

**STS¹ Car Use Research:
'Too Much of a Success Story?'**
**Some Comments on Sørensen (ed.):
The Car and its Environment (1994)²**

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Introduction

Taking up the sociology of cars, their use and infrastructure 12 years ago it fell natural to start a paper (Otnes 1986) lamenting the paucity or even the near absence of the subject in social science publishing at that time. In 1997, there is no reason for fresh complaints. While still not perhaps a major speciality, research and publishing on the issue has expanded remarkably. Among the many papers and books, Sørensen's anthology is a professionally done fairly typical contribution.

¹ STS or Science and Technology Studies – a new field of interdisciplinary research now nearly of "established" status internationally. Other STS-related acronyms are SCOT (Social Construction Of Technology), and ANT (Actor–Network Theory).

² A revised discussant's contribution to the *Workshop on the Car and its Environments. The past, present and future of the Motorcar in Europe*, Center for Technology and Society (STS), Univ. of Trondheim, 6th May 1993, where the anthology's papers were first presented. Not found worthy of inclusion in the Sørensen volume this review may yet, or even hence, make points required for balance.

Nevertheless, his remarkable anthology has not by far received the attention it deserves. It contains lots of painstaking, detailed work by well-known international experts and their followers, all well-presented and readable, no doubt worthy of being published by the European Commission's Science, Research and Development Directorate General. Yet this review essay will concentrate on a number of papers notable for some critical shortcomings – or rather shortcomings of criticism, if not even its absence. We had, years ago, a polemic over technocracy, a cause largely lost. It is indeed a matter of some concern if now, in its place, STS has become STUS, i.e. *Uncritical Studies*, not for lack of care for a generous lot of empirical details but for its comparative neglect of a number of theo-retical approaches, briefly outlined below. Instead of technocracy we've got not only techno-defaitism or positivism but something even approaching techno-*euphoria*, as if a Jules Verne avatar had taken up techno-social science. Applied to cars and their use this spells the narrative of an expansion told as 'too much of a success story'.

Once in a while we will probably all suspect that just because we're *here* doesn't prove it was all success, all clever intention which brought us here – not even that it is "the best of all possible alternatives". That's theodicy, not science.

In the case of car use – even if it's increasing, absolutely and relatively, as a proportion of households, in number of trips/ journeys, time used in transport, distances covered etc. (cf. Sørensen & Sørgaard, *infra*), neither does prove in any certain way that these uses or increases are in all aspects *wanted* – welcome, beneficial, chosen – on the individual, household, community or total societal levels. The statistics may be less frequently found but we've probably all experienced – at times and in variable degrees – that these activities are disliked or resented, have detrimental effects, feel forced rather than chosen etc. Briefly, the proof of the pudding is not only in the

eating; effects and kitchen also count, not to mention our common beliefs about all of this.

The – may I say 'pudding-proof-head'? – doctrines of 'positive economics' should not be taken at face value, or as the only possible approach. For not completed transactions – planned, yearned for, not (yet) solvent etc. – are important too, in sociology, economics and other social sciences.

Say that it was cigarette, alcohol or drug use, or diet fat content which increased, or firearms, or number of sex partners not practicing "safe sex" etc. Or say that automobile driving were seen as Patriarchy whereas public transport was Feminism: who then would dare interpret a mere increase as something valuable or beneficial in itself? Or consider *work* as a comparison: It will be with us forever, but still to a great extent changing and changeable if not, perhaps, in each and every aspect. Hence accepting work, as we want and have to, doesn't mean that we have to accept it entirely or largely as it is at present.

Generally, if strong conflicting values are attached to the outcomes, then an increase cannot in itself be taken to indicate progress, integration, acceptance. Mere increase does not spell liking, nor decrease or desuetude rejection³.

Overview

The train of the following text is as follows: Poetry is used as a brief introduction to a discussion of basic sociological concepts such as

³ An anecdote told by anthropologist colleague Unni Wikan: When asked, Norwegian immigrant housewives put a washing machine on top of their list of wants, yet it's not the first thing they acquire even if affordable. It appears they know that they couldn't say no to friends and relatives coming over to borrow the machine – a strong cultural norm yet resented and so *de facto* dodged or sabotaged.

alienation and objectification, applied in our critical remarks to some conference papers. A few alternative approaches are sketched, both general, transport-related, and related to other fields. We end with a discussion of what is not technological in technology, and the possibilities of change. Though unfamiliar in parts, the core of my argument is old and I think fairly well established, only not, perhaps, well remembered in recent years.

'Detachable limbs' commanded at a distance

A guest to 'the STS family' may feel somewhat like a visitor from a different 'normal science', *in casu* general sociology; – different and perhaps less normal, to the extent of seeking some inspiration in a piece of poetry for a start. The great Francis Ponge, once commissioned to improve the thinking of architects on the adaption of electricity in the home, was reflecting on the difference between men and – lobsters: We may admire a lobster's magnificent outfit but, says Ponge, "it is possibly not very convenient never to be able to leave one's armours, not one of one's weapons, nor one of one's tools, having to live forever with this attire on one's back, or rather, intimately mingled (*mélé*) with one's very flesh and soul". And further:

What is Man? He is a lobster who can leave his carapace, his periscope, his claws and his fishing rods in the vestibule. A spider which may arrange his nets in a store and mend it using fingertips, instead of having to abandon the nets and to weave, or rather to drool, a new one ... (In contrast) suffice to look at any Man among us: Disembarking from his plane, or his car, which he leaves in the garage; wearing his clothing which he leaves in the bathroom, here he is as on the First Day: as naked, naked as a worm, as pink, as completely clean and free as possible. ... Now, given utensils which one may leave, you'll need a place in which to put them away, and, given that you're naked, some house,

be it a cave or a palace, for sheltering oneself as needed. This is how Man since the earliest times has had to abide, to lodge himself, not only in order to set up a nest for himself and his offspring but in order to *range his detachable limbs* and be able to retrieve them as needed.⁴

'Detachable limbs', that's beautifully put – and essential STS at that, especially when Ponge goes on to note that we prefer such 'limbs' as we can command at a distance, and more easily, helped, for instance, with 'incomparable electricity' – the object of his commission.

