

This means that the tourism 'product' according to Crang is a result of the negotiation between both producers and consumers, and furthermore that it is the construction of place and space bind these settings for performances (e. g. attractions and facilities). *Space* then is what distinguish consumption and production of tourism from other kind of consumer services.

However Crang remains unclear at one central point as he apparently uses the concepts of place, space and destination as entities existing a priori to the tourism performance. In fact it seems consistent with his argument it is actually the very negotiation of space and place in tourism implicit in the encounters between tourist and tourism producers, that makes up its distinctive character.. As the finnish geographer Jarkko Saarinen however have argued the destination is a concept characterised by ambiguity precisely because tourist destinations always are products of negotiation:

> "The transformation of a tourism region is produced and reproduced by the discursive practices through which the destination receives different identities, (...). [T]he identity of a destination contains elements from the present, traces from the past and signs of future transformation, where the discourses transforming the destination and its identity can be competing or even contradictionary." (Saarinen 1998b; p 58)

During the 1990'es the historical constitution of specific place-myths in relation to destinations have been documented by numerous case studies. The seminal work of Rob Shields (1991) on the changing social meaning of vacationing at the Niagara Falls and Brighton, UK as well as John Urry's study on the "making of the Lake District" (1995) have shown how these discursive practices interact with the material structuring of tourist regions and the practices attached to the performance of tourism within these regions through long-term social processes. In this way destinations are always 'in the making' as they are inscribed in the discursive practices of a variety of agents spanning from marketing material produced by local and national tourist boards, artistic and literary accounts and photographs, narratives produced by tourists as well as non-tourist business interests (e. g. in non-tourist forms of ressource exploitation and spatial planning).

While there is a vast literature on how destinations understood as the cultural landscapes of tourism are produced through such kinds of discursive practices, there is relatively few empirical studies of how the non-discursive practices of tourism contributes to the production of tourism destinations. This is partly because tourism by and large have been understood as mere consumption of sign value. Hence the way tourism is being studied in its empirical forms is closely related to the fundamental question of hpow we understand what tourism is. In the section below I would therefore like to discuss some of the dominant answers to this question, and what lessons we can learn from these in exploring the place of space in tourism.

What is tourism?

Social studies of tourism consumption have over a 30-years period been heavily dominated by a cultural studies approach focusing on the power relations implicit in the historical production of place myths attached to tourist destinations (e. g. Selwyn (ed.) 1996; Ringer (ed.) 1998) and the representations of space through maps (Del Casino & Hanna 2000). One main problem of these studies is that they have been rather stubborn in their view upon tourism as mainly a matter of commodification. Mostly the cultural studies approach have relied on a neo-marxist framework thus impling a dichotomy between (alienated) work and the commodification of escape attempts in leisure and tourism (Rojek 1992, 1993). This is also evident if we take a look at sociological and anthropological theories of tourism. Here too tourism is viewed as a battlefield zone between consumers attempts of escaping the restraints of everyday-life and the commodification of these escape attempts by the capitalist economy (MacCannel 1989). Despite (or as a consequence of) the dominance of this paradigm, studies of tourist consumption within anthropology and cultural studies persistently have focused on the intentionality of tourists. A variety of tourist typologies have subsequently been constructed based on the different degrees to which tourists seek "authenticity" or recreation in a secure environment (Cohen 1979, 1988; Redfoot 1984; also Smith 1978).

In part these problems reflect the dangers of treating 'tourism' as a social object detached from the context of the rest of social life implicated in the academic institutionalization of tourism as an independent field of research. The cultural studies approach have not been immune against criticism of this, but have been contested both on empirical, ontological as well as epistemological grounds. In this section I shall shortly present these three types of critiques.

Firstly, it can be argued that the dependence of the cultural studies approach on a neo-marxist work-leisure-dichotomy are empirical obsolete. Recently the dualistic way of conceptualizing work and leisure implicit in these cultural studies of tourism consumption, have been contested by proponents of "post-tourism", who argue that the social transformations in the west broadly identified with the advent of postmodernity, have given way to a new type of tourism or rather post-tourism in which the contexts of everydaylife and leisure becomes blurred as a process

of “de-differentation” takes place (Feifer 1986; Urry 1991; Lash & Urry 1994 p 275ff). As this process moves on new post-tourist practices that abandons the quest for authenticity and self-realization as the primary drive in tourism consumption and replaces it with a sense of playful irony towards the identy and practice of being a tourist moves to the center of current forms of tourism (Rojek 1993; p 133ff). This argument do not really challenge the validity of the lesiure-work-dichotomy. Instead it is argued that this dichotomy have become obsolete as the world-economy undergoes a transition from organized or “fordist” to disorganized or “post-fordist” capitalism (Harvey 1989; Lash & Urry 1994). As Orvar Löfgren points out the three arch-typical form of tourists at stake in current debates on the transformation of tourism (“the traveler”, the tourist” and the “post-tourist”) historically have co-existed in the course of tourism and travel (2000 p 260ff). Their significance as forms of tourist practices however may vary as the role of tourism in society changes.

Here we arrive at the second objection to the cultural studies approach. Throughout the history of tourism it has been a major source of socialization and class culture. Tourism and leisure have always formed part of specific “moral orders” in society. However as these have shifted so has the character of tourism (Rojek 1993; p 23ff). Tourism as such do not have a stable significance. Instead the specific content (and “meaning”) of tourism have depended on its position within a larger framework of social interdependencies. Figurational sociology thus questions the ontological foundation for delimiting leisure as a specific form of practice. Instead of viewing leisure and tourism practices as compensation figurational sociology thus argues that leisure is essential mimetic (Elias & Dunning 1986 p 66ff), and as such also an activity subdue to the transformation and variety of the social figurations their practitioners make part of, be that through work or private life (op. cit & Rojek 1992). Leisure therefore may exist in a “peculiar ambiguity”, however this ambiguity is not necessarily a matter of alienated everydaylife versus the need for authenticity, but rather an ambiguity between the experimental opening of new horizons of experience and releasement of social restraints at the one side and social acceptance at the other. In this way the specific forms of practices related to leisure is a matter of negotiation (Elias & Dunning 1986; p 90). However figurational sociology by and large have neglected how specific forms of leisure practices are being negotiated. The focus have instead been on the historical production of forms of leisure (in particular sports) and their attachment to the civilizing proces .[3]

The emphasize put on the negotiation of leisure practices are also at the heart of the interactionist approach to leisure and tourism studies. This third way of contesting the cultural studies approach takes it starting point in an objection towards the tendency to equalize tourist experiences and tourist intentions - thus leaving out of focus the essentially negotiated character of tourist experiences. Tourism experiences are produced through complex social encounters between a variety of agents of which “the tourist” is only one, and subsequently essentially a negotiated experience. This is the central argument of Crang discussed earlier. Whereas Crang points to the rich sources of inspiration made up by interactionist social theory (Goffman, Giddens and de Certeau). Empirical work on the negotiation of tourist experiences have been very sparse. One outstanding exception here is Edensors (1998) studies of negotiation of tourist experiences and practices. As is clear from Edensors ethnographic study not only the place myth and expectations attached to the same destination differ between various social and ethnic groups, so do the “walking practices” deployed by tourists (ibid. p 105ff. see figure p 108).

I will return to this latter position, however I would like to emphasize that in spite of the differences between the four different apprioaches discussed here, I do not they are exclusive. To the contrary the three corrections of the cultural studies approach to the study of the sociology and geography of tourism. In the next section, I would like to return to the question of space and place in tourism.

Deconstructing "the destination"?

"The destination" is a well-established concept in tourism-research and planning practices. The concept of the destination has obvious methodological and practical advantages when it comes to the study of the economic and cultural aspects of tourism as it offers a concept able of uniting these different aspects into one coherent line of reasoning about the othervise untangible tourist industry. In its economic aspects "the destination" becomes visible as the product of this industry, making it possible to its dynamics in analogy to product life cycles within other branches. In its cultural aspects "the destination" as it appears in tourist brochures and marketing campaigns and the place myths attached to it becomes the prime motivating force behind the tourists practices. However as suggested in this section the obvious practical advantages are overwhelmingly surpassed by the problems related to the concept. These ranks from the fuzziness regarding scale (local, regional, national, transnational) and definition (administrative boundaries, visual representations etc.) to the the ontological problem in operating with a concept of "the destination" as tantamount to the space and place of tourism, as it excludes the role of the tourists in the production of tourist experience. In the following section I will elaborate on this tension between tourism and "the destination", in order to clarify some of the conceptual fuzzyness outlined above.

In their classic study of the social impacts of mass tourism *The Golden Hordes* Louis Turner and John Ash refers a visit by Anthony Haden-Guest to the headquarter of Edgar Rice Borrughs Inc. in the early 1970es. At this visit Haden-Guest was presented to the plans of establishing a themepark based on the imagery and stories of Tarzan, including Tarzan-style villages and clothing.

Turner and Ash records:

> "A boggling Haden-Guest took up this theme. Why not, he suggested, a state of Tarzana with their own coinage and stamps? 'Don't laugh!' he was admonished: This is not just pie in the sky. We've been talking to the Rothschild Bank in Paris about this. There are a number of African countries which have absolutely nothing. No economy, no nothing...and the thought is to merchandise the whole country.... Take it over! Change the name and just take the resort ideas on a national scale, so the entire country is run as a....*beautiful place*'" (Turner and Ash1975; p 219)

Tarzana is the ideal destination. A place constructed to fulfill the demands of tourists – an entire country run as a "beautiful place". In the mid-1970es these ideas might seem a horrifying example of (american) multinational corporations neo-imperialistic aspirations. 25 years later we may more clearly see that "Tarzana" is not merely an imagination of the corporate managers of the Edgar Rice Borroughs Inc..

However the ambition to run places in accordance with this ideal is also explicit in practical planning in Denmark, both at a local level in the form of differentiating different types of tourist localities relative to different consumer segments, and at the national level. At the one end we find the detailed regulated time-space compressed world of theme-parks and heritage-centers offering tourists a possibility for getting an as-close-as-possible-to-real-life experience of living out mythological imaginaries close to the world of Tarzana also present in Denmark. Reconstructed stone and iron age settlings providing week-end or week accomodation provided guests play their roles as pre-historic families to one-day visitors to the park have been for at least a quarter of a century, and has recently been accompanied by Middle Age and Viking Centres and activities, often related precisely to "authentic" relics. However it is not in these detailed micro-worlds that the significance of "Tarzana" as emblematic for the practice of tourism planning appears, but instead in what have become a major trend in planning and marketing of tourism: the marketing of local cultures, feasts and events.

