

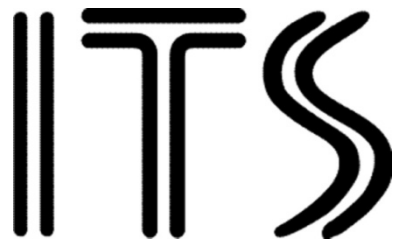


METAPHORS, METONYMS AND ALTERNATIVE NARRATIVES OF THE TRANSPORT SYSTEM

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(STEP CHANGE)

Modelling on the Move 4

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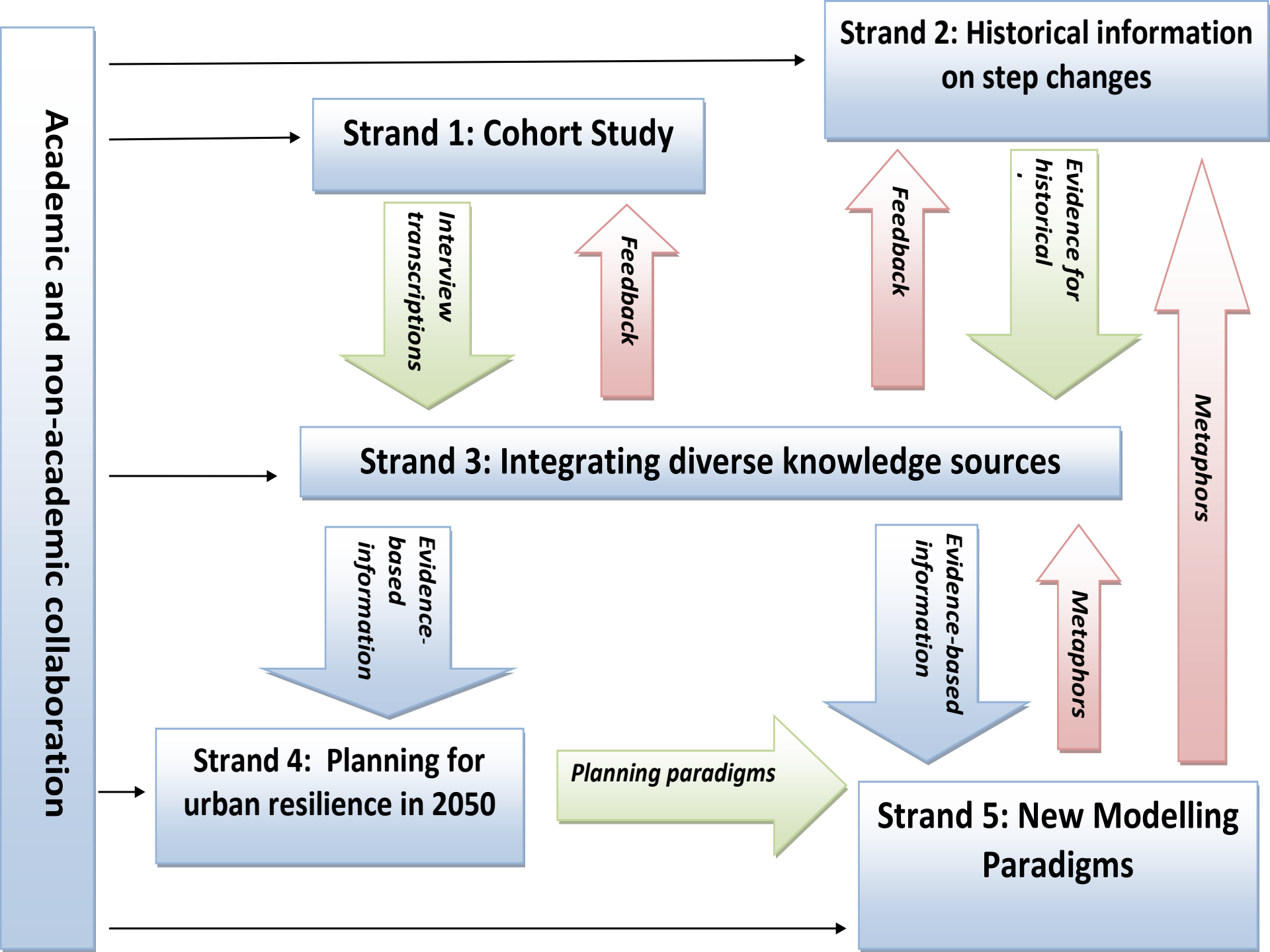
**Institute for
Transport Studies**



BACKGROUND: STEP-CHANGE PROJECT

“AIMS TO INFORM A 'STEP-CHANGE' IN ATTITUDES TO URBAN TRANSPORT BY REVOLUTIONISING THE PLANNING OF TOWNS AND CITIES.”