The poet's metaphor in attractive simplicity is a Grand View of Man – Man the Maker of Himself⁵, a creature given to (in sociological terms) externalising, objectifying, or *Vergegenständlichung* – making utensils, tools, even transforming whole environments in our own mind's images. We create ourselves, not only bodily but also by fabricating – inventing, using, maintaining – our bodies' material extentions: detachable limbs, if you please, by and in which we control and form part of our environment.

Homo Faber – and Lapsus

But there is the addition, certainly not to be forgot these days that *misses of course occur, too*, in the form for example of absent, or failing, or insufficient control. Man the Maker – *Homo Faber*, Skilful Man – is not infallible, not invariably skilful but a Maker of Mistakes as well; to what extent being a matter of debate (cf. *infra*). Old *Homo*

⁴ Ponge's *Texte sur l'électricité*, dating it seems from the 50s, is quoted from his *Le grand recueil, t. I Lyres*, Gallimard, Paris 1961, pp. 176–78. Translation and italics by PO. Citing Ponge takes no apology; he was Soller's favourite but no less that of Derrida and Sartre.

⁵ Ponge himself, a religious surrealist if ever there was such a person, would probably object that a Homo Faber may be all that but still only acting as deputy for his creator.

*Faber is Homo Lapsus*⁶ too: Erring, Fallible Man. Ponge's 'detachable limbs' – beautiful, operative, second nature – turns as it were into prostheses, artificial limbs; cheap, inferior imitations having to serve for lack of better.

For extra complication, Faber and Lapsus simply don't come as separate *personae*, they're an intricate blend, rather; hits and misses side by side, pattern or no pattern; *not* Success pure and unadulterated on one side, and Failure distinct on the other.

Alienation, Counterfinality, Damage, Over-Integration

So far there's nothing but basic sound sense plus a dash of classical language to it. But Homo Faber, and Ponge's prose for all its beauty, is nonetheless just another "too much of a success story", too much of a one-sided view. This makes perfect sense within sociology, too: As sociologists, we all know that the concept of externalisation, or rather *objectification*, is intimately, yes, inextricably linked with twin concept *alienation*: When the work (own or mates') is done, we may either recognise the product, our work or design in its new form. Alternatively we may fail to do so, reluctant or unable to see that we've played our part in its production. Or perhaps most often a mixture of both: "That was pretty, but not altogether, good" – an outcome to be located somewhere between Faber and Lapsus. Alienation⁷, then, is not realising that outcomes are our own work; objectification realising that they are.

⁶ Lapsus, from Lat. *labor* with a long first syllable, meaning to slide or slip and *not* to labor. We pass without further mention two other, as basic, creatures here: *Homo ludens* (Huizinga) and *Homo otiosus* (Sahlins): Playful, and Idling, Man respectively.

⁷ Colleague Fredrik Engelstad (1983) holds that in work organisations, objectification goes together with exertation, overtaxing, stress, and even "role vagueness", whereas alienation on its side, with their comparative absence: normal effort, less stress, well-defined roles. The basic idea is that the personal commitment of non-alienated work makes for vulnerability *vis-à-vis* its outcomes: Failing hurts more then. – This seems to

The concept of *counterfinality* goes one step further; it introduces the idea of schemes which fail despite the best of intentions and efforts, even *because* of them; *latent dysfunctions* in another terminology⁸: Pyrrhus', or even *Brutus'* victories, bringing about exactly the opposite of the actors' intentions. Related then but not coextensive with the couple objectification – alienation is this second: pro-finality – counter-finality.

But third, it seems to me that Adorno's sociology takes us still one step further: His concept of the present world as *damaged*⁹ – and notably, *without* introducing any sound or healed counterpart. The darkest of pessimism, according to some, or just *critical theory* to others, a view worthy of some serious attention: A world where facts cannot prove or account for very much because they're all lapses or mishaps, at the heart of it. It's like trying to learn anatomy in a population of nothing but cripples, where not even an image of a complete, healthy body is to be found. An exaggeration, yes, absolutely but, if corrected for, not less of a revealing contrast to the, possibly as exaggerated, concepts of objectification as if pure and unadulterated: "Too much of a success story".

Adorno's "negative dialectics" (1966/82), "logic of decline" etc. fits in here. In essence it seems to be, in the briefest of wordings: *Never accept 'the givens' for given* – not even after your tests, critique, reflexion etc. Don't ever grant 'the granted! There's forever more damage to be acknowledged and repaired in present and future states

involve tacitly limiting the discussion to creative, unique tasks (his data are from small publishing firms) – sort of an 'Objectified Man's Burden' – whereas more typically, both objectivation and alienation are linked to the ubiquitous routine, repetitive task of everyday life – work or private. Briefly, objectification/alienation are general, cultural concepts, not only or mainly personal or situational.

⁸ Not quite exact; latent dysfunctions are action consequences which fail, i.e. reduce adaption or adjustment, though unintended and unrecognised. Counterfinality means failing by trying too hard or too much, whether recognised or not.

⁹ His *Minima Moralia* (1951/1987) is subtitled *Reflexionen aus dem beschädigten Leben*.

or outcomes. A trifle overstated, perhaps, but also a sound *memento* for scientific method.

