

Adapting to climate change: social and behavioural limits

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International workshop on the social dimension of adaptation to climate change
18-19 February 2010
Palazzo Querini-Stampalia, Venice

Tyndall[°]Centre
for Climate Change Research

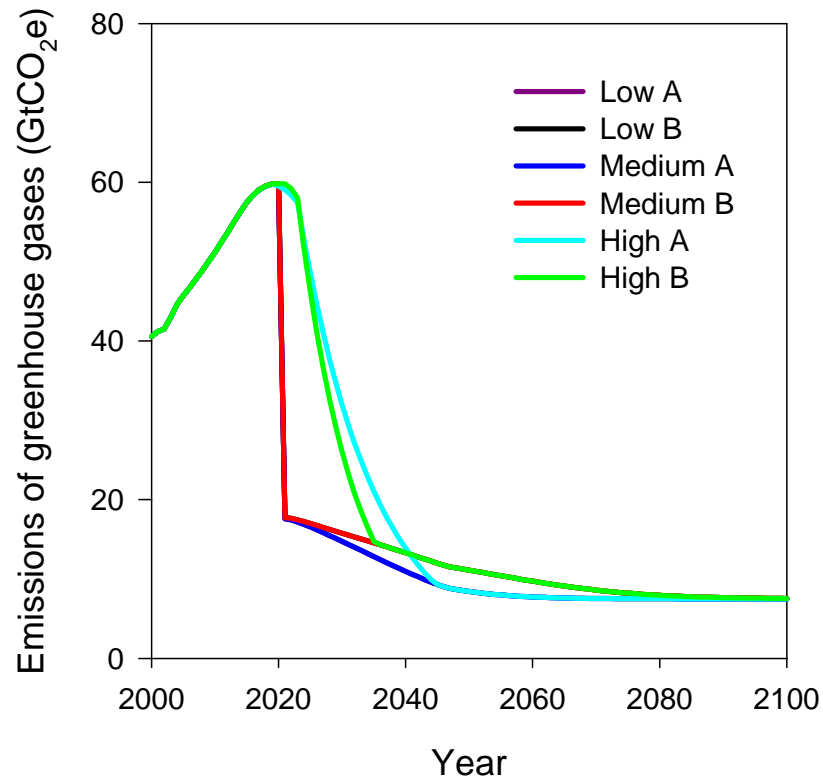


Overview

- Defining limits to adaptation
- Theoretical perspectives on behaviour change
- Social and individual factors as limits
- Bases of future projections as limits
- Conclusions

Adaptation is necessary

450ppmv cumulative emission scenarios peaking in 2020



Global emissions growing at 2.7% p.a., 2000-08.

They will have to drop substantially after 2020 to meet any reasonable stabilisation level

Limits and barriers to adaptation

- In IPCC 4AR WG2 (ch 17):
 - Physical and ecological limits
 - Technological limits
 - Financial barriers
 - Informational and cognitive barriers
 - Social and cultural barriers

Limit

Constraint to adaptation related to societal and individual characteristics, preferences, values

Subjective, mutable

Limiting adaptation?

Adaptation may be limited by:

- goals (of adaptation)
- loss of places and identities
- individual and social factors
- definitions of the future