Reading through regional business development programs on tourism in Denmark one frequently come across references to "authenticity" and "exoticism" as the keyword of current tourism management,[4] thus stressing that local/regional tourist planning must aim at running localities as "beautiful places. Most evident in relation to this is the the endeavours for constructing a "Brand name DENMARK" and in this way associate the national "brand" ("DENMARK") with specific values "cosiness, free and unpretentious people, who in an intelligent way have arranged a society based on design, culture and social values" presumably pursued by potential tourists (Erhvervsministeriet 2000 see also Terkelsen 2000). In this way the construction and development of destinations also in Denmark exemplifies the ideals at stake in Ash & Turners "Tarzana" as an ideal destination.

The encyclopediean definition "the destination", gives several etymological roots and possible practical uses of the concept. However there is a common element in the multiple forms of use:

> "Des•ti•na•tion \ (...)\ (...) *destination, destinatio* goal, from L., act of establishing, determination, purpose, fr. *destinatus* + *-ion, io* -ion. **1 a:** the act of appointing, setting aside for a purpose , or predetermining < ... > **b:** *archaic* **:** the fact of being designated **2 :** purpose for which something is destined **:** predetermined end, object, or use < ... > **3 :** a place which is set for the end of a journey or to which something is sent **:** place or point aimed at < ...> (...)" (Websters 3rd New International Dictionary of the English Language Unabridged 1971)

The very concept of "the destination" thus relies on two premises (cf. quotation above). The destination is a place (1) set aside or a specific purpose (appropriate practices), at the same time (2) the place set for the end of the journey. Conceptually "destination" thereby links place to practice.

Transferred to the context of tourism, this implies firstly a conception of the destination as a place set aside (or even "established" or "predetermined") for appropriate tourism practices detached from the context of everyday non-tourist spaces, and secondly that the destination is "the end" of the tourists journey (or alternatively the place to which they are being send). The ideal destination is a purified space, detached from non-tourist spaces, constructed and designed to form the scene for appropriate tourist practices. "The destination" as a regulatory concept can be understood as a "place" in the sense of Michel de Certeau:

> "A place (…) is the order (of whatever kind) in accord with which elements are distributed in relationships of coexistence. It thus excludes the possibility of two things being in the same location (*place*). The law of the "proper" rules in the place: the elements taken into consideration are *beside* one another, each situated in its own "proper" and distinct location, a location it defines. A place is thus an instantaneous configuration of positions. It implies an indication of stability" (de Certeau 1988 p 110)

Places are according to de Certeau the regulated, ordering of space in relation to a specific purpose. Places have a strategic purpose, As do "destinations" as they form part of tourism planning. It is in this sense that the dream of Tarzana is the dream of the ultimate destination.

However de Certeau makes an important distinction between "place" and "space – a distinction which is highly relevant in relation to tourism. While "places" are stable, strategical ordered homogenous configurations, "spaces" are constituted by flows, mobility and heterogeneity:

> "Thus *spac e*is composed of intersections of mobile elements. It is in a sense actuated by the ensemble of movements deployed within it. Space occurs as the effect produced by the operations that orient it, situate it, temporalize it, and make it function in a polyvalent unity of conflictual programs and contractual proximities. (…)
> In short, *space is practiced place*." (de Certeau op. cit).

In this contradiction between place and space de Certeau relates to his fundamental point: that consumers are deploying a range of tactics which are non-reducible to the intent of the producers. While de Certeaus ideas mainly is exemplified from small studies and stories about city planning and pedestrians, this main tension between a producer and consumer perspective is also evident in the relation between the material and symbolical construction of tourist destinations and tourist practices.

While the purified regulated, designed spaces of mass tourist resort areas may be largely coincident with the motives and practices at stake in the forms of tourism associated with "fordist" patterns of consumption, the shift towards what some commentators following Harvey (1989) have coined "post-fordist" patterns of consumption raises some fundamental problems. Although it is highly problematic to postulate epochal shifts in the types of tourism as some commentators have done (Urry 1995, Poon 1993), it is inevitable to adress the conflicts and competing tactics and strategies involved in the making of space and place in tourism, without understanding the way tourism flows makes part of the changing social figurations of the Western world.

Broadly speaking the fordist mass tourism of the mid-20th century was a phenomenon closely bound up with the specific social regulation and transport technologies (paid vacation, high salaries, job stability, two-income-families, aircrafts as means for mass transportation, general access to one-family–cars) developed in North America and North-West Europe especially in the years from the 1950'es to the late 1970'es (Löfgren 2000p 109ff). As with other types of fordist consumption the precondition for this type of mass tourism was a low price level and the ability to standardize the product, and this is what gives shapes the basic characteristics for fordist mass tourism: it is very much about travelling or being transported to a specific destination (cottage resorts at the west coast in Jutland or a Mediterranean charter destination) set aside for the purpose of performing tourism practices appropriate for the place (e. g. getting tanned, playing with your children or tasting exotic Mediterranean wines and food and getting drunk to the sound of flamenco). The *space* practiced by these mass tourists were actually largely coincident with the *place* of the tourist operators and planners.

This homology however is being transformed, as tourism at the end of the 20th century includes a strong tendency towards flexibility, individualization and customarization of the tourism product – changes which is as closely related to societal transformations in work and family structure and technological innovations as the appearance of mass tourism. Social theories of the late 20th century have related this transformation of consumption patterns to a more general change in the pace of modernization processes in the western world in which the "self" are increasingly becoming a reflexive project, and in which indvidual choices relating to consumption and lifestyles are gaining dominance over traditional forms of identity related to gender, class, race etc. (Giddens 1991). Tourism - as other parts of consumption, but perhabs even more significant - is increasingly related to individual reflexive projects of achieving self-identity, even among social groups in which such elements have had minor significance compared to traditional lifestyles and identities until recently. Whereas access to standardized tourist experiences is the core of fordist mass tourism, difference is at the core of post-fordist consumption patterns. The consequence is that the *space* practiced by the post-fordist mass tourists are largely heterogeneous and therefor distanced from the *place* of the tourist operators and planners.

As en ensemble of different tactics the two forms might (and historical they actually have been) co-existing (cf. the disciussion of tourism typologies in the preceding section). In his study of the tourist resorts close to Taj Mahal in India Edensor (1998; p 149ff.), identifies two overlapping tourist spaces largely coincident with the two types I have discussed here: the enclavic tourist space of the package tourists and the heterogenous space of the individual backpackers. However this dichotomy between the two extreme types of tourist settings, may hide the real point. To paraphrase de Certeau: As different ensembles of movements within space are deployed, different place(s) are practiced. In this way the destination is being "deconstructed" by tourists employing a variety of tourism tactics, and in doing this produces very different destinations.

The making of tourism spaces

In this paper I have criticized dominant discourses on tourism for relying on a simplified notion of space and place in tourism. First and foremost by assuming a direct coincidence between place and practice. As argued in the preceding section we have to take a starting point in the practice of tourists to understand how constructions of place and space takes a central part as the distinct feature of tourism. Following this line of reasoning the "destinations" are in no way coincident with the spatial relations constituting the tourist region, nor the place-image or mythology attached to it. Rather they are produced and reproduced through the different tactics deployed by the practitioners in their performance of tourist practices.

In this section I want to present a tentative typology of different tourism tactics in the appropriation of tourism space. I will take my starting point in the types of tactics proponed by anthropological studies of tourism – the quest for authenticity. As we have seen this conception of tourism can be criticized for a variety of reasons – both for being historical obsolete and for relying on doubtful ontological and epistemological assumptions.

However the quest for authenticity is an obvious driving force in relation to a variety of tourism practices, spanning from the ambition to experience unique objects, buildings and places, over the practicing of what John Urry have called "romantic gazing" (1991 p 97ff) to the summer cottage culture, which also contains a significant element of experiencing the authenticity of material objects (e. g. through performing manual work-tasks relate to maintenance of the house and preparation of meals plays a significant role (Williams & Kaltenborn 1999)). In short, the quest for authenticy relies on a basic ambition to experience objects which posess a unique aura, which distinguishes it from readymade mass-reproduced representations available in everydaylife. Romantic tourism thus couples the very physical journey together with self-realization (Rojek 1993; p 104ff). While the journey may be a central element in romantic tourism its practicing requires immobility as its immediate goal is the perfect view or spot.

However not all quests for authenticity are in this sense tied up on material objects, but may also relate to tourists "own authenticity and intersubjective authenticity" (Wang 1999; p 365-6). This "existential authenticity" is found throughout the types of tourism practices usually related to mass tourist activities (e. g. holiday camps, charter tours) but is a common feature in relation to all collectivist forms of tourism (e. g. holiday sports centres, summer parks, beach life), and may even be be extended to the joy of sight-seeing in presence of other tourists (Urry 1995 p137ff).

The two types of tourist tactics identified above may capture the dualism which characterized fordist tourism (as such these tactics are closely related to the different tourism cultures of respectively the fordist working class and the service class) However we should not forget the arguments from the the proponents of the idea of "post-tourism". The forms of practice

which characterize post-tourism is first and foremost that,

> [T]he post tourist knows that they are a tourist and that tourism is a game, or rather a whole series of games whith multiple texts and no single, authentic tourist experience." (Urry 1991; p 100)

Here I would like to introduce a little light and shade into this argument. First of all it is no novelty that "authenticity" is negotiated between knowledgeable participants (tourists, tourist workers locals, producers of marketing material). This is also acknowledged by proponents of the "authenticity-argument" (see Cohen 1988). The central point regarding "post-tourism" as a specific ensemble of tourist practices and tactics however is that the ironic distancing from the situation and activities (being a tourist and performing typical tourist activities). It is the capability of switching subject positions and thus practicing a form of existential mobility that takes the center in post-tourism.

As with the two types of tourism tactics discussed above, also two types of mobility-based tourism tactics can be clearly distingusihed.