But names such as Adorno¹⁰, Hegel and Marx (objectification) and Sartre (counter-finality) may be thought to belong, if at all, on the outskirts of contemporary, mainstream sociology. So how can I still hold that "the core of my argument is old and fairly well established" (p. 4)?

By invoking the criticism against Parsons, best remembered perhaps from Gouldner's (1970) in retrospect somewhat overstated view – very widely held in more sober form later, though: Society, and with it sociology, simply cannot be conceptualised as all integration and no conflict, all equilibrium and no imbalance etc. That makes for serious mistakes, as for example when Parsons himself said that North American youth was better adjusted, less protesting in the Sixties than in the Fifties – only a few years before 1968. (Parsons 1962)

There is, then, an error source we may call *over-integration*: misjudging or exaggerating adaption, adjustment, 'peace-and-quiet' for more than it is. Or call it the system-level version of 'the over-socialised conception of Man' (D. Wrong). Or paraphrasing Popper: nothing is more easily found than integration – if you're looking for integration only.

The Book's 'Success Stories'

Sad to say, I found that at most one of the papers in the book's first section – entitled *The Cultural Integration of the Car* – had much to say about the lapses and misses – the less positive, less flattering facts

¹⁰ Krogh's (1991) critical reassessment is that one should take account of the one-sidedness of Adorno's views but then next, that neglecting them "is no less one-sided and ideological" (p. 174).

about car use. And even sadder, clearly least among my own closest colleagues, the Norwegian sociologists, for some other contributions in the anthology do introduce concepts of car-use *problems* and some proposed solutions, i.e. not only plain adaption or integration, or 'pure success stories'.

The papers were then, the exception first: Anthropologist Britt Helland-Pedersen's "On being mobile. Car use as meaningful consumption and environmental hazard" (p. 371). Mostly prospective work as yet, i.e. plans for further research, basic concepts and a sketched design for her field work in congested city districts. Her master's thesis *The Automobile – Tyrant and Gratifier* (1991) provides depth and detail, though. A cultural interpretation of present car use and its problems (noise, pollution, risk etc.), based on data from/on some important Norwegian public and voluntary organisations.

Among the less critical other papers stands first Knut H. Sørensen & Jon Sørgaard: "Mobility and Modernity. Towards a Sociology of Cars", based on official statistics and local surveys. Departing from Giddens' 'separation of time and space in high modernity' (p. 4) they envisage an explicit role for the automobile in it. In the end the authors label themselves as not "car-friendly" but most definitely not as "car-critical" either (p. 28, cf. *infra*). And indeed, their only reported trace of strain or *mis*-integration is a snatch from one interview – a senior citizen who resigned from the car queue (pp. 20-1) out of stress, boredom and concern with toxic emissions, though critical about his busses too.

They embrace Latour's *actant*¹¹ concept with some reluctance, and wholeheartedly, Silverstone's (1992) four elements of domestication: *appropriation, objectification, incorporation and conversion*. This provides a tidy ordering of their survey data but no real room for

¹¹ An artifact cast as almost an actor, "quasi-object" being a second term for basically the same concept (Latour 1993).

technological problems, stalemates, or hints of unruliness alongside the "domestication": The 'success story' is endemic, or nearly. Where are the failed, or rejected, sub-functional or malfunctioning technologies? Or is technological retrogress unthinkable, as T. S. Kuhn once argued, ironically, for the case of science?

In the sub-heading "Domestication: the enculturation (*sic*) of private cars" *acculturation* is probably what's meant¹². But neither concept is very apt. Back in 1940 Bronislaw Malinowski himself embraced Fernando Ortiz' concept of *trans-culturation* instead of acculturation, thus acknowledging that cultural influence is not unilateral but always going both ways, from dominant to dominated *and vice versa* (Ortiz 1963:xi-xiii). Present anthropology seems reluctant to use any of these three concepts, having adopted more nuanced models of cultural contact and change, e.g. creolisation, though closest perhaps to Ortiz'.

As mentioned, Sørensen and Sørgaard distinguish 'car friends' from 'car enemies', or 'car-friendly' from 'car-critical' attitudes, their position being that they "... cannot see that a... 'car-critical' strategy ... allows fresh insights into the role of cars in modern societies" (p. 28).

Their error, today, is casting 'enemy' and 'friend' as *different persons*, belonging necessarily to different groups – not at all the matter of course it once was¹³. Following Foucault new ideas on *the internalisation of conflict* are with us, notably deviance and its control but with it others such as sexuality, health, maybe even class,

¹² Enculturation is the learning of culture as in individual socialisation; acculturation a dominant culture's one-way influence of a (less developed) other (Keesing 1976). Now, it could be that enculturation is intended – then, it should either read society and its members becoming socialised to the car, otherwise it would mean *cars* becoming socialised to their host society; not an impossible idea for "actant" or "quasi-object" approaches but also not what this paper analyses.

¹³ Another mistake is missing, or skipping, the point that *Homo faber* is always some fraction of *Homo lapsus* as well. Latour's (1993) "principle of symmetry" might even be invoked: "if you analyze (the car's) successes do the same terms allow you to account for (its) failures?" (1993:93).

following: We are all *both* controllers *and* controlled nowadays; punishment and discipline have become attitudes, or *habitus*, not a public display of deterrents. The 'carceral texture' is expanding, quite apart from prisons proper (Foucault 1977:304).