Limits to adaptation depend on goals of adaptation



Ethics

Values

Scales

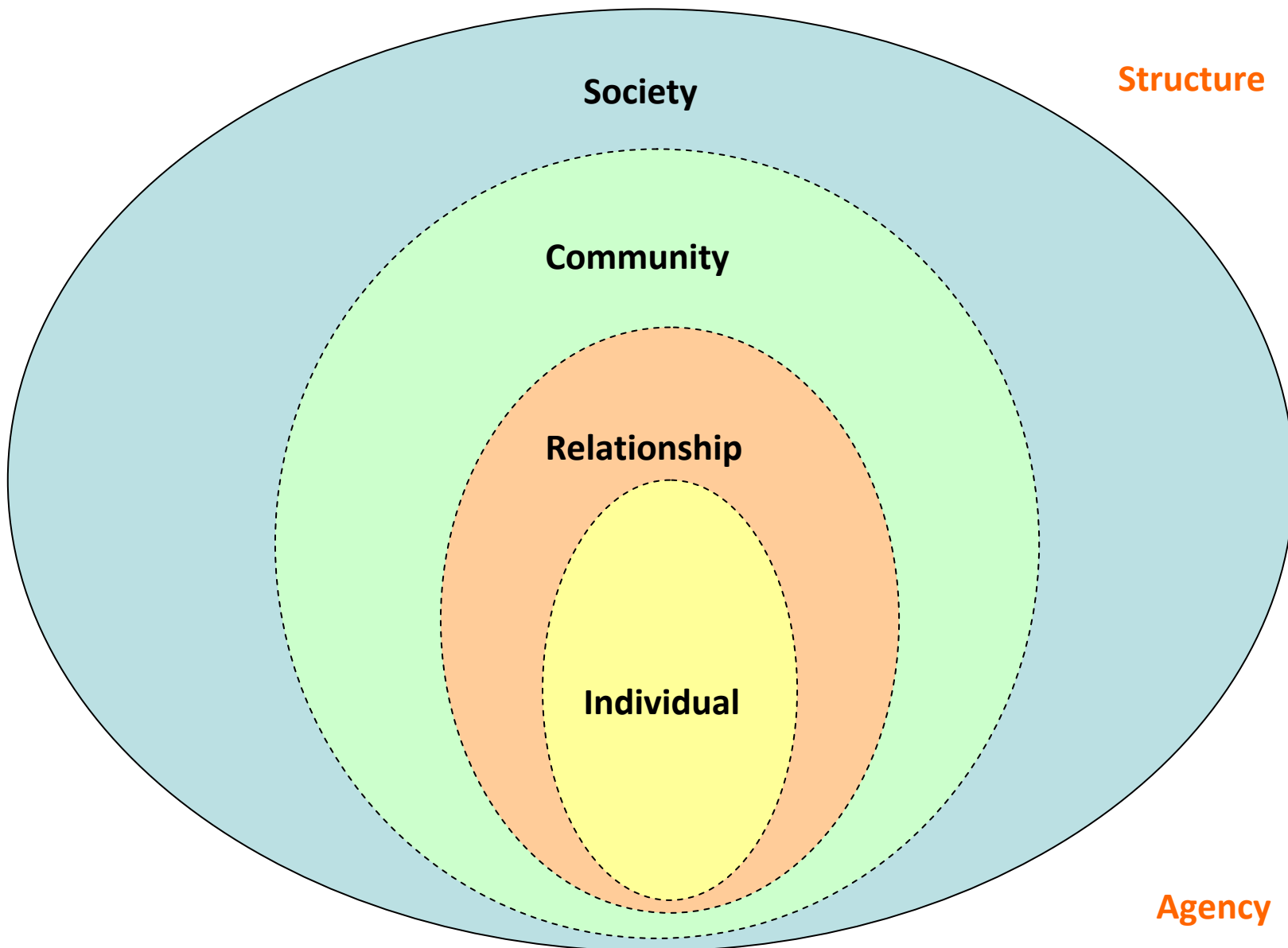
Modes of governance



Adaptation is limited by loss of places and cultures

- Unique nature of places, societies, cultures
- Identities bound to localities
- Cultural and symbolic values
- Irreversible, undervalued loss





Structure

Society

Community

Relationship

Individual

Agency

Ecological framework

Street Calculus



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Source: Slovic et al., 2004

Individual and social factors as limits

Individual and social perceptions of vulnerability and adaptive capacity influence adaptation action

- Cognitive-behavioural gap well researched
- Difficulty in transposing insights from the past to future climatic changes

Behavioural barriers to adaptation



- Elderly do not generally perceive themselves as vulnerable to heat waves
- Responses to heat are reactive adaptation
- Both high and low self efficacy can prevent adaptation
- Social networks can exacerbate vulnerability

Social networks do not necessarily reduce vulnerability

- Members of elderly's social networks may not perceive elderly to be at risk, despite their vulnerabilities
- Networks' awareness of health effects of heat and coping strategies often very limited
 - 'Hidden' vulnerabilities
 - Limit to adaptation

Behavioural barriers to adaptation: implications

Limits to adaptation exist at the level of individuals...