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ACCOUNTS AND MODELS OF THE TRANSPORT SYSTEM

- Empirical, practical and predictive activities in transport research generally make a variety of explicit and implicit assumptions about:
 - the mobility of people and goods
 - the means provided for such mobility and
 - how transport policy is made.
- These assumptions, when bundled together in a specific study, can be understood as forming an *account of the transport system*
- A *model* can be understood as a device for constructing such an account



KEY INSIGHT

- A key insight of the presentation is that all such accounts (and hence models) are underpinned by *narratives* as to how the transport system *evolves*
- To understand more about models it is useful to identify the different types of narrative underpinning them.
- Presentation focuses upon narratives of the future
 - Since (arguably) main use of models is ‘future-oriented’ (in transport planning)
 - However, general points also apply to narratives of the past

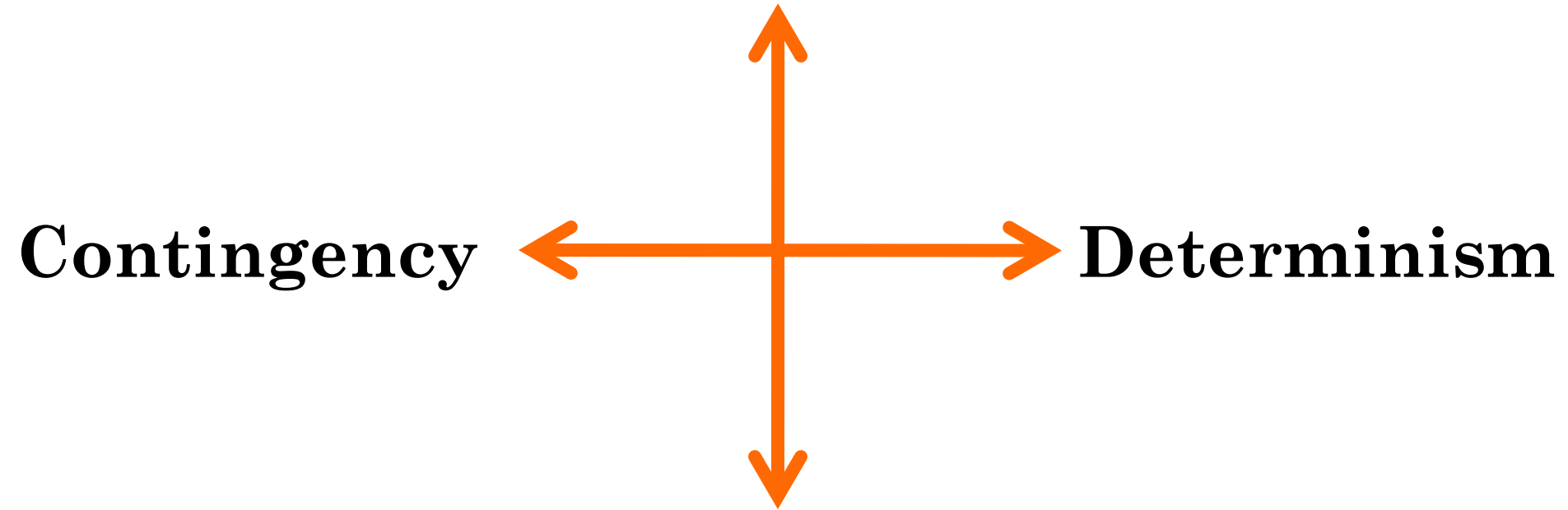


CLASSIFICATION OF NARRATIVE TYPES

- Four narrative types are identifiable in existing transport research based upon two sets of criteria:
 - (assumptions of) *contingency* versus *determinism*;
 - and *actor-based* versus (external) *scenario-based* narratives
- where an *actor* can be interpreted as any decision-making entity, such as individual trip-maker, individual policy-maker, local authority etc)



Actor focussed



Contingency

Determinism

**(External)
scenario
focussed**

CONTINGENCY

- Although some narratives can be *purely deterministic*, no (meaningful) narrative will be *purely contingent*
- Even if a narrative is classed as contingent, it must necessarily include deterministic elements



DETERMINIST SCENARIO-BASED NARRATIVES

- These narratives underpin most ‘traditional’ transport modelling.
- Arguably, the most traditional such model, with roots going back to the 19th Century, is the *gravity model* (which is based upon an analogy with the law of gravity in physics).