There's a classic Disney animation casting Goofy as Jekyll-Hyde: roadhog when behind his wheel, all sunshine after parking – except when scolding *other* roadhogs disturbing his quiet walk. And indeed, the car, as advantage and nuisance is probably often set up in this way: My own use of the family car(s) is all well and fine. The vehicles *in* my backyard – yes, lovely, but all the stinking, noisy others passing *outside* – Not Outside My Back Yard! – NOMBYism, not NIMBYism¹⁴, that is. Alternatively we'd call it the *First Stone Principle* (St. John 8:7) – our all too great readiness to condemn the shortcomings of others, until we are authoritatively told that we embody them ourselves.

The proto-schizophrenia some call 'free riding' have long enough passed as a form of 'rationality'. The position of having several cars for one's own household, and detesting only those of all *other* house-hold is not, perhaps, as yet untenable but weakening. The love *and* hate of cars, like St. Luke's (17:2) kingdom "is within you"¹⁵. Even a very 'car-happy' person will, if questioned, often be well aware of some disadvantages though playing them down – and conversely for the 'car gloomy'. And as experts, we too are part of, not outside, our subject or field – part of *both* sides, or positions within them. Hence trying to phase out or discredit one side and that one side only is rather futile, really. But of course it saves one the trouble of facing the full set of

¹⁴ Introduced to NIMBYism – or Not In My Back Yard!ism – by planning authority Peter Hall, it is in essence sort of a "negative free rider": Avoiding an evil for yourself while reluctant to let other people be burdened with it. The usual or "positive" version is securing a good for yourself while leaving others to carry its cost.

¹⁵ To the extent that for instance our host and present senior author, the expressed non-enemy of car use, still uses his bike, though realising its dangers: He actually suffered a bike accident one conference morning.

arguments. On the not-faced side, however, it's rather annoying to have *all* your arguments dismissed just because you're labelled 'car-critical', of 'no fresh insight' etc. Not listening to minor objections because major change is not possible may carry the day; not, however, with a base in logic.

Still 'car friends' and 'car enemies' are leading shadow lives while the great majority of us are mixing both. They live as shallow stereotypes – and as convenient strawmen heavily exploited by sector vested interests¹⁶.

In sum, then, there are reasons to believe that today's motorists hold some doubts about their driving. Though oversight or even repression may be one standard way of coping it's not likely to be the only one. Hence not asking questions or not reporting answers about doubts, conscious or subconscious, is not only skewed but runs the risk of seriously misjudging a change potential for which everyone – 'friend' or 'enemy' – would like to prepare.

Per Østbye's paper "Escape from Detroit – The Norwegian Conquest of an Alien Artifact" is a professional historian's work, solid and credible, a short survey of roads and cars in Norway since the 1880s. It deals well with early opposition against car use –based on its dangers¹⁷, disbelief in its potential, and other transports' fear of competition. Well after that the car was opposed as a 'luxury for the few'. When the car turned into a commonplace during the 1950s roughly, no further doubts, protest etc. are mentioned. The impression is that the road-auto-system 'just took off' – not a word about conflicts

¹⁶ A comment here on subspecies 'leftist mole'–stereotype: An imagined more than real danger even in the days of Pierre Overnay (killed at Renault's, Paris February 1969), a much more real danger to–day is probably 'competitors' moles' or their likes, as witnesses the recent López–GM–VW–affair: very un–leftist, very real problems.

¹⁷ Less real but much more believed in, then than now.

over funding or planning, or protests, known to have been there all along – even topics of project colleagues' works: Thomassen (1991) deals with the 60s, when planners were quite happy to project major four-lane motorways right through the center of mediaeval Trondheim; plans entirely given up after late Sixties protests. And more recently, in the 90s, the county parliament rejected a modified great motorway plan, bordering on, not through, the city.

Ronald Kline & Trevor Pinch: "Taking the Black Box off its Wheels: The Social Construction of the American Rural Car" tells the story of *ungerade* or out-of-line use of T Fords, as a power source for grain-grinding, early washing machines etc. – a fascinating, little-known tale about how post-design adaptations and power relations can – for a period – modify SCOT concepts 'interpretive flexibility' and 'closure'.

Their story is very much a 'small narrative', though, and somewhat distant today: too *little* of a success story for a change? After tractors and electricity arrived there out-of-line adaptations all disappeared. The experience is proved possible then but not necessarily replicable.

History looks so short in retrospect – short and determined as it were. Still it always took as long as it does presently; old outcomes once were as uncertain as tomorrow's. Which highlights a problem of all social 'phase' models: Though they may work when ordering data in retrospect there's no guarantee that it will work in prospect, for future data. Assuming that is a form of pure positivism, "reducing change to identity" (Sartre).

Olle Hagman's "The Swedishness of Cars in Sweden. A Study of How Central Values in Swedish Culture are Expressed in Motor Car Advertising" was criticised at the conference for treating his compatriots as "cultural dupes" (Garfinkel): puppets entirely governed by cultural values. Are Swedes really the most rational, effective, predictable, harmonious etc. people in the world (p. 97-104) – or

simply the most conceited, or simply nurturing Lacanian "neurotics' myths of themselves"? Isn't it rather that the car advertisers succeeded in exploiting – as well as possibly strengthening – some Swedish ethno-stereotypes? A people producing names such as Strindberg, Krüger, Bergman, ABBA, Borg would seem liable to claim a troublesome rationality etc. at most.

The real interest of Hagman's paper lies in its presentation of a pictorial history of non-linear change in car advertisements: Cheap in the Sixties, intimate in the eighties etc. 'Interpretive flexibility' would seem to be unbeatable in the advertising business – unbeatable, but *not* limitless: Always on board where the load is highest on the second most recent bandwagon.