In addition to the post-tourism outlined above a second type much less dependend on the existential mobility and the ironic distance can be identified. Rather it is characterised by the compression of physical distance through IT and acces to cheap transport technology (car, plane). It thus contains a high degree of physical mobility - of being able to "see the world". This type of tourism tactic which could be called "reflexive exploration" is as posttourism characterised by the significance of choice between a multiplicity of places and objects which are are already well-known and framed in advance. However it remains strongly attached to the experiencing of "auratic objects", and as with romantic tourism the journey is of central significance to its practitioners. Although this type of tourism tactics may be most obvious in the form of e. g. back-packer tourism, the flexible high mobile types of tourism is also an important element in new types of "flexible tourism" within traditional forms of holiday making.[5]

Figure 1: A tentative typology of tourism tactics

	low-mobility	**high-mobility**
objective authenticity	"romantic tourism"	"reflexive exploration"
existential authenticity	"collective tourism	"post-tourism"

In figure 1 I have summarized the four types of tourism tactics discussed above. The important point I want to make here is that non of these can be reduced to neither specific "types" or "segments" of tourists, nor to general epochal shifts. Instead they form distinctive tactics that are being employed,, combined and changed in performing tourism.

Each ensemble of tactics implies a certain way of practicing space. As de Certeau contain space is practiced place. As we move through space we "spell out" meanings which may undermine the symbolical and material order embodied in specific places (a city or follwing the discussion in this paer: a tourist-destination). The tactics presented above are different ways of spelling out a "foggy geography of meaning" (de Certeau 1988 p 104), however it

may also be clear by now, the making of tourism spaces implicated by the different types of tourism tactics are very different, not to say antagonistic.

Conclusion

At this point I would like to return to the introductionary remarks on the alleged intagibility of the tourism industry. In her recent ph.d.-work on the provision of the provision hospitality services within a dinsh tourism resort (Bornholm in the Baltic sea) Szilvia Gyómothy reports that a central element in the activities of service producers within the hospitality sector, was that:

> "They not only facilitated the visitor's journey and stay at the destination, but also communicated different mythologies and cultural messages via service environments and staff behaviour" (Gyimóthy 2000; p 182)

Actually, she continues, this communication is what gives tourism its unique character, a view which is largely coincident with the views discussed in this paper (cf. Urry, 1991, Crang 1997). On the background of the discussion in this paper and in particular on the discussion of the four types of tourism tactics, a preliminary answer to the question of why tourism seems to be such an intangible topic can be given.

What makes the tourism sector difficult to conceptualize, is not necessarily that it is impossible to determine its character, but rather that its product ('the tourist experience') relies on a negotiation process between producers and tourists practicing differing tactics in their performance of tourism. The "producers" thus have to cope with very different and ever-changing constructions of space and place.

One question however remains, and that is what consequences that follows from turning the analytical approach upside down. If we take a starting point in tourist mobilities and tactics, what consequences do this then have for destination building and marketing? This is a question which have to be dealt with empirical,[6] however it seems to be a vital task to specify the tourism tactics and their relation to the space and place of tourism empirical, and investigate how these contribute to the deconstruction, construction and reconstruction of destinations.

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Note

1 This paper is a revised version of a presentation given at the 9th Nordic Tourism Research Conference, Bornholm, october 2000, and the Research seminar on Mobility, Roskilde University, november 2000. I want to thank participants at the two conferences for comments and suggestions.

2 This paper actually is a product of this institutionalization process itself, as it is part of the collaborative research project "Destination Construction and Development - Representations, Networks and Strategies" conducted by Wolfgang Framke, Michael Haldrup, Jonas Larsen and Jørgen Ole Bærenholdt (Roskilde University) in cooperation with Per Åke Nilsson (Research Centre of Bornholm) and John Urry (University of Lancaster) under the Centre of Tourism Research in Denmark. Project description (Framke et al. 2000) can be attained from the participants in the project or from the secretariat of the Centre.

3 This may partly be a consequence of the 'involvement' of declared figurational sociologists in the canonization of the basic assumptions of the theory of civilization (Elias 1989a, 1989b), and their ambition to display the validity of Elias' work as a broader framework for understanding social phenomena (Smith 2000)

4 This trend have gained new attention within thedanish tourist industry after a marketing analysis in Germany (prime market for the danish tourist industry), had exposed that the "place image" of Denmark was associated with boring landscapes, meaningless culture, rude/racist people and bad weather (Turismens UdviklingsCenter 2000). Responding to this and a similar cooling in the interest of other scandinavian tourists in Denmark Jørgen Grønkjær - (chairman of the association of tourist managers in Denmark) stated in the radio that the primary challenge to the danish tourst business was to provide customers with a more "exotic" experience.

5 My colleague in the Destination-project at the Centre of Tourism Research in Denmark Jonas Larsen has coined the term “tourist glance” to capture the difference between the immobile tourist gaze and the restless “glance” of the mobile tourists discussed here.

6 The first pilot studies aimed at identifying these tourism tactics were conducted summer season 2000, primary by the collection of formalized diaries distributed among tourists in holiday houses and centres at the western coastline of northern Jutland. 70 diaries were returned and these are now being analyzed. This sample will be followed by a distribution of diaries in the rather different tourist region Roskilde and Bornholm during pre-season 2001. Further research will focus on how these tactics are employed in relation to encounters with tourism producers through case-studies of local tourist attractions.

Part 2.
Transport policy and the concept of mobility. A Workshop

Introduction

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Transport policy in Denmark is characterised by two competing discourses, one focusing on the environmental necessity, the other having the necessity of mobility as its nucleus.

The environmental necessity takes its starting point in an under-standing of sustainable development, where Nature sets absolute and incontestable demands to Society's activities.

The necessity of mobility focuses on the statement that production and reproduction depend on a high level of mobility. Reduction of mobility will inevitably be accompanied by loss of welfare because production decrease and the freedom of the individuals will be re-duced.

In some areas the two discourses can unite, e.g. in demands for improvement of air quality or traffic safety, that is, whenever a technological solution can be found. On other fields the two discourses are irreconcilable e.g. where environmental improvements mean reduced mobility or where increased mobility imply heavier environmental loads.

The clash between the two discourses has had the consequence that the policy aimed at improving the environment by reducing passenger and freight transport is in crisis. The Danish government has explicitly given up its policy of reducing carbon dioxide emissions from traffic with the result that traffic will account for one third of total Danish carbon dioxide emissions at the Kyoto-deadline around 2010. If traffic at that point in time still continues its present growth rates the pressure from traffic on the other sectors of society to reduce greenhouse gas emissions will be immense - unless a radical breakthrough in car technology has seen the light till then.

Therefore, there is a real need for stopping the 'trench warfare' between the two discourses, and establish a common understanding that a strategy for reduction of traffic is necessary and that not every need for mobility necessarily has to be met.

Thus, a better understanding of mobility and need for mobility is required, and this was the reason why a workshop was planned at the Transport meeting in Aalborg in august 2000, taking up this discussion and trying to reveal what we know now and where new knowledge is needed.

At this opportunity a handful of contributors were invited to give presentations of their different approaches to the question, how can social science and transport research contribute to establishing a new dialogue, making it possible to actually do something about traffic and to discuss their points of view with the audience to the workshop - more than hundred researchers, planners, civil servants and consultants from the field of transport.
In the following, the written versions of these presentations are printed. Henrik Gudmundsson gives an analytical approach to the concept of mobility and its potential for understanding the present development. Malene Freudendal-Pedersen, Kenneth Roslind Hansen and Katrine Hartmann-Petersen present the result of a project, where they have studied the ambivalence between knowledge of environmental impacts of private car transportation and actual trans-

port practices. Jeppe Læssøe discusses, how new transport practices have to be introduced not only by using brute force (e.g. economic regulations) but has to be combined with cultural learning processes making it possible to find and experience new solutions to mobility problems.

The approach of Arne Kvist Rønnest and Tonny Lacomble Nielsen is of quite another type. They have studied how different social scientific disciplines explain traffic growth - what are the factors used as explanatory variables. Finally Lise Drewes Nielsen and Per Homann Jespersen state some reasons for the impotence of transport policy, connecting them to general traits of late modernity and pointing at germs of alternative thinking and acting.

In the discussions throughout the workshop some of the issues discussed were

Is the concept of mobility the right one to use? Mobility is not the problem, traffic is, it was claimed by one participant. We could increase mobility and at the same time reduce environmental effects of traffic. Another argued, that accessibility was a more useful term in practice. What we want to give people is better access to different activities. Against this it was reasoned that apparently the possibilities given by the means of mobility is the limit to what people want to access - with a car more distant schools, more faraway friends and remoter leisure activities.

All the presentations at the work-shop were about the passenger car. But a lot of people do not have access to a car - children, elderly, poor, households who have chosen not to have a car. We ought to stress the mobility of the non-car owners much more. Every time someone buys a car to increase his or hers own mobility, the mobility of others - and especially of those without a car - is reduced.

What is the main issue of transport policy and planning? The objects of transport planning are multiple, carbon dioxide, congestion, mobility, households without cars, pollution. The priority of these objects is not at all clear, neither in the transport policy debate nor in the discussion at the workshop. We as professionals should at least state more clearly what is the foundation of our analyses and proposals.

Mobility as a Concept and an Object of Regulation

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Mobility have come into the focus of policy making, but the concept has several different meanings, and it not straightforward to make it operational. First of all mobility is not identical to physical transport, it is a concept related also to the potential to move; a potential people may have, want or be expected to possess. Analysis and regulation of mobility are therefore issues that are much broader than simply the control of traffic flows.

Setting out from my recent dissertation (Gudmundsson 2000) this brief paper will unfold some theoretical distinctions in the concept of mobility. On the basis the paper will proceed to raise some questions about the possible implications for analysis and regulation. Key in the paper is:

1) What is mobility, and what are its driving forces?
2) Can mobility be measured and is it possible to define goals for it?
3) Are the environmental impacts from mobility the same as for transport?
4) What are the human welfare implications of mobility?
5) What are the regulatory implications - is there a need for a 'mobility policy'?

1) What is mobility, and what are its driving forces?
In descriptive terms I define mobility as the unity of manifest and potential transport activity. The concept can be illustrated with a simple figure, depicting the mobility a person can have. The figure will be expended in two steps.