DETERMINIST ACTOR-BASED NARRATIVES

- Such narratives emphasise individual choices.
- However, they assume that, at an aggregate level, such choices are predictable
 - i.e. over the group of individuals being considered, the aggregate impact of individual choices is non-contingent
- Increasing usage in transport modelling since the 1970s
- Examples of models using such narratives are:
 - (short-term) discrete choice models
 - systems dynamics LUTI models
 - agent-based models



CONTINGENT SCENARIO-BASED NARRATIVES

- Such narratives typically exist within ‘scenario sets’ describing highly different alternative futures, in which the roles of actors (in creating these scenarios) are generally downplayed or ignored.
- An important use of such narratives is in Foresight planning.
- Two example sets focusing upon transport are:
 - Megacities on the Move
<http://www.forumforthefuture.org/project/megacities-move/overview>
 - OST Foresight scenarios
http://www.gci.org.uk/Documents/Office_of_Science_&_Technology_.pdf



CONTINGENT ACTOR-BASED NARRATIVES

- Such narratives emphasise the key role of specific individuals and/or groups in changing the transport system
 - with the implication that, if these individuals/groups had not existed, change would not occur
 - or at least would follow a very different path.
- Various such narratives can be found in transport studies concerning the past (e.g. Khayesi, 2007) but very few concerning the future:
 - one exception being workshop-constructed visions, e.g. those developed as part of the VISIONS 2030 project.



STEP CHANGE

- If (ontologically) the future is seen as contingent, the use of determinist narratives has the effect of forcing a view of determinism upon our understanding of the world which is 'false'
- If the world is to be (step) changed through the agency of people/organizations/social-groups etc , such efforts will be
 - facilitated by narratives in which such actors are endowed with change-making powers and
 - undermined by narratives which ignore such powers.



HOW DO WE MOVE AHEAD WITH THESE IDEAS FOR MODELLING?

- If the world is contingent, there is a need to construct (new) *contingent narratives* for the future of transport
- To help construct narratives (in general), it is useful to identify the ‘figures of speech’ (*tropes*) used within narratives
 - such tropes underpin the representations found in transport models
- New transport models will follow from new tropes (and hence new narratives)



METAPHORS, METONYMS AND IDEALISATIONS

- Many tropes could be considered for helping to construct new narratives/models
 - Wikipedia lists more than 100 types of trope
- Those considered here are:
 - Metaphors
 - Metonyms
 - Idealisations



METAPHORS

- A *metaphor* can be understood as:
 - a *description of something inside the transport system by something outside it*
- Examples
 - *gravity model*: the description of trip distribution by the analogy with the physical law of gravity
 - a *market*, matching transport demand with supply.
- Most modelling approaches rely upon *key metaphors*



METONYMS

- A metonym can be understood as the *representation of something*
 - (i) by a *particular aspect of it (a process of reduction)*,
or
 - (ii) as a *cause / effect of it*.
- For example, the representation of a human being as a *time-saver*
- Metonyms interact with each other (through cause-effect relationships) in *metonymical systems*



IDEALISATIONS

- An idealisation can be understood as a *perfected ideal of something that can only be observed in a non-perfect state*
- For example:
 - *a perfectly-informed* traveller
 - a system at *equilibrium*
 - a *time-minimiser* (as opposed to a time-saver)
- An idealisation is frequently ideologically loaded
 - for example, the idea of a *perfect market* (at *equilibrium*) suggests the success of a certain type of political system



WAYS FORWARD

- Narratives underlying models are based upon metonymical systems
 - involving key metaphors, idealisations and metonyms
- Where might contingencies enter such systems?



METAPHORS

- Metaphors can be
 - closed (e.g. newtonian physics) or
 - open (e.g. from literature or art)
- A contingent narrative/model is likely to be made up of *open metaphors*
- The modeller has complete freedom to choose metaphors
 - “Let a hundred flowers bloom”!



METONYMS

- Non-deterministic cause/effect pairs can be emphasised
- Role of probability is interesting
 - what is the relationship between contingency and probability?
 - approaches to probability:
 - ‘objective’
 - ‘subjective’
 - ‘intersubjective’



IDEALISATIONS

- Idealisations are inevitable
 - and often provide a ‘way in’ to (contingent) political issues in narratives
- However, they should be used with ‘self-awareness’
 - i.e. it should not be forgotten that they are idealisations
 - ideology is a problem when it is hidden
- Thinking about idealisations leads to formal philosophical approaches to model-building
 - e.g. *speculative realism* (which has a particular interest in contingency)



SUMMARY AND CONCLUSIONS

- To construct new models, it is useful to think about the narratives that might underpin such models
- Narrative construction is helped by considering the tropes used by narratives (metaphors, metonyms and idealisations)
- If the world is thought to be contingent, there is a need to construct (new) *contingent narratives* for the future of transport
 - using tropes that are ‘contingency-friendly’