Annette Rosengren: "Some notes on the male motoring world in a Swedish community" in her way is "taking the black box apart", too – the story of how some rural, low-education males took to motoring as lifestyles, such as Sw. "raggare" (car hooligans), and professional hauliers or lorry drivers. Credible and proficient enough but one wonders: Doesn't it, not in any way, impair their maleness, even their humanity, to be 'car-crazy', 'possessed by cars' to such an extent? Has anthropology really no concepts for fields' self-delusions? One is reminded of Goffman's arrogant stand that he would rather "...sneak in and watch the way people snore" rather than "...awaken people to their true interests" (1974:14), his embrace of *doxography*.

From a later group of papers Jorun Stenøien: "Controlling the car? A regime change in the political understanding of traffic risk in Norway" is one final fair exception, pointing out a possibility for long run, moderate size changes of habits and attitudes: the case of car safety equipment. She demonstrates how some measures – such as car safety

belts and their use – though first resented and ridiculed by users¹⁸ and politicians alike – came to be accepted during the 1970s. The process was long and gradual but still not without its turning points. Though most changes are marginal some weights finally tip.

Compare here the statement that present car production is "deeply entrenched in our society" (Elzen, B., Scot, J., & Hogma, R.: "Strategies for influencing the car system", p. 199 ff.), seen as a fact *precluding* changes, notably a reduction of total mobility. Given time, however, economies have a generous propensity for changes small and large: What became of shipbuilding Teeside, mining Wales, or even auto-building Detroit – or Gothenburg?

Bringing Conflict Back In

Passing now to alternative approaches it might be thought difficult, perhaps even not well possible, following or rather extending on Adorno in order to provide 'an atlas of an un-damaged world', as it were. But on reflection, a number of strategies – some of them entirely standard – are in use, indeed providing scientific approaches to similar problems; not a full map, but verified patches of greater or less accordance. A reminder first though: Mine is *not* a call for *nothing but* studies of 'damage', alienation, misintegration, doubts, problems. I do not personally share the view that our world is basically or generally damaged, only that some of it is, that we can learn to see and begin to repair it¹⁹. So if our question were "The Car: Castle or Prison?", I'd refuse to answer; I insist that it isn't one side only – not all castle or all prison – and hence that both sides should be

¹⁸ Some, however, refuse safety belts as a step on "the road to serfdom" even today, facing the possibility of fines etc.

¹⁹ Following Adorno, of course with new hit–miss–mixes resulting, new corrections etc.: Don't grant the granted, not indeed if you helped produce it!

given due attention by any research passing as "objective", not "partisan" to the point of serious bias.

It's bias, however, not partisanship *per se* which is unscientific. Being a partisan, taking a stand on research issues can make for extra motivation and effort – all to the good, as long as you don't misrepresent or omit facts, skew tests etc. In practice there's something of a 'grey zone' here, between bias within excusable limits, and outright deceit, resulting on occasion in sort of a market for 'legal fraud' research: smoking and health, say, or race and intelligence being instances easy to mark out – in retrospect.

A better case in point is Brög's (1991) concept of "door-to-door travelling time": Traffic researchers compare the time-use of mobility by different means or vehicles. According to Brög a largely subconscious bias is the habit of tacitly measuring cars' time-use *counting net* – that is, not counting time used for getting out, walking to the garage or car-park, getting started etc. Arguably 'that's not really car use'. But as a necessary part of car travel it still should be counted in for fairness of comparison, for example with public transport, where walking time to and from the stations etc. is invariably included.

Critical Method

Now what standard, general scientific procedures do we have for avoiding the error of over-integration? How do we go about balancing the 'too great, too many success stories'? How may we *reduce* these successes – not in science of course but in its topics – down to real-life proportions? I cannot go into detail; the following list of key words, with a few comments and examples added will provide a start:

typology
metaphor²⁰
'tacit' comparison, case studies' 'surprises'²¹
comparative studies
advocacy, conflict or protest studies
'action research'
ideology criticism

The point of 'tacit' comparison by studies of single cases is not always well understood. Much of the value of 'single-cell-studies' is vested in the surprises they produce. Saying 'I didn't expect that' betrays a trace of a different model, a basis for comparison after all.

Ottar Brox, a sociologist-anthropologist colleague, has offered his rebuttal to that old defamer – 'social science discovers only what everyone knows already': It's exactly the opposite, he says; only when we go into fieldwork do we realise how wrong everybody *outside* the field is about what's really going on within. A version of the old shoe–pinching argument, it has much to advise for itself: Who can really know a field – be it great banking or marginal crofting – if not the insiders, natives, practitioners? Anthropological Truth, in this view, resides in them: *Doers know*.

This, however, on closer view is a true but not a full story. Our quest for anthropological concepts covering field self-delusion (cf. *supra*) is not without results, notably in the methodology, or "craft" (*métier*) as he prefers to call it, of Pierre Bourdieu: the field as both revealing and mislead but prudentially stressing the latter more.

²⁰ The first two items are much recommended for example in a standard qualitative methods text, Miles and Huberman (1994).

²¹ Once known as 'serendipity'.

In sketch form Bourdieu's "craft" follows five²² steps:

1. Truth is always local or in details – hence polymath intellectual Sartre is a caricature for Bourdieu, Foucault etc.
2. "The field is always wrong"²³.
3. Reconstruct the field's objects or concepts!
4. "Applied rationalism" or test your reconstructs.
5. Epistemological feedback – or a type of "reflexivity", if you please: Return to position 1, your own tested reconstructs now part of the new theme.

One basic and controversial point is of course no. 2. In the original the phase is called *la rupture*, or a conscious breaking with the field's own conceptions. 'Doers know' – yes but within or surrounding that knowledge are generous portions of error, fallacy, self-delusion – some basic or constitutional, some circumstantial, situational etc.