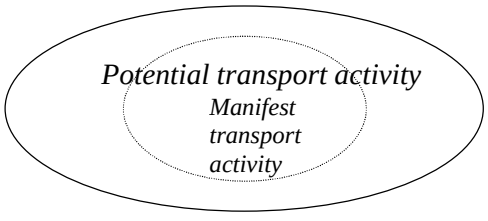


Figure 1. the manifest and the potential transport

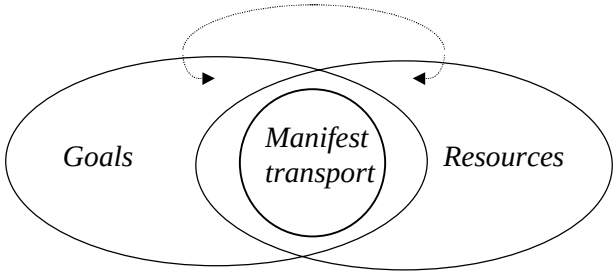


Figure 2. Transport, goals and Ressources

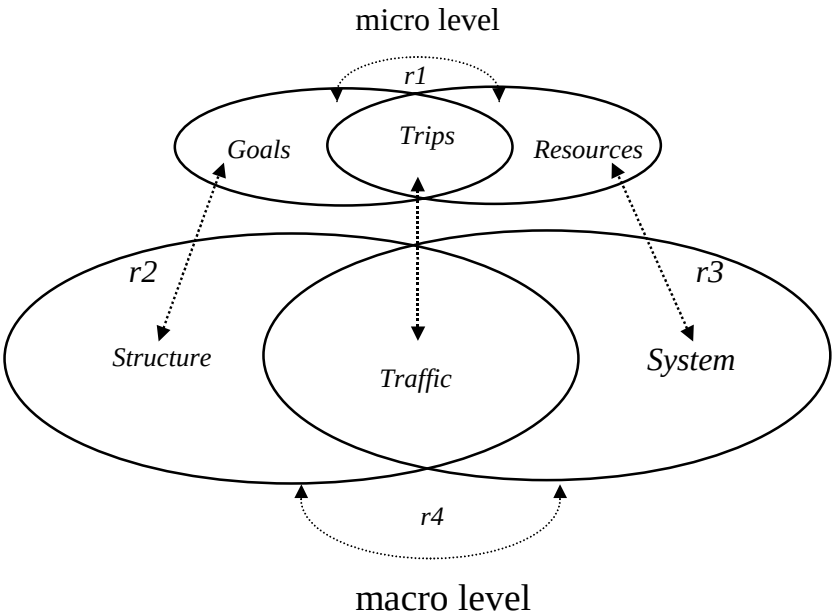
The actual (manifest) transport are trips that people make, while the potential movement consists of trips they could make, as enabled by the resources of mobility they command Figure 1. Resources of mobility include access to means of transport, but also access to other prerequisites such as energy sources and infrastructure; as well as peoples own ability to move around.

This double conception is in agreement with a definition by Peter Jones (1987), while it departs from certain other definitions, which alone sees mobility as the potential to move (e.g. Berge et al 1992 and Kronbak 1997), and not actual movement. One advantage of the broader concept encompassing both aspects is that the both can be described in the same terms, such as the speed, distance or quality of a certain movement (actual or potential). There is thus a close link between the two aspects. An interesting question is what makes potential transport become manifest (actual).
The driving forces behind mobility can be viewed at micro- as well as macro level.

At micro level transport is released by some interplay between the resources and the goals of the individual. The goals represent the needs, preferences and activities of the individual, which has some level of spatial separation. This separation motivates the individual to activate the resources (and move). On the other hand the resources condition the physical accessibility to the spatially anchored goals. Accessibility is thus a relation between goals and resources. Time and money enable and constrain the relation. This may be illustrated by expanding Figure 2.

The same units may be found at macro (society) level Figure 3. In this framework, the goals of the individuals are a part of the spatial structure, while the resources of the individual are parts of the transport system. The mobility of the individual (as a potential) is thus conditioned by its access to structure and system respectively. The Figure 3 shows four different relations (r1-r4), that together mark up the mobility of the individual. The immediate driving forces of mobility may thus be seen as social and economic forces activating and restraining those sets of relations: Forces that determine the goals the individual can have access to (r2); the system resources they can control (r3); and the forces driving individuals to move (conceived at an individual level as r1, and at macro level as r4).

Figure 3. Transport in a micro-macro level perspective.



The driving forces especially at societal level are extremely complex and interwoven. At the most general level it can be seen as an embedded interplay between economic, social, spatial and technical forces, that each condition the way the others affect system and structure (and individual action). Everything depends on the space and time perspective adopted, as the relations represent feedbacks. It is not likely the a comprehensive universal explanatory model for the driving forces of mobility can be established.

Can mobility be measured and can policy objectives be defined for it?

Mobility as actual, manifest transport can be measured physically as trips, distances, etc. Also measurable are some qualitative aspects of movement such as its meaning and value for the individual in terms such as quality, comfort, purpose etc.

Mobility as potential transport can not be directly measured. It is the product of interrelations between various system components - Access to car is for instance one important parameter contributing to potential transport, but the contribution from this parameter depend on other system and resource elements, including the density and capacity of road infrastructure, congestion levels, fuel availability, etc. If real time data for the relevant parameters are available potential mobility may be calculated in terms such as the distance an individual could travel during a certain period, or the maximum speed obtainable given the available resources and system conditions. However such information may be of little meaning, because the relevance of distance and speed would be relative to the goals the could be accessed within the particular timeframe.

Still the quality of calculated potential mobility (comfort, risk, environmental effects etc.) could be relevant to assess in its own right. One possible indicator could thus be the potential distance traveled in a certain classes of comfort or risk, given the different transport resource and system access of various groups of individuals. Objectives for mobility would thus be linked to the quality of the movement, whereas accessibility objectives would relate to the type or number of goal locations they can be reaches, where movement is one among other means.

Does mobility affect the environment in the same way as transport?

A potential does not consume or pollute. Maintaining that mobility consists of potential and actual transport the answer to this question would appear to be 'yes'. But the potential is conditioned by mobility resources and transport system availability. This means that the environmental impact of mobility is also a function of production and disposal of system components. In other words a life cycle perspective on transport systems. One interesting parameter could be the combined environmental intensity of mobility. This would mean the ratio between the quality of the potential transport yield and the resulting (or rather implied) environmental pressure.

Another perspective would be to consider mobility in a wider lifestyle perspective. In such a perspective the relevant environmental impact would not be limited to the impact from transportation systems, but the aggregate impact form a certain lifestyle supportable by a given mobility pattern. The relevant measure would thus be the environmental intensity (including transport impact) of various lifestyle patterns, that is contingent upon a certain mobility pattern, and not just the transport impact itself.

What are the welfare implications of the broader mobility concept?

This is a big issue with at least five different aspects, which can only just be mentioned here. a) The quantity of potential movement co-determine the access to arenas of activity; this access has positive welfare implications b) The quality aspects of mobility (comfort, safety) also affect welfare regardless of accessibility issues. c) In a broader perspective mobility enables the disembedding of social functions (Giddens 1990) and the individual gets a choice among various activity arenas and lifestyles - in effect a 'liberation of the individual', a positive impact. d) Increased mobility does also enable the 'emptying out' of place- based

communities and identities (Castells 1997, 1977. See also Nyiri 1999); - in effect the 'isolation of the individuals', a negative one. e) Mobility has negative external effects that may not be factored in. Some of the positive effects are immediate and obvious; the negative ones are more indirect or hidden.

What are the policy implications- do we need a mobility policy?

A policy of mobility would be about more then controlling traffic, it would be about controlling the potential. This appears to require some coordination of mobility resource elements (means of transport, infrastructure, energy, and individual abilities and restrictions). It is easy to imagine that imbalances and bottlenecks could occur in either one element. If a car can move 250 km/h and the freeway is broad and straight, then it is hard to restrict the manifestation of potential. The question would be if the potential can be controlled at all.

The quantitative aspects of mobility are really about increasing access. Therefore the amount of mobility should rather be seen as part of an overall accessibility policy. How to obtain the largest possible accessibility with the lowest possible cost, including environmental and social costs. However it would not be easy to pursue a policy goal like this, as it does presume a certain level of predictability in what goals the individuals have in demand. The qualitative aspects of mobility may be seen as a separate policy area, mobility policy proper. Best available mobility as the real goal of mobility policy, rather than as much of it as possible?

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Mobility in Everyday Life- do we talk enough about it?

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Abstract

Over the past decade, a growing interest has developed in unearthing the sociological mechanisms that underlie the way in which we choose to transport ourselves. As an indication of this new awareness, the word "transport" is often replaced by "mobility". Mobility, as we define it, is a concept which covers not only basic transportation from point A to B, but also includes the influential factors which have given rise to the expanding use of the car as preferred method of transportation. Research into the sociology of transportation should not be viewed as an isolated topic, or as an attempt to replace research in other areas, such as commercial and developmental planning. Instead, it should be interpreted as an attempt to enrich our understanding of mobility, leading to greater opportunities for effective regulation of vehicle use.

Results in this paper are built upon both our own empirical and theoretical work, as well as the results of another project, entitled "Nye veje frem[1] "- A Project on Family, Energy and Transportation". The project, which received support from the government's traffic and environmental fund, was a cooperative effort between the Danish Society for Preservation of the Environment, the Ministry of Transport and the Municipality of Horsens.

Analysis Results

One of the reasons for the observed increase in the demand for mobility, understood as auto mobility, is that mobility itself has become an essential part of nearly all lifestyles (Giddens 1996). As today's lifestyles include elements scattered over large geographical areas, mobility provides the means to achieve the modern lifestyle, the nature of lifestyles has been reflected upon much more than the indispensable role of mobility in achieving these lifestyles. This is due to the late-modern individual's preoccupation with exercising choice of lifestyle to create an identity (Giddens 1996). Important in this context is that mobility is becoming the vital link between these lifestyle elements, making it possible to exclude some and include others, and to bridge the distances between lifestiles (Urry 1999).

Closely related to choice of lifestyle is the organization of everyday life. Here, the family assumes a central role, in that it is largely the nature of the family's everyday life that determines each of the individual members' transportation habits. Many factors, including the home, work place, day care and school location, not to mention recreational and social activities, all have influence on the family's need for mobility. Unique for the late modern individual is that fitting in all of the above elements and activities are, in fact, possible (Giddens 1996; Beck 1996). Organising and planning everyday life has thus come to generate increased mobility, as we pack more and more into it. Our own empirical material clearly shows that the co-ordination off of all items on a family's daily itinerary is feasible only with the quick and

flexible transport provided by the car. *One could perhaps conclude that the act of reaching all of the components that define our everyday life is becoming more important than the components themselves* (Urry 1999). Another influential factor in the development of mobility-dependent lifestyles is the increased tendency to seek out new groups and activities to participate in, part a consequence of the gradually fading importance of tradition (Giddens 1996). This self-initiative is one of the characteristics that define individualization, as we understand it (Giddens 1996; Beck 1997). No longer wishing to be restrained by traditional social relationships and activities, the modern individual has developed a need to seek out these new and different social interactions. In contrast to traditional methods, these new groups are selected in spite of longer distances, rather than on the basis of physical proximity[2] alone.

