Hägerstrand's time-geography today

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Let me begin by thanking the organisers Shih-Lung Shaw and Daniel Sui for inviting me to this panel. I could talk about progress made and key research avenues with regard to time geography in transport geography, but last year my colleagues from Ghent university and myself published a paper on this topic in *Transport Reviews*. So I am not going to do that.

Instead, I want to go back to Hägerstrand's later work from the mid 1970s onwards, when his ideas about time-geography had matured and in a way developed beyond the prevailing understanding of time-geography in Anglo-American geography.

By 1980 time-geography had become more than project, path, constraint and prism. What is not always realised is that Hägerstrand intended time-geography as a worldview on how culture, technology and nature interact on the Earth's surface. It was an alternative to the fragmentation and specialisation characteristic of modern science.

H wrote about this in quite a few papers published in English but perhaps most elaborately in a piece published posthumously in *Geografiska Annaler B* in 2004. There (like elsewhere) he argued that the interactions between matter and meaning remained understudied, and that the natural sciences, psychological and medical sciences and the social sciences (including cultural theory and philosophy) have failed to truly communicate with each other.

The situation at present is, to my mind, not as bad as in the 1980s when Hägerstrand first wrote about these issues in English. Think for instance on the recent neurological turn in the social sciences, or the proliferation of science and technology studies (including actor-network theory).

What still stands, however, is Hägerstrand's criticism of how analytical and instrumental rationality are employed in most of science, with its drive towards universality, the formulation of laws, and mathematisation. I want to stress, however, that it was not analytical rationality as such that he criticised, it is the way this was and still is employed.

I want to push this point a little further, and to that end I am drawing on the thinking of Aristotle. In the Nicomachean Ethics he specifies three intellectual virtues:

- Episteme
- Techne
- Pronesis

Episteme	Techne	Phronesis
Analytical rationality	Instrumental rationality	Value rationality
Scientific knowledge	Technical knowledge	Practical knowledge, ethics
Oriented towards knowledge	Oriented towards production	Oriented towards action and values
Universality, invariability, context independence	Pragmatism, variability, context dependence	Pragmatism, variability, context dependence
Theoretical know-why	Technical know-how, skills	Prudent application of episteme and techne

Source: after Flyvbjerg (2001)

The first two of these are familiar to us but the third is much less – it has no obvious counterpart in contemporary English and is perhaps best translated as prudence and value-rationality. It is through the work of thinkers like Hans Georg Gadamer and more recently Bent Flyvbjerg that phronesis is brought back to our attention, and rightfully so: it is a critically important virtue, not least because it concerns the application of the much more familiar virtues of episteme and techne.

I would argue that time-geography as Hägerstrand intended it was a phronetic approach to research – it sought to strike a balance, and in fact a more successful balance than mainstream science does, between the virtues of episteme, techne and phronesis. Key in this regard was, for him, time-geography's focus on how the myriad of objects – organisms, technical artefacts, inanimate matter more generally, ideas, symbols, power, etc – come into contact with each other, fit together or wield each other out within the local connectedness and momentary thereness of a landscape (diorama)

over a period of time. This is what the space-time web of trajectories was about for him. There was and is no reason to only consider the trajectories of human agents in time-geographical analysis.

What seems to be lost in much recent work on time-geography – particularly that with a focus on transport and communication – is the balance of episteme, techne and phronesis. The focus has come to lie on the first two of Aristotle's virtues, and especially the techne virtue. This could be considered TG's irony.

How has this situation come about? What are key factors in this regard? Giddens' critique in the period 1979-1984 is one factor of significance here – for him time-geography was little more than a kit bag of tools. But the rapid developments in computation, GIS, digital technologies and tracking technologies are also important. These developments have enabled not only ever greater levels of accuracy and realism in time-geographical analysis; they have also helped to make time-geography more scientific and robust and thus to deepen the epistemic qualities of time-geographical analysis.

My point is **not** to criticise the deepening of episteme and techne in time-geography as such. On the contrary, these are probably needed if the divides that separate the social sciences from the natural sciences and the psychological and medical sciences are to be bridged. *My point concerns the imbalance: in much contemporary time-geographical work there is too much episteme and techne relative to phronesis.*

The question then is how the level of value-rationality can be improved in time-geographical work. Here the work of Bent Flyvbjerg, and in particular his book *Making Social Science Matter* (2001) is useful. He proposes that that phronetic social science can be organised around four value-rational questions:
- Where are we going?
- Who gains, who loses, and by which mechanisms of power?
- Is this desirable?
- What should be done?

For time-geography I would suggest that two main pathways can be followed to make research more phronetic.

The first concerns **methodology**. On one level, it would be good to reconsider and revaluate some of the methodological principles Hägerstrand himself advocated. Let me mention just three of these:

- Counteract what he described the *ceteris absentibus* principle and foreground situations and dioramas – that is, the space-time arrangements of multiple objects – not only humans but also other organisms, technical artefacts, ideas, symbols, etc – in a given part of the world

- Greater sensitivity to the unintended consequences of human action and human intentions

- Adopt ways of classifying objects that are not categorically oriented but based on the co-presence and the nature of contact between different objects

See Hagerstrand's 1984 piece in *Regional Studies* for discussion of these principles

On another level, I think that more reflexivity is needed regarding what is analysed within a time-geographical frame and regarding who might gain or lose from this. This is particularly important in the current era, where time geographical analysis in combination with tracking technologies can very easily become an instrument for surveillance.

The second pathway concerns the **object of analysis** in time geography. Adopting a more critical ethos is a straightforward way to balance episteme, techne and phronesis in time-geographical analysis.

A greater focus on issues of justice, inequality and oppression in TG is an obvious choice here, and there are many good and successful examples of following exactly this strategy in past research – think of the use of time-geography in feminist analysis of home and work demand, and of Mei-Po Kwan's innovative use of qualitative GIS to visual the space-time experiences of Muslim women in the USA after 9/11 (see, for instance, her 2007 paper in the *Professional Geographer*).

But another way to balance episteme, techne and phronesis via the choice of the object of analysis would be to focus on the profound unsustainability of current levels of carbon consumption, which are themselves to a considerable degree product of the non-phronetic application of episteme and techne.

In the context of climate change and peak oil, time-geography could be used to shed a new light on life cycle assessments of carbon emissions, or to challenge the belief that techno-fixes and narrow economistic thinking will solve all our problems. And Hägerstrand's notion of embedded time could be used to highlight how current lifestyles are a time bomb threaten the future and to criticise linear models of time in which past, present and future are clearly separated.

The list of research possibilities is much longer, endless perhaps. But the point I want to end with is this: a focus on issues around climate change not only aligns with Hägerstrand's own concerns over sustainability in the late 1970s and 1980s. It also means that the full potential of time-geography as a topo-ecological approach in which episteme, techne and phronesis are balanced is realised to a greater degree than at present.

Thank you.