This may involve proclaiming head-on conflict with the tradition we might call 'the colonialist-anti-colonialist attitude' of especially British social anthropology. They wanted to give full attention to the 'savages', or natives, as an antidote to the biased views of haughty administrators, including ideas of 'white superiority' etc.

Of course the present breach is not a call for less attention, nor for *Besserwisser*, ethno or 'epistemo'-centric attitudes. It is more in line with Husserl's phenomenology²⁴, his *epoché* calling for purifying

²² The first of these five is my addition, extracted from Bourdieu et al. (1991) for the sake of clarity. All five are reformulated for acuteness of expression by PO.

²³ To be read less as an empirical statement and more as a methodological counsel: Social science is at any moment free to discard or differ with participants' concepts, to be registered with care but analysed with distrust. But the 'Faber-Lapsus-mix' remains relevant, too: 'Right' and 'wrong', pro- and counter-finality, intention and non-intention etc. always commingle.

²⁴ Its real source is Bachelard's works on natural science history, method, and philosophy – a basic contention of which is that scientific advance requires forever new admittals of *being mistaken*, with correction following, cf. Bachelard (1940).

one's senses of all preconceptions. Once understood, the idea of ruptures during fieldwork becomes a marvellous tool, long missed and much needed.

The realisation that solving a problem such as 'the error of over-integration' resides basically in the choice of research methods, not so much in substantial concepts or theory, may disappoint at first. But on reflexion, this is only logical: A change of discipline régime will have to change its substance.

Passing now to the last item on our list, the criticism of ideology. Though still alive it may yet have lost a lot of its momentum in recent years. Bourdieu, however, reconceptualises certain traits of ideology as his so-called *doxic fields*²⁵: Belief systems so much taken for granted as to never be consciously questioned.

Others have tried to replace ideology, to some extent or in some respects, by the scientific use of *irony*²⁶, a tradition going back at least to Socrate – the work of Baudrillard (1986), say, or those inspired by his de-constructionist or post-modern likes, like Woolgar et al.'s (1991) "reflexivity" – the latter worthy of interest as a form of critical re-examination (phase 5 *supra*), but also dangerously close to scientific *post hoc* smugness – 'the being of two minds as an art form' – of little impact, and a far cry from the reflexivity concept of Giddens and others.

²⁵ In contrast, ideology (or *idéologie*) proper is defined as *celui qui donne pour universel, pour désintéressé, ce qui est conforme à son intérêt particulier* (Bourdieu 1994:165).

²⁶ Including *self-irony* but not only that.

Two "Un-Success Stories"

(1) Doctor Werner Brög of SOCIALDATA, München, is a worldwide travelling lecturer on public and private transport, much in demand; a respected professional of the field – a bit on the "numbers conjurer" side, perhaps but basically sound. Among his simple, communicative ideas is comparing empirically survey figures of peoples' actual use of cars etc., and *experts' estimates* of this use. To cite but a few of his figures, German surveys show that whereas only 1-2% of total car trips are over 50 km, experts estimate them to be 15-20%²⁷. On the other hand 15-20% of all car trips are less than 1 km.

The implication is that the private car must be much overrated, both as a saver of time and as a 'decreaser of distance'. Further, that all of us, but strangely enough especially 'experts', are at times seriously mistaken. So, 'false consciousness' or believed non-facts do exist in the Car Culture, and no doubt in Auto-technology as well as in our own Science of that technology.

(2) Carlo Ripa de Meana, ex-EU-commissioner for the environment, published a *Proposition de recherche pour une ville sans voiture, Rapport final* in Rome, December 1991. This boldly, if not temerarily entitled report²⁸, a volume of some 200 pp., is admirable in many ways, well worth a series of conferences of its own. It ranges from the philosophical basis of our dwelling and transportation habits, to outlining a general model for the grand, long-term infrastructural changes which reduced city automobile use would require. And of

²⁷ The source is Brög's paper "Marketing and service quality in public transport", Paris, CEMT (European conference of ministers of transport) Oct 1991, p. 47. In general, Brög appears to be a vocal and visual colleague, not so much published in print, and appealingly modest in citing his own works.

²⁸ Still published, it seems, only in the original French version; reported translation work may have been discontinued, possibly indicating that de Meana's boldness may have cost him his commission; the official version being that he resigned because he was offered the Ministry of the Environment in his native Italy.

course, the resource and environment problems involved are dealt with – numerous well-known facts such as congestion, accidents, and pollution. But then, remarkably, it stresses "...le gaspillage de ressources non renouvelables, dont, fondamentalement, *notre temps de vie*" (p. 2, PO italics). Cars *waste* time – more perhaps than they 'save'.

Controversial and daring, no doubt but also gaining some support recently²⁹ – the idea that the volume of our car use is attaining a level where an actual "squandering of our life-time" is soon threatening: "Don't waste your lives sitting in your cars all that time!" To which the riposte "where else waste it?" is, lamentably, not pure outrage in our "damaged world" but still nearly, for of course the *enjoyment*, not waste, of life is what's wanted, inside or out of cars.

So false beliefs including a subliminal "wasting our lives" are indicated. As noted that part of the story is largely missing in our conference's papers. Is this "waste" too recent a change, not yet or not very conscious? Or is it denied, projected, repressed or rationalised, especially among car drivers, owners, and experts; with 'false consciousnesses', misconceptions etc. flourishing? Or are "car-lovers" really Rational Wo/Men despite all, weighting all evidence and concluding that other advantages outweigh the drawbacks of private car use of their own?