Empirical Approach

We have chosen to focus on the project, "Nye veje frem", which was carried out in the Municipality of Horsens in 1996 and 1997. The aim of the project was to explore the ways in which informative, opinion-challenging material could help motivate families to make ecologically wiser choices regarding transportation. This particular approach was chosen partly in order to examine which methods were most effective in influencing families to reflect daily upon their own transport, and partly to determine whether this caused discussion in the sub political systems[3] (Beck 1997) which the family belonged to. Everyday life is common to all, yet no two people share the same one (Bech-Jørgensen 1994). Everyday life is the setting in which all events take place and within which the individual can perhaps question the requirement for such a high degree of mobility. In working with the developing need of mobility in everyday life, we consider it necessary to concentrate on the perceptions and opinions that the individual expresses during interviewing. Our intent is to investigate whether or not mobility is a legitimate topic for discussion both within, as well as outside the family. Did the project in Horsens lead to an increased consideration of and reflection on transportation choices and did people, as a result, become more conscious of these choices and their consequences? The inclusion of this project should not be seen as an evaluation of the project, but rather, as a means by which we could obtain insight into people's everyday routine and the factors which influence the creation of personal identity and attitude.

Empirical Results

One conclusion based on our qualitative interviews is that there has been an activation of discourse of mobility and its consequences. This has produced both a direct and an indirect effect. The direct effect of the Horsens project was a general improvement in the planning of short trips by car. This caused, in turn, a significant reduction in the unnecessary running of numerous short errands. The indirect effect, which is the primary focus of the project, is the family's growing tendency to discuss mobility, an effect we were able to identify in families three to four years after the conclusion of the project in Horsens. The latter effect appears to be limited to the family, as the need for mobility does not yet seem to be a subject of conversation within the subsystems. This lack of discussion is partly due to the accepted use of structural explanations as an alibi for dependence on mobility. "Structural explanations" (Larsen 1998) is a general term we use to describe the types of explanations we often encountered during the qualitative interviews. These are the arguments people commonly use to legitimate their actions and decisions. Structural explanations are viewed and expressed as universal truths, agreed upon by all. The social practice of the individual produces and reproduces these structural explanations, since it contributes to the maintains of society's need for high mobility. A typical structural explanation could be the following: " when one has kids, one needs a car". In their use of these structural explanations, the individual never uses the word "I", but instead refers to "a person" or "one".

Everyday life is filled with a series of competing discourses, all of which have great significance for the increasing need for mobility. Structural explanations are the outcome of these diverse discourses. A necessary first step in bringing about serious discussion on the topic of mobility or motivating people to re-evaluate their need for it, is the challenging of these structural explanations. The families with whom we spoke provided a clear example of the socially accepted practice of rationalizing their decisions, even those with negative consequences, as long as they supported one of the more important discourses.

As a result, the need for mobility is prioritised much higher than consideration for the environment. This, combined with the general acceptance of structural explanations as truth, explains why the growing need for mobility has not been questioned or regarded as a problem. The challenge, of great significance for the future, is therefore to investigate how this "truths" is social constructed and how the may eventually be deconstructed and emptied of their legitimising content.

Conclusions

The methodical, theoretical and empirical conclusions of the project indicate that the coordination of efforts in the area of transportation regulation would be most effective if designed to target the issue of vehicle use as a whole. As demonstrated by our analysis, viewing the need for mobility along with its associated environmental consequences as a single, complex problem produces a number of desirable synergistic effects. Building upon these conclusions, we have outlined a few areas where we feel efforts could be further developed and improved.

Method: Interviewing individuals about their transportation habits alone is insufficient for obtaining a clear impression of mobility and its importance. A more in-depth inquiry on the subject of everyday life is required in order to fully comprehend the setting in which mobility plays a central role. The qualitative interviews as well as the abductive research method are decisive for the conclusions, results and perspectives we can present.

Theory: The nature of mobility is discovered only by bearing its complexity in mind. Theoretical viewpoints and explanations are invaluable tools to aid in the interpretation of the arguments presented. Deconstruction of a series of commonly used structural explanations is an essential step towards their invalidation.

Empiric base: Mobility should be viewed primarily within its everyday context. The subject of mobility and the environment has inspired numerous contradicting opinions. Models for dealing with this problem should be designed so that a suitable solution is suggested for each type of mobility-dependent situation. Before any improvements can be made, the continued fuelling of this need for mobility, at the expense of the environment, must become socially unacceptable. Individuals themselves must realize and reflect upon the paradoxes that, at times, link their situation with the choices they make.

Education: The characteristics that define mobility are complex and all but clearly understood. It is everyone's responsibility to ensure that communication about mobility and its effect on the environment is as detailed and informative as possible. An especially heavy responsibility rests upon research and the media, the participation of the media thus having the potential to show the importance of communication for the general public's understanding of the problem.

Politics: Mobility is not restricted to one single political sector. As it is widely recognised, mobility covers a broad range of the political spectrum, and as a consequence, the solutions to mobility-related problems will be a product of co-operation between several political sectors. Only in this approach will mobility be spoken of, and dealt with, as a problem that we are all a part of. Each individual should, in turn, be forced to choose between being a part of the environmental problem or a part of its solution.

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Note

1 New ways ahead

2 Neighbours and others who live within the surrounding area.

3 The groups and situations the individual encounters during a typical day, such as: at work, with friends, in the family and in connection with children's school etc.

The Need for Mobility

Cultural learning processes and sustainability

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Preface

This text presents a summary of my contribution to an interdisciplinary research project on "Everyday life - and change in transport behaviour". In this project, which was done from 1996 to 1999, we were trying to rethink the strategies for a sustainable transport development by means of contributions from three different positions: a social constructivistic, a social structural and a social psychological. My part was to take care of the social psychological approach. Social psychology is conceived differently, so let me add that in my version it is a rather comprehensive discipline because its subject is the relationships between the individual and the society. For that reason I have not only drawed on explicitely social psychological material. What I have done should rather be regarded as a social psychological analyses based on knowledge derived from different psycholocial disciplines as well as from sociological and antropological contributions to the knowledge about modern living and cultural dynamics relevant for an analysis of the need for mobility.

In the following summary you will not find any references. For those of you who would like to have them or to read the full text english version of my analysis, please contact me[1].

Introduction

The need for mobility is a key concept, though also a relatively sparsely reflected concept in transportation and environmental research. Indeed, what kind of entity is the need for mobility, and what are its implications for political strategies and efforts towards a sustainable development pathway? In this contribution investigating the issue does not consider needs as irrefutable facts, but rather as circumstances subject to historical change. Therefore, the need for mobility is viewed in the context of modern lifestyle developments. Implications are, on the one hand, that changes in mobility impact on lifestyle developments. But then lifestyle developments are subject to a number of circumstances; and developments brought about by such circumstances, on the other hand, also affect the need for mobility. The present study on the need for mobility investigates several of the dynamics that influence the need for mobility, by nurturing it, perpetuating it, and/or disputing it. It does not propose to offer a full picture of such dynamics, but much rather to provide a conceptual framework. Moreover, in continuation hereof, it also intended to demonstrate that an analysis of the need for mobility based on that conceptual framework will necessarily cause us to re-think political strategies and planning as the organisation of new cultural learning processes.

The strategic perspective

Faced with the increasing environmental impacts of motoring, environmentalists, transportation researchers and policy-makers have been displaying what practically amounted to a conditioned

reflex: by increasing their calls for regulatory measures - e.g. by demanding that petrol prices be raised to some 17-20 DKK a litre.

But then, is this merely a question of politicians having to get their act together and impose consistent environmental regulatory measures for the area? What about the public opinion? Will the environmental awareness of citizens enable them put up with such a policy without misgivings? Some 75% of Danish households own a car. Most families have organised their everyday lives accordingly, so in their day-to-day experience the car is a comfortable and necessary amenity. Certainly, large segments of the population sympathise with the environmental cause and most people favour an improvement of public transportation. Nevertheless, their practical everyday-anchoring to a lifestyle with a car would arouse fears (and justifiably so) that a sudden and dramatic raise in petrol prices would have heavy impacts on their day-to-day lives, which would give rise to a political outcry.

It is a proven fact that there is no such thing as a plain agreement between (on the one hand) people's environmental knowledge and attitudes and (on the other hand) their actual behaviour. The general trend is for time saved on transportation to be invested in increased mobility - much rather than in a more relaxed pace at home - in order to access more distant destinations, or get to go more places. That seems to indicate that we have needs driving us in other directions than where our environmental conscience would take us - that, as in many other avenues of life - we harbour an *ambivalent dynamic drive* rather than a single and unambivalent mindset.

The fact that sustainable transportation fails to make sufficient progress - that regulation has failed so far - does not necessarily imply that a different strategy should be adopted, with rather more militant and unyielding forms of environmental regulation. That would risk activating adverse sentiments, and thus backfire. The alternative is not necessarily going to the opposite extreme, allowing transportation policies - in a populist fashion - to satisfy the immediate wishes and whims of the populace. The message of the present contribution is that our transportation and environmental policies need to identify, and relate to, the inherent dynamics of needs and dilemmas that influence the practice of the population, and against that background, to develop more *insightful policies*, promoting solutions that will also respond to such needs and dilemmas.

In figurative terms the difference between both types of political strategies can be likened to the difference between using power gribs or precision gribs when solving a problem. The 'power gribs' approach can be illustrated by a jammed door, which we try to kick in. The forces keeping that door closed are not understood. We simply try to trump them with our own force. (One example is the call for consistent implementation of top-down environmental regulation.) Conversely, the 'precision gribs' approach would be an insightful solution - an attempt to pry open the lock mechanism - meaning an intervention meant to release whatever forces are keeping the door closed, in order to achieve the opposite effect, that the door opens.

Such efforts are not successful each time. The problem of the Gordian knot was not solved until Alexander the Great cut it using brute force. It might be that similar forceful intervention or events are needed to curb the continuing growth in transportation. Yet, while the metaphor of the Gordian knot represents alternative actions as an either-or, I would rather advocate a both-and strategy, - a strategy aimed at promoting *an interplay of devices*. The intelligent aspect of the solution lies with *the synergism* between democratic enlightenment and political intervention; actively exposing the subjective needs and dynamics of individual citizens and including them in the design of regulatory policies targeting economic and structural conditions - which in turn will enable changes in lifestyle and (consecutive) changes in experience and needs.