- emerge from perceptions of self, concepts of aging, vulnerability, ability to foresee outcomes

... and of society

- social networks may perpetuate vulnerability

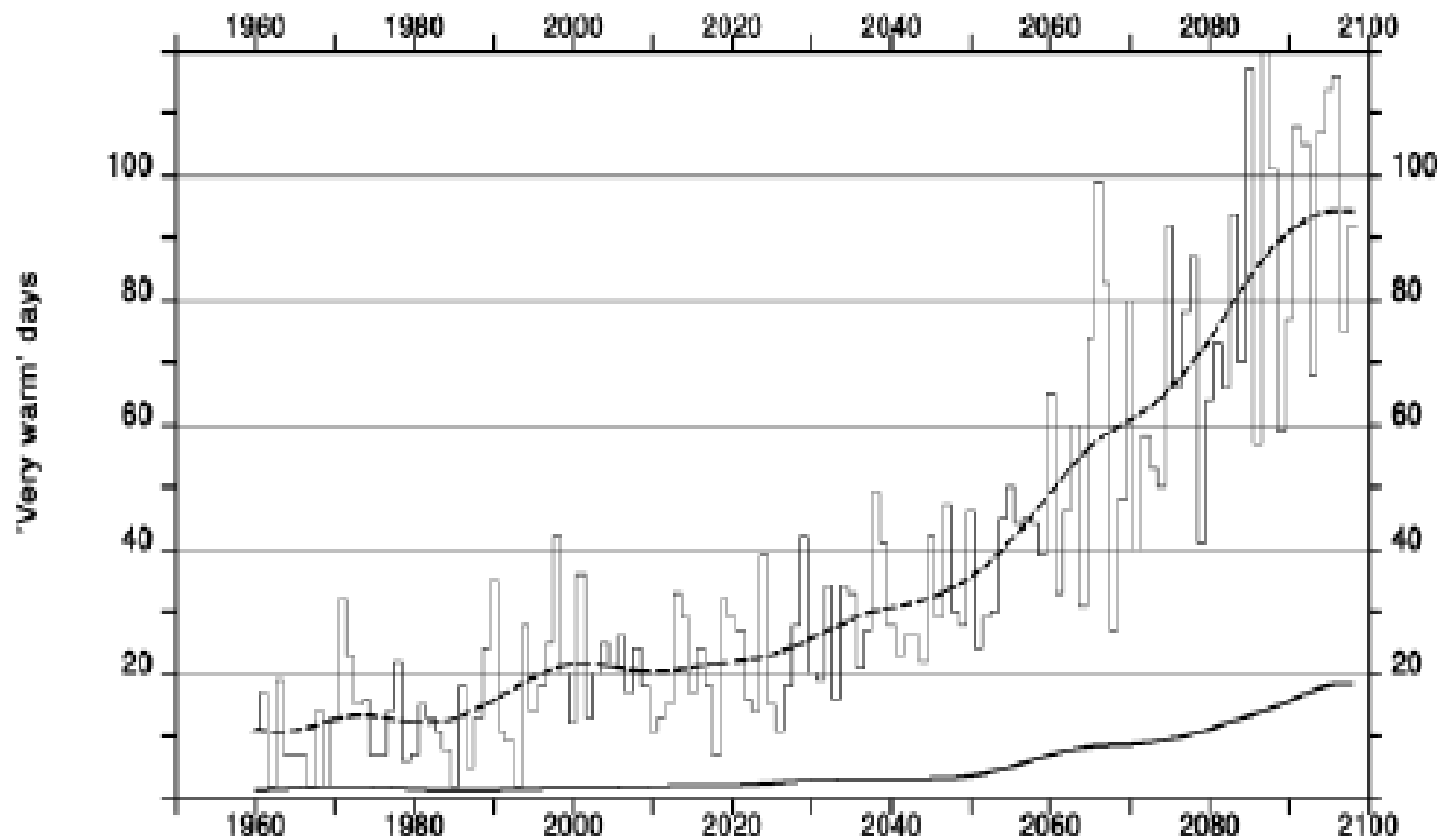
Uncertainties in foresight need not limit adaptation

- Projections and forecasts provide provisional knowledge
- Different social and organisational cultures approach future climate change in different ways