However, the belief in this world as a rational world may not be a very rational idea. As a rule the best we can achieve are 'local sub-

²⁹ Brög (1991:37) lists questionnaire data from 25 central European towns and cities, the proportion of respondents rating "the impact of car traffic not so, or no longer, supportable" ranging from 51 % (Delft) to 95 % (Leipzig, Eisenach).

rationalities³⁰. Rationality is always limited, of course but not only that: always countervailed, always overstated – "the field is always wrong", remember, or mis-conceiving itself.

Some Comprehensive Positions

In general then, beneath the surface of the social world as constructed or given, under plain 'integration', 'success' etc. a field of conflict soon emerges: "It's a battlefield", with its truces and agreements as well: *both* integration *and* conflict.

There are of course traditional general ways of tackling that. One is the the role of *freischwebende Intelligenz*, "the socially unattached intelligentsia" of Karl Mannheim and Alfred Weber, a possible but very difficult role, hence of rare incumbents, then as now. More well-known is brother Max Weber's proposed *wertefreie Wissenschaft* – but alongside functionalism, value-free sociology never quite seems to have recovered from the blows received during the late Sixties and early seventies – the era of "student unrest" and more notably, perhaps, of *Positivismusstreit*.

In the years after an unexpected difficulty has emerged: Mannheim's intelligentsia and Weber's valuefreedom were both designed to float over and above *social divisions of class* mainly. Now, later, class may have lost, metamorphosed or just hid, some or most of its importance, saliency, gradient, sting, etc. Be that as it may, many of today's conflicts have Capital *and* Labour, Public *and* Private, Profit *and* Welfare, *on both sides of the issue*. The car vs. trams, road vs. rails, land vs. air etc. conflicts do not always divide workers and employers, owners and proletarians etc. in any clearcut way (cf. Otnes 1997).

³⁰ And may I add, 'local sub-knowledges' regularly going along with them, scientific schools or directions not always excepted: 'when hundred flowers flourish, withering increases too'.

Hence the old "if you can't beat'em join'em"³¹ motto may have joined the unemployed. It's *who* to join in order to (help) beat *who else* which matters. And very much so in the case of conflicts, concealed or open, over modes of transport: Capital, or Big Business certainly provides all of them – air, rail, tube, road, bus, car etc. And even if some are Bigger – or simply 'more equal' – than others, there is still some possibility for choice: 'If pressed I'd rather be a Public than a Private Transport Scientist'.

The approach of ideology criticism and some of its difficulties was mentioned. Following the last paragraph we can take no absolute exception to the older approach of *ideology production* 'pure and simple'. Ideology (*pace* Bourdieu) is not just any limited interest or arguable belief. We owe to Georg Lukács the insight that ideology, as defined by Marx and forbears, does not *necessarily* include error or untruth; no, it's

the forms in which men become conscious of this conflict (that³² arising out of the basis of Social Being) and fight it out" (Lukács 1984:10, cf. Marx 1859/1968:183)

– forms less *or more* true, then. More recently Latour (1993), following Serres, has suggested that science and ideology may overlap. So ideology – OK if verifiable and beginning to be verified, substantiated.

For example, Dr. Brög's work as I know it comes quite close to accepting such an ideology-producing role – on behalf of the great public transport companies. And no doubt there are numerous

³¹ Of course it always carried the risk of forgetting your message on your way up.

³² Lukács, writing his *The ontology of social being*, is perhaps not quite exhaustive right here. Reviewing Marx' famed original text shows that 'the conflict' here refers to that between material and social etc. life, productive forces and relations of production, basis and superstructure.

counterparts on the other side, too, Big Car Business – what used to be known by metonym Detroit. That, too, has its ideology producers, conscious and not so conscious.

There is a further danger, though. Briefly, technologies have owners – patent holders, commercial exploiters etc. – not only plain users, or social scientists studying them. Owners tend to worry over the impact of their technologies – benefit or loss, not only to the commonweal but to themselves more narrowly. They will not always react with enthusiasm to new impact studies³³. And there is a risk that scientists seeking support for such – small fry but anyhow – will anticipate with some amount of 'self-censorship': hiding, modifying or even 'forgetting' not liked effects. That's passing beyond science, however – perhaps even beyond ideology, if you know at heart that your consciousness is false (cf. Lukács, *supra*).

Are We "Overly-mobile"? The Non-Technical Part of Technologies

The conference discussions revealed one basic divide among participants: Whereas some would hold that a reduced total mobility – a decreasing volume of world goods and passenger transport – were desirable, and well if only gradually possible, others – probably a majority – would see such a decrease as most improbable, not really or readily possible, *even if* desirable for some reasons.

A classic of Norwegian social science, almost unknown abroad but locally influential, Bergen-based professor K. D. Jacobsen, teaches a message here. His book *Technical Aid and Political Structure* is over three decades old (1964) – and based on authors such as David

³³ Stories are told about research projects who lost support after a "too early" publishing of not yet well-known possible ill effects – in the pharmaceutical industry for example.

Easton, SN Eisenstadt and Dwight Waldo; some of them more than half-forgotten names today. Still it's a valuable study, almost STSish *avant la lettre* in approach. His topic were the changes of technology, education and administration in Norwegian agriculture during the decades around 1870: Low-tech by present standards these were large-scale changes of its times, involving among many other things improved methods of fertilisation calling for large-scale, expensive construction of new farmer's barns having large manure-cellars under them.

The leading administrators were, for their time, brilliant experts of agro-science. But their expertise, as Jacobsen demonstrates, proved to include the not-strictly-expertise-based attitude that *only large farms stood to gain* from technical aid measures. Remarkable in a country having only a few hundreds of what could be called "large farms" by European standards – even today counting less than 1 000 farms over 200 acres (4% of acreage, 1% of farms) – yet "large farms first, however few" became official policy, largely unopposed until well after the 1870s.