Creating a conceptual framework

The concept of "need" is used frequently and in a vast number of different contexts. This goes for everyday language and in social and humanities research as well. We therefore need to point out that the concept of need will be used as a historical concept, denoting the *motives for action - conscious and unconscious alike - that are currently being formed by each individual's life story - i.e. by the experience gained from his or her active practice under the given social and material circumstances - and are influenced by, and thus finally made manifest only in the specific situation.*

Viewing the need for transportation in accordance with this theory helps to bridge a frequently applied dualism distinguishing between external (social) and internal (emotional) explanations. On the one hand people's transportation behaviour is not one-sidedly seen as the product of external pressure. Several studies have shown that less external pressure does not cause us to transport ourselves less. Obviously, there is also an inner drive. On the other hand that inner drive is not seen as a psychological justification in its own right, since in terms of emotional dynamics it is understood as a phenomenon evolving in practical life - in an active interplay with the outside world, and therefore under its continual influence.

With this conception of the need for mobility as our starting point, three points are made, with bearings on the further analysis:

- Needs of historic/social origin are real and should be taken *seriously*.
- We have the capacity of *transforming our own needs*.
- We must learn about our needs by studying our *lifestyle and the changes to our lifestyle* - i.e. the total range of our activities.

Similar to the concept of need, the concept of lifestyle is being used in several ways. It is often used to describe behavioural patterns, or to classify the population according to different lifestyle types. When applied to such purposes, the lifestyle-concept will describe and explain 'lifestyle' as something relatively stable. However, in relation to the key issues of the present study, the disadvantage of such an approach is that it cannot account for how lifestyles change, and why they do so. As for the issue of what develops our need for mobility, and what are its potentials for change, the key point is to comprehend *the inherent dynamics of our behavioural patterns*: What created our need for mobility in the first place, what perpetuates it, and what propelling forces towards change exist? In terms of lifestyle description, the main focus is not on individual values and attitudes, OR on people's nature-related and socio-structural life opportunities, OR on their social interactions with others, and the social identification taking place in that context. Much rather should lifestyle be viewed as the sluggish/changeable organisation of each individual's course of life that emerges from the interplay between these dynamic forces. *Thus, the lifestyle concept is being used to identify the specific interplay of living opportunities (nature-related & social), social relations and subjective predispositions, as expressed by the way an individual will organise his or her practices, and by the associated patterns of meaning.*

A major point when discussing the concept of need was that lifestyle changes impact upon the need for mobility. Further to the above specification of how the lifestyle concept is being used, another major point needs to be made, namely that changes of lifestyle take place in a reciprocal relation. Lifestyle is the mediator between society and individual. Socio-cultural circumstances influence lifestyle, which in turn impacts upon the psychological constitution of the individual - which conversely also has repercussions on lifestyle which, finally, are reflected in socio-cultural relationships. Yet another point should be added to this definition of lifestyle in a dynamic cross field, namely that lifestyle, understood as a set of more or less organised practices, has its own intrinsic dynamics. It holds forces *inhibiting* its own transfor-

mation, and forces *promoting* transformation. Which is why, when analysing lifestyle and the need for mobility, we need to keep in mind both man's need for stability and the drive for transformation.

The conceptual discussion thus unfolds two dimensions that could structure an analysis of the need for mobility:

> *The first dimension* concerns the relations between social and subjective reality - with lifestyle as the central mediating category. Although the need for mobility belongs in the subjective reality, its transformation should be understood as the result of dynamic interplay between social reality, subjective reality, and lifestyle.
> *The second dimension* concerns the direction of such influences: Since a lifestyle can encompass both a sluggish/stabilising dynamic and a striving/-transformational dynamic, we also need to consider their dynamic effects on the need for mobility as different in terms of character and direction. Analytically we need to investigate whatever contributes to increasing the need for mobility, what serves to *perpetuate* it, and what contributes to *disputing and potentially reducing* it.

Analysis of the need for mobility

A summary over a few pages will not provide anything like a reasonable presentation of the dynamics influencing the mobility needs of modern individuals. Hopefully, it will convey an impression of the scope of such dynamics, since they are made the starting point of the final discussion, concerning the possible implications of this conceptual framework in terms of a political strategy and planning for a sustainable development in transportation.

Dynamics that promote the need for mobility
Mobility is about moving in time and space; and precisely the changing time-space relationship is an essential feature in the cultural modernisation process which our societies, with increasing intensity, have undergone since the onset of industrialisation in the early 19th century. In pre-modern cultures time and space are practically always intimately connected entities, and 'space' equals 'place' (locality). Following the technical evolution in transportation and communications, there was a disembedding of existing social systems (the term used by Anthony Giddens, English sociologist). The social organisation was gradually shifted from 'gemeinschaft' towards 'gesellschaft'. The shift created new opportunities of living - brought about by a relief from the bonds of tradition and collectivity, and also caused by an enforced detachment from former ways of life. Both changes fuelled the need for mobility. The local place lost ground as the setting of people's basic needs for 'social responsivity', at the same time, the whole world opened up, giving access to entirely new scopes for self-expression.

Gradually, *the search for opportunities* has become a necessity, and also attractive to the contemporary individual - making mobility a sine qua non. At the same time mobility has also become the mediating factor in the dilemma of the modern individual: our need for individual self-affirmation, and the experienced restraints, structurally and resource-wise. The more mobile we are - the faster and longer we can move - the more we have time to do. At the lifestyle level we have turned our everyday lives into an organised attempt to optimise the timing of numerous daily chores. And the car has become a vital instrument in our attempt to minimise time consumption in order to achieve more. It allows us to combine the qualities of rural and urban life. And it also gives us a chance to escape the crowded and understimulated humdrum. Finally we need to mention the increasing reflectivity and dissemination of information, since the need for mobility also thrives on the individual's expanding cognitive horizon, and on the socio-normative benefits to be derived from high mobility and wide travels into the expanding sphere of cognitive mobility.

What perpetuates the need for mobility?
The dynamics that fuel the need for mobility are among the factors impeding behavioural changes that could reduce the need for transportation. However, other sluggish forces are at play to make changes difficult. The vast majority of everyday transport actions are of a quite limited nature, since they are linked up with previous structural choices. Others are associated with the pleasure-related needs that we have developed. As already mentioned the car permits a compressed timing of our everyday lives - including our structure- and pleasure-related activities, meaning that they also become barriers to reduced driving. In other words, the car has become the 'putty' that holds the different everyday projects together. Moreover, driving cars is a practice that fills in and generates needs: It constitutes the 'interspacing' between activities, allowing time for us to get our plans together. It ingeniously combines mobility and privacy. Not only does it provide access to new opportunities and experience; it also allows for our desire for stability - the need for a secure and transparent framework. Seclusion and security are also combined with the enjoyment of activity, action and excitement. Environmental awareness thus gives rise to an emotional ambivalence that makes it easier to repress our abstract intentions than to change our pleasure-driven everyday behaviour. What is more, since the individual has come a lot more in focus, the social identification process is becoming increasingly important when it comes to maintaining one's self-esteem. The car and our mobility potentials have assumed significant symbolic signalling functions in this regard: Low mobility implies that 'you need help' and cannot do a number of things that are appreciated socially. Finally, the need for mobility is also being perpetuated by social dilemmas; reflections on the expediency of one's own behaviour as compared to that of other citizens and social institutions.

What challenges the need for mobility?
In historical terms, the emergence of modernity and mobility are so closely interwoven that attempts to reduce the need for mobility would seem like a wrestling with the very essence of modernity. And yet - finally change, and not stability is the hallmark of modernity. So why indeed shouldn't modernity turn the dynamic of change on itself? According to Ulrik Beck, German sociologist, precisely that is about to happen. Modern social development is becoming increasingly reflective; expanding in new fields and focusing on the allocation of progress are no longer the main issues; instead there is a growing focus on the risks brought on ourselves, and on their management. A critical dismissal of modernity does not make sense. In its present reflective phase, political strategy and planning need to identify forces that can be made the tools for solving some of the problems it has created. The very reflection of risks implies that mobility, too, does not unambiguously stand out as a benefit, but as an ambivalence. That awareness has a dynamic of its own which should not be suppressed, so it is vital that attractive, alternative action potentials are at hand. A dynamic which spurs our interest in alternatives is the realisation that cars are not just the vehicles of liberation; they also create new dependence. Our quest for an ever-increasing array of opportunities for self-fulfilment has also bred its own opposite pole, in the form of stress and a sense of qualities lost in our everyday lives. Our days are packed more and more effectively in order to make time for everything; yet, time and again, we find there is a whole lot we cannot fit in anyway; things we merely do 'half-heartedly', or have to give up altogether. From a modern self-realisation perspective this is felt to be less than satisfying. So today, a little more leisure and quality of life at a more sedate pace are often described as something worthwhile. Time-pioneers pursuing such a vision are not anti-moderns; in terms of their very motive they are modern. They are thus concerned with the dynamics of time sensibilisation, subject centring, more reflectivity, more autonomy, and a quest for positions offering a larger scope for self-fulfilment, experimentation and excitement.

A different trend towards a re-vitalisation of local environments is evident. Ideologically speaking the trend embodies profoundly antimodern attitudes; yet, it could also facilitate the transformation of modern, local communities. Individualisation does not necessarily imply selfishness and moral decay; it can also spur reactions against impersonal systems, ethical reflection and solidarity between individuals, as it is found in social movements and voluntary

initiatives in civil society. Nor is solitude attractive, so in that sense, too, trends towards individualisation engender a need for belonging, though in other ways than before. So policies giving priority to local communities, including support for experiments, should have some potential in terms of reducing the need for mobility.

Present developments in information technology are influencing our lifestyle development. They may involve an extension of our cognitive 'mobility sphere', and thus fuel our need for mobility. However, we should be well advised to merely project the trends known from the evolution of communication technologies in the past. With the advent of 'cyberspace' the issue is no longer a simple one, of faster communication across longer distances, but much rather one of communication and experience in 'a space without a place'. This situation provides new opportunities for social interaction and intensity, while also inserting a protective filter that allows for and enlarges our fear of attachment. Since it also reduces time for other activities, it could imply that our need for mobility would be allowed to develop further, while actually reducing our material transportation requirements.

Policy-making and planning for organised cultural learning processes

In conclusion, the issue of a sustainable transportation strategy is once more taken up. Traditional tools are not dismissed in terms of relevance, but because of their conceptual framework. The focus is shifted - from the well-known perspective centred around transportation and environment, in which solutions are advanced merely based on studies of transportation and environmental problems - and towards the inherent socio-cultural dynamics of the causes, conditions and resources underlying the problems. Yet, a mere dynamic analysis would be incomplete. It does not suffice for us to know the forces at play. That alone does not provide answer the crucial question: How to deal with such forces in policy-making and planning? That question cannot be answered, unless we 1) have a theory on how to promote socio-cultural transformation processes, and 2) relate to the democracy issue.