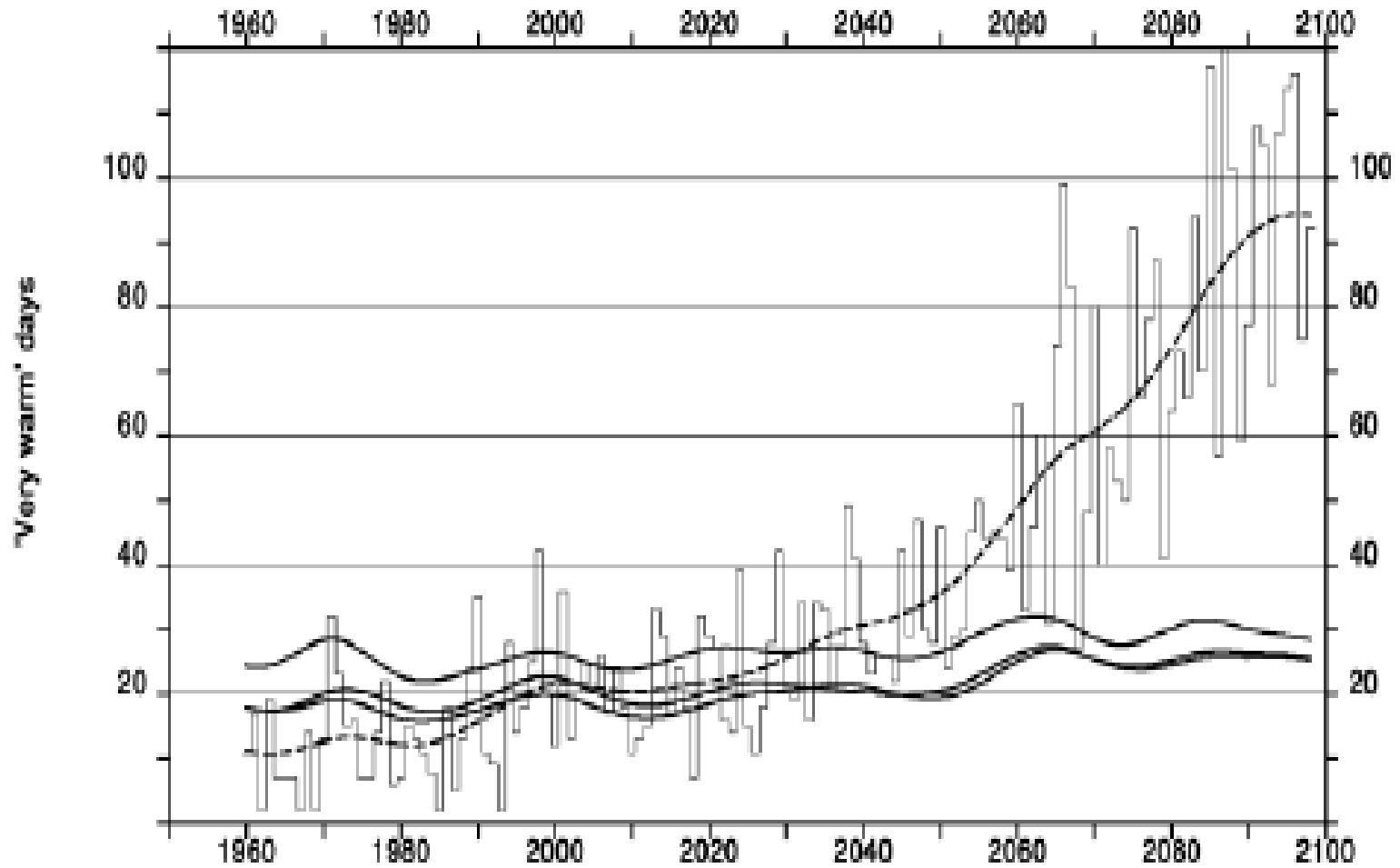
Constructions of future climate change

- Climate not solely defined by meteorological statistics
- Climate also exists as defined by individual memory, experiences, cultural and societal characteristics
- Scientific baseline for future scenarios of climate change ...
- .. vs. benchmarking against cultural and psychological definitions of 'normality'

'Very warm' days in HadCM3, anomalised to 1961-1990 and 2070-2099



'Very warm' days in HadCM3, variously anomalised



Hulme et al. (2009)

Constructing the future: implications

- Normative role of scientific baselines in shaping expectations of the future
- Utility of future projections in light of their interpretation by individuals, cultures, organisations
- Climates are unstable
 - May limit short-term adaptation

To conclude

- Adaptation is happening and is necessary
- But adaptation is constrained by undeclared / conflicting values, aims, perceptions, reflected in behaviours at individual and social levels
- Limits are mutable – adaptation requires challenging perceived wisdom



Thank you