Still vexed, in retrospect the technical side of this question may be said to have won out in the really long run, with large farm agriculture expanding almost everywhere today. Not so however in Norway at the time: the small farmers mobilised and, following decades of struggle, won through for a different policy. The new barn model became universal – for farms small and large – alongside numerous other technical reforms adapted to a wide scale of farm sizes. *And*, notably, with great gains in productivity – for the entire scale.

I wrote "the small farmers mobilised"; rather they *were* mobilised, indirectly, by a small but growing number of 'alternative experts', originally well-to-do people of foreign higher education but over the years increasingly with locally educated small and middle farmers' sons among them – a mediated mobilisation, then. A local 'populist agrosience' of a sorts emerged. So after decades of struggle followed

still more decades of success (as they saw it): The number of large farms went *down*, reaching a record low of 479 units (or 2 per thousand) over 200 acres as late as in 1949.

Jacobsen explains his counter-current-style 'success story' from two main factors:

(1) The definition of the situation – an agriculture in crisis, mainly following imported cereals' defeating national production after the 1870s. (2) the establishment of a university educated profession of agro-experts, firmly rooted in local small and middle farmers' circles, claiming effective monopoly over all sector positions, be it in farming, marketing, administration, or research and education. Jacobsen substantiates that these professionals found tenable, legitimate arguments in support of grassroots-clients against big vested interests, local or national.

In the background taken-for-granted locally we'd add (3) the near total dominance of freehold farms since the early 19th century, (4) the electoral system based on this and its later reforms (universal male suffrage 1891, female 1912), and (5) an early industrialisation slow to produce jobs on a mass scale. Smallholds were indispensable, so smallholders counted politically.

Anyhow, the long and short of it: in our present context the message is *that experts always seem to mix expert-based knowledge with non-expert, common-sense contentions*, rooted notably in their basic social backgrounds, high or low; and further *that seeing, acknowledging and beginning to correct this is terribly hard for them*; not rarely virtually impossible: 'die-hards' have to die out before attitudes can change. A technical expert will have to be trained in self-confidence: 'my bridge will hold'. Small wonder they – we – overshoot at times.

The general point which emerges from reflection over Jacobsen is this: There's always an element in, or associated with, technology

which is *not* technology – too simple, too well-known or too general parts of the picture. For example technical models, however complicated, always build on a basic division of the field into *givens* and *changeables*. At that simple level non-technical knowledge – fact or misconception believed for fact – may account for more than technology alone. In Jacobsen's case, that small farms wouldn't benefit from aid. In Dunleavy's (1981) case – the rise and fall of British high-rise housing – planners' belief that demand, and well-being, could only be satisfied by constructing high blocks; held for decades, reversed in a matter of months once doubts had gained momentum. Today these 'utopias' have turned near nightmares, leaving those responsible to look as the 'dupes' of their own planning culture – for a while.

And in the present case – who knows? – the belief that mobility cannot really be reduced: If it *were* wrong, a new dupe cohort is well in the making. If our time-use in transport has reached a level of negative, not only of diminishing returns then a number of proposed measures are rendered much less relevant: Non-combustion engines, pay roads or 'smart drive' systems are all designed to maintain or increase our total mobility – but what's the use if they actually reduce utility or well-being?

There's presently a potential – probably great – for increased car use in coming years: Eastern Europe, say, or The Third World, or even segments of Western Markets, such as Females, Young Parents, car rental, "clean" cars etc. But there is certainly also a potential – maybe as great – for car scepticism, disappointment, hence gradually decreasing use. We may see, come some years, the Auto Industry cast in the old role of the Railway Companies, Agriculture etc.: having to cope with a public image of 'yesterday's technology', that is, still important but bound to recede, in employment, visibility, possibly even in turnover.

Endnote

Personally I do go on driving a car, after a pause. But my driving is down from c. 12 000 km to 2-3 000 a year – less from reasons of conviction frankly and more because our car is too old to stand heavy use, and the children old enough to transport themselves. To which rented car mileage would add a yearly c. 50-100% but still well below half of the old total.

So my micro-level mobility is down quite notably in recent years – or so it would seem: For even if less car availability will make for trips foregone, I still do commute – by rails – to work, as distant but somewhat less often than before (more working at home). But if a person's total annual mobility is what counts, then some other, really big items – additions of recent years – should certainly not be excluded: My air travelling, some of it tourism but far more often business, meeting colleagues, attending seminars, giving a lecture etc. One single trip to Paris or London will very nearly equal (and Rome or Madrid exceed) the mileage of a full year's car trips back home.

Calculating, not the mileage but say the fossil fuel use, pollution effects etc. of conference travelling may be rather complicated, dependent on whether indirect energy use is included or not, on how fully booked aircraft are etc. But I've seen figures indicating that in air transport, average energy consumption per person-kilometer is nearly triple that of private car use (1.26 as against .44 kWh/pkm, cf. Høyer 1992).

Figures such as these are contested, but if correct, this means that my 1100 kilometres Oslo-Trondheim and back spends about as much energy, creates as great pollution problems etc. as all of my present car use per year. And flying in from London or Paris will nearly equal

an average driver's car use's effects – still one single trip as against one year's mean use.

It's a sobering thought, certainly, that a not very manifest consequence of our conference is that merely coming here may be *the* single item adding most to our annual travel or fossil energy use accounts. Did I hear a 'counter-finality'? Certainly not a 'pro-finality'?

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STS Car Use Research: 'Too much of a Success Story?'