As for notions of how to promote transformation processes, it is felt that we cannot just try to 'dam up the need for mobility'; i.e. use financial and normative regulations as barriers in order to keep the consequences of the mobility need in check. The idea was to investigate, if perhaps the familiar strategy could be supplemented by another that would virtually 'puncture' the very need for mobility, reduce it, lessen our demands for more transport. The introduction hinted the difference between both strategies, by juxtaposing the 'power gribs' and the 'precision gribs' strategy: Instead of trying to suppress existing dynamics, we should try to take heed of them and *apply* them to good use.

Whenever (as in this case) the issue is about supporting the transformation of socio-culturally derived needs and lifestyles, and about learning how to deal with the associated psycho-social dynamics, policy-makers and planners could find much useful inspiration in the learning theories of pedagogical philosophy and psychology. A few major steps in developing an intelligent strategy are:

- Relating to the potentials of *assimilative learning*. I.e. in order to promote a future development based on existing structures and dynamics. As for the need for mobility, efforts towards its future development in a fictionalised (non-material) form in cyberspace could exemplify the use of this option.
- Relating to the potentials of overcoming problems by *accommodative learning processes*. Accommodative learning processes are about changing subjective premises already formed. That is, something has to be demolished for something new to be constructed. Meaning that the 'need for mobility' issue will not just be shunted over to a harmless track. It needs a total revision.

Thus, accommodative learning processes are of a more radical nature, and therefore more difficult to bring about. They will inevitably provoke resistance, since they endanger the present emotional stability (the need for ontological security), by being the antithesis of current social standards, and by potentially activating social dilemmas. Moreover, the abstract nature of an alternative could also cause lethargy. However, such types of resistance and inertia could be approached and overcome in different ways:

1. By applying the mind to the *'constellation of instruments'*. Cultural transformation processes do not take place as plain cause-and-effect relations. Aggregate influences will determine whether or not we continue a given practice or change it. So, in terms of political strategies, it is vital to avoid applying a pressure full of contradictions, and instead to promote the interplay between multiple efforts - that is, a synergism. Which means that a learning process scenario is not confined to so-called 'pedagogical instruments'; it also comprises financial and normative policies. For instance, changing the need for mobility could involve an approach of combined urban and technology policies to enable local living and make it attractive; a financial policy increasing the cost of transportation; a labour market policy enabling other forms of employment and working, and thus a different everyday life; funding for public campaigns in support of a quality-of-life movement; culture-political support for the fictionalisation of mobility ...

2. By producing an *attractive alternative*. That is, one addressing our yearnings and our frustrations with the present conditions. Where the need for mobility is concerned, our frustration over the pressure of time, and the present interest in modern local communities are both potentials that could drawn upon to promote lifestyles which will both contradict present practices and perhaps make a competitive alternative. A planning effort to make towns more attractive, both socially and in terms of nature, could be another countermove against commuting.

3. By applying the *jiu-jitsu principle*. That is by trying to resolve resistance by applying its own dynamic against it. The dynamics underlying the need for mobility are also about the quest for intimacy, meaning, and intensive response to ourselves. Needs, which would best be accommodated by more possibilities for shaping our local environment, and in a living high-quality social interplay. Thus, if policies and planning were to facilitate such cultural transformation and learning processes, they would have to work by releasing and relieving the dynamics underlying the need for mobility, thus promoting new practices that would totally transform the need for mobility.

4. By promoting *creative, practical experiments*. Human comprehension and learning are optimal, only when we are able to experience by our senses. In order to counteract the abstract nature of possible alternatives, they need to be made available to our senses. If policies support social experiments, the thrill of active creation becomes their ally; moreover, it generates concrete experience that can be made useful for qualifying further development.

5. By providing time and space for *collective processing of experience*. Democratic enlightenment is not about disseminating political opinions and decisions, but about asking the questions, and about catalysing a critical dialogue and a productive collective processing. Supporting alternative life styles won't do. Individual sense-concrete experience needs to be conceptualised and processed in a wider circle, to thus promote the development of knowledge, values and social standards.

6. By adopting a *long-term process horizon*. Cultural learning processes require an entirely different horizon than the time-window of ordinary politico-economical thought. It is vital for the new to always constitute a 'comfortable difference' from the old, meaning that it should not challenge our need for stability, thus blocking the learning process. The learning process should also take place as an organic progression: Starting with the easy and attractive, over public revealing and working on the barriers, and to setting up opportunities for more demanding behavioural changes. From small, well-defined experimental projects, over organising networks and backup institutions, and to larger structure-political changes.

7. By organising the process as *an open, democratic process*. From a learning process viewpoint, politics are not about moral instruction, but about changing our scope of action, in order that we change our practices, gain new experience and thus transform ourselves. That does sound goal rational; however, it will become part of one big, ungovernable complexity that will cause the picture to constantly change, and therefore need frequent revisions and new departures. Meaning that the risks of 'social engineering' are hardly a major problem. However, the very focus on the 'cause' - transportation and environment - could very easily risk to rule and restrict the learning process. There is not just one, but a number of potential ways of solving problems of transportation and environment, and their selection should be determined by our values and goals - and with due considerations for other social issues that would be affected by the solution. To allow for that, the learning process needs to be organised to catalyse a broad democratic debate.

This certainly won't make the process any less protracted. So if we intend to render the need for mobility more sustainable, it is high time to get moving!

Note

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Why is the Traffic Growing?

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There has been a steady growth of private traffic over the last few years, and there is no indication this will change in the coming years. But why is it growing? A study initiated by the Danish Road Directorate has investigated this issue in the report "The Anatomy of Traffic Growth" (2000)

The perspective of continuous growth in Danish road traffic has accentuated the need for improvements of the knowledge about the driving forces of traffic growth. A better understanding of such mechanisms will help to identify and assess the necessary actions to be taken by society in order to cope with the increasing traffic volumes.

The Danish Road Sector Council has decided to investigate this problem further, and therefore the Danish Road Directorate has asked COWI to carry out a project analysing the driving forces of the passenger traffic growth.

The purpose of the project is to establish and justify the factors (determinants) which may be of importance to the growth of passenger traffic in Denmark. Since the purpose of the project is to analyse the causes of passenger traffic growth, focus has been on factors, which have an upward influence on traffic growth.

An interdisciplinary approach, describing the determinants on the basis of four explanatory frameworks, has been chosen. These frameworks have served as inspiration for choosing the determinants and comparisons between the approaches and determinants of the various frameworks has been made.

The analysis has a qualitative approach, and focus has been on providing an overall impression of the possible determinants. Within certain areas there is some knowledge, while in other areas there is only limited knowledge. No new, independent analyses of the determinants have been made in this context. In some areas, therefore, it has only been possible to put forward hypotheses on the determinants' influence on the traffic growth.

The analysis concerns passenger transport and is based on a review of available literature and two workshops in which a number of traffic experts participated.

23 determinants have been identified. These have been classified as economic determinants (8), sociological determinants (5), political-institutional determinants (6) and planning and structures in space (4). Priority has been given to identify the most important determinants within each explanatory framework, and the list should not be considered complete.

For each determinant arguments are presented as to why the determinant influences traffic growth. An evaluation is made of which traffic segment it particularly influences, and to the extent possible an assessment of the individual determinants' importance for traffic growth has been made.

Some of the determinants have not yet been analysed in a Danish context, and therefore only hypotheses are presented. However, an assessment of the need for more knowledge has been given for each individual determinant. Thus the report also constitutes a catalogue of possible research areas, especially within the political-institutional and sociological areas.

Furthermore, the influence of information technology for traffic growth could be of interest. This aspect, however, has not been covered in this report.

The four explanatory frameworks are briefly characterised in the following way:

Under the *economic framework* transport is regarded as a commodity, for which demand increases with the level of economic activity. Transport costs are considered important for traffic growth, as increasing costs entail reduced demand for transport, while declining costs entail increased demand for transport. Demographic and other social-economic determinants are also included in this framework.

The *sociological framework* points at the development and organisation of everyday life as a factor leading to traffic growth. It also points at people' s preferences for mobility and to the fact that these preferences are based on not only functional, but also social and symbolic needs.

As for the *political-institutional framework,* traffic growth is seen as a result of the political decision-making process, economic interests and institutional conditions. The political decisions of importance for traffic growth are seen as results of the impact of social groups with a strong desire to secure mobility as compared to the impact of social groups, which have other targets higher on their agenda.

The spatial planning framework focuses on the fact that the traffic volume is affected by the spatial structures within which people organise their activities. Spatial planning can frame the overall physical structures, whereas the actual localisation of activities depends on the localisation patterns established within these structures. The results of this process may encourage or subdue the mobility needs.

The analysis shows, that determinants for traffic growth are very complex, and that the four explanatory frameworks for traffic growth supplement each other rather than compete with each other.

Compared to a more traditional economic approach, the other explanatory frameworks have contributed by identifying new determinants, which are not in focus within the economic approach.

The sociological framework concerns the relationship between the individuals and the overall social conditions, with respect to the organisation of everyday life, social affinity and fear of social marginalisation (low status, lack of influence and isolation). The determinants under this framework contribute to an understanding of preferences for transport, and seek the social and psychological causes of these preferences. The population's preferences form the basis of the demand for mobility and thus for traffic growth, under the given economic conditions. In this way the sociological framework supplements the economic framework that takes the consumers' preferences for granted.
The political-institutional framework deals with the relation between individuals or organisations with different interests and attitudes to for instance economic growth, mobility and the environment. This framework contributes to an understanding of the forces that influence the conditions and development of the transport sector, such as the development of infrastructure and public transport or the level of taxes and subsidies. Whereas the economic framework

points at determinants such as taxes and subsidies, the political-institutional framework points at the political conditions important for the determination of the tax and subsidy levels in the transport sector.

The spatial planning framework contributes to an understanding of the importance of physical structures for traffic growth. Thus, analyses have shown that the physical planning has an influence on the mobility and transport patterns of the population. This framework is characterised by pointing at determinants with a relatively long time frame as the spatial structures only change slowly.

Summarily the analysis point at the following conclusions:

- Many determinants are apparently rooted in relations that are not directly within the traffic authorities' domain, as the driving forces are found in very different places in the political and economic life - in the EU, other ministries, the municipalities, at political players, commercial interests, etc.

- Rather than de-dramatise the traffic growth seen so far, the study gives rise to the expectation that the traffic growth will continue, as the mobility needs seem to be deeply embedded in modern society and every day life, and that there are both many and strong determinants behind traffic growth;

- The inter-disciplinary approach to identifying determinants have proved valuable, in that it has provided an understanding of the many and different kinds of driving forces behind the traffic growth;

- The study has disclosed a substantial need for knowledge, especially in relation to the political-institutional and the sociological determinants.
  As a reflection of the results of the analysis the following is pointed out:

- *Dissemination*. In the light of the many and strong determinants of traffic growth there seems to be at work, it is worth considering if the problems and challenges of handling the future traffic growth has been communicated sufficiently enough to the public. A broad debate about and public commitment concerning the dilemmas related to traffic growth is likely to be of major importance for the establishment of appropriate solutions in this area.

- *From individual measures to overall regulation*. Because of the many and strong determinants for traffic growth, it would require very strong measures, if e.g. taxes are chosen as the primary means of regulation. The analysis further suggests that such a strategy would presently be very difficult to carry out, because of the political-institutional conditions.

  The analysis points at the use of a more comprehensive effort and regulation in the transport sector, based on a broader understanding of the importance of mobility of society, including the public preferences and habits within the trans port area. There is the possibility of exploring an overall regulation by involving the other policy areas such as health policy, environmental policy, educational policy, cultural policy and labour market policy as well as aspects concerning in formation technology.

- *Cross sectoral regulation*. Since many determinants are rooted in conditions which are not specifically or not at all within the traffic authorities' domain, this leads to a need for integration of transport considerations in other sector areas

and sector policies. Such cross sectoral regulation is known from environmental regulation, where environmental considerations are not only the responsibility of the environmental authorities, but a matter of broad public interest, which other authorities must consider in their policies.

See the report (in Danish) on the Danish Road Directorate's homepage at: www.vejdirektoratet.dk

Mobility and Transport Policy

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With this paper we want to contribute with some understandings, which can renew the dialogue between the two parties dominating the debate on transport policy. On one side the proponents of the environmental necessity to reduce car-traffic, on the other the advocates of the necessity for mobility in order to sustain Society's production and reproduction.

The German Markus Hesse has in his book Verkehrswende (Hesse, 1995) (Verkehr = traffic, Wende = (drastic) change) analysed the development the development of the German traffic and transport policy. There are many parallels to the Danish development, but here we will only mention three of his main statements.

Transport generates transport

Transport growth is not exclusively due to external factors; it must also be explained by positive feedback - the increased mobility influences localisation and organisation of production, consumption and leisure in a manner that increases transport even more.

- New principles of production- and distribution as e.g. flexible specialisation, JIT, quick consumer response and day-to-day-delivery all establish more direct connection between production and demand. When production series decrease and production becomes more consumers oriented it means ceteris paribus that less goods in each transport unit (lorry) are to be transported longer distances. Competition for customers means that manufacturers fight to deliver the fastest and the most flexible. Effective distribution becomes a focus in competition
- The mobility of the consumers give them a larger supply of goods, which makes possible a greater centralisation of the retail sector which in turn promote consumer mobility
- By living a modern lifestyle with its high mobility and its tight schemes we also impose compressed time schedules on others

Common for these examples is that the need for greater mobility on the micro level (the company, the individual) promotes actions, which on a macro level generate an even greater call for mobility (Jespersen, 2000). Transport is not just generated by material societal needs; it also generates the need for itself.

The secret transport policy

The other main statement of Markus Hesse concerns transport policy. In Germany - as in Denmark - transport policy does not include objectives for traffic nor visions of the role of transport in society.
The term of 'the secret transport policy' describes the phenomenon that transport not in any way may become an obstacle for societal activities necessary for growth. In Denmark, the official goal has been to reduce CO2-emissions from transport to 1988-level in year 2005. In

2000 the emission of CO2 was 17% above the 1988-level, and the specific emission goal for the transport sector was abandoned. The Danish Ministry of Finances accompanied this by a statement that *'This increase is mainly due to the increasing road transport which is a consequence of economic growth'* (Finansministeriet, 1999). In other words, if we want economic growth we will have to accept more transport.

The motto of 'the secret transport policy' is *friction prevention*, the demand that society at every point in time has to meet any traffic demand with appropriate infrastructure. Companies need mobility in order to get goods and work force to and from its premises, retailers expect that the necessary infrastructure is available so that customers easily can reach the store whether it is localised in a built-up area or on an isolated spot in the countryside. And as individuals we wish to reach our workplace, our retail store, our preferred sports facility, or the goal of our holiday without any unnecessary delay, as e.g. queues.

An alternative transport policy

The third main statement of Markus Hesse concerns elements, which a reformulation of transport policy must include.

The first is that the standard notion of the unavoidability of traffic escalation has to be eliminated. As mentioned earlier, transport has a tendency to generate more traffic without any benefit for Society or the individual. We are saving time without gaining any time.

Thus, a new transport policy must as a central element have the fundamental mechanisms generating traffic and not only the negative impacts of traffic. In analogy with the relative successful energy policy of the last decennia, we will have to look much more differentiated at what we are getting out of traffic, both from Society's and the individual point of view. Why should it not be possible to talk about traffic savings and promoting traffic efficiency in the same way we have got used to talk of energy savings and promoting energy efficiency without connecting this to serious loss of welfare?

Transport policy has to be regarded as much more than a sector policy. When transport is regarded as a sector, limited and one-dimensional solutions will be the answer to problems that are founded in some basic social structures - mobility is part of a structure, which extends far beyond the transport sector. Hence transport sector solutions so often fail.

Fundamentally, transport policy is about how to organize the future. We have to regard mobility as a limited resource and that there are different social, economic and individual interests in this resource. Thus these interests have to be made transparent and be object for political discussions of how to distribute mobility in stead of basing politics on an illusion of infinite and inexhaustible mobility.

There are no technical solutions, which will allow a constant extension of mobility. There are limitations in the eco-systems, there are limitations in the resources available for the transport sector and there are limits to how much we will allow traffic to impact nature and urban space.

Fundamentally, it is a question of letting the transport system, which now acts like an autonomous system with its own laws, be controlled by Society. Urban space, nature and man shall not adapt to the transport system but vice versa.

Mobility shall not be understood as an unchangeable natural phenomenon growing by its own dynamics, but shall be tested by the aim, the distance and the speed transport of humans

and freight is necessary and how it can happen in an effective, human and environmentally sound way. Not the traffic is of interest but what we get from it (Hesse, 1995).

The concept of mobility

In order to get a little deeper in this analysis we will introduce some concepts connecting mobility with some characteristics of modern society.

The first of them is *the place and the communities*. In the physical planning of our towns we have separated activities in time and space. Houses are separated from workplaces, shops and leisure activities. We have to move more around in order to organize daily life. Daily, we move through many places and many communities. Mobility is a result of this searching for activities in time and space.

The second is *the movement and the travel*. We are travelling through the day and through life, we are travelling longer distances and are having more global experience. The frequency and the distances of travel are increased, and the same thing goes for goods, they are also becoming 'widely travelled'. An example is the shrimps, caught in Greenland, landed in Holland and sent by car to Morocco in order to be shelled, just to go back to Denmark to be sold as the 'offer of the week'. This is possible due to the different in global wages and the cheapness of transport. The possibility of movement and travel is a result of technological development, the plane and the car being technologies excellently suited for this demand for movement.

The development of movement is to distinguish from the third concept, *speed*. Speed has increased. The French philosopher of speed (Virilio 1986) find the reason for that in technological development; the plane and the car have increased speed, but of latest the internet has set new conditions of speed. We can reach longer in a shorter time. We demand that activities take place at an increased pace. Goods have to be produced and delivered to the customers within tighter and tighter schedules. Twenty years ago the normal time for freight to reach central Europe might be two or three days. It is not uncommon that time limits now are 12 to 16 hours.

With speed also its contrast appears - Virilio argues that speed brings around boredom. When everything is so fast we are saturated with volatile and superficial events, advancing boredom. We react, not with reflection but with reflex.

And here we are at the fourth dimension of mobility, *time*. Time has - in the words of the English Sociologist John Urry - moved from clock time to instantaneous time. Clock time was typical of periods when railway prevailed. Timetables had to be followed precisely. With instantaneous time we have to react instantly. We want to move immediately and for this purpose the car is perfect - automobility is the mobility of the car.
Some think we are too busy in this age of automobility that we rush around between activities and places in order to do everything. Others think we use time in the wrong way, and others again that we should stop and develop a slower society. Slowness could mean greater contemplation; with Kunderas (1995) words: *The degree of slowness is proportional to the intensity of the memory; the degree of speed is proportional to the intensity of oblivion.*

The question now is if this could influence mobility. Urry's answer is clear, he proposes that we should work with another concept of time, glacial time. In the glacier there is a movement in harmony with the movement of nature. This concept of time is associated to the cyclic time of many indigenous people depending on the shifting seasons and the advancement of nature.

Germs of counter-modernity?

We have focused on how modern society has increased mobility and developed means of transport giving serious environmental problems. Modernity and mobility are so entangled, that it is difficult to find possibilities for limiting mobility. The question therefore is if a counter-modernity can develop. Germs exist for sure; in the new ecological movement new balances between production, consumption and locality are discussed. If production and consumption in a region became more balanced, the need for long distance transport could be reduced drastically. This is not new, concepts of self-sufficiency and local cycles have been proposed before. The new is that some of these things are now being tried out on an experimental scale in e.g. ecological villages in Denmark. The debate on the slow society as a reaction to the high-speed-society is another place where germs for counter-modernity can be seen.

But it is not only a question of 'us and them' - ambivalence is a concept describing that the contradiction between modernity and counter-modernity, between the high mobility society and the slow, reflection society, is inherent in many individuals. Several studies in recent year have shown, that longings for having less work hours and spending more time with the family exist along with practices of overtime and less time with the family. Other studies show ambivalences in the relation between environmental knowledge, wishes of doing the environmentally right thing and actual practice. This is especially the case for car driving. Also on a political level we find these ambivalences, when environmental goals and environmental practices conflict.

A new kind of transport discourse?

This paper has one objective - to turn the debate about transport and mobility in new directions. Fundamental questions can be put to the necessity of mobility. This, however, require that the connection between mobility and modernity is put to focus. And the question is simple:

When will transport policy be about time, speed and movement, and not just about cars, bridges and highways?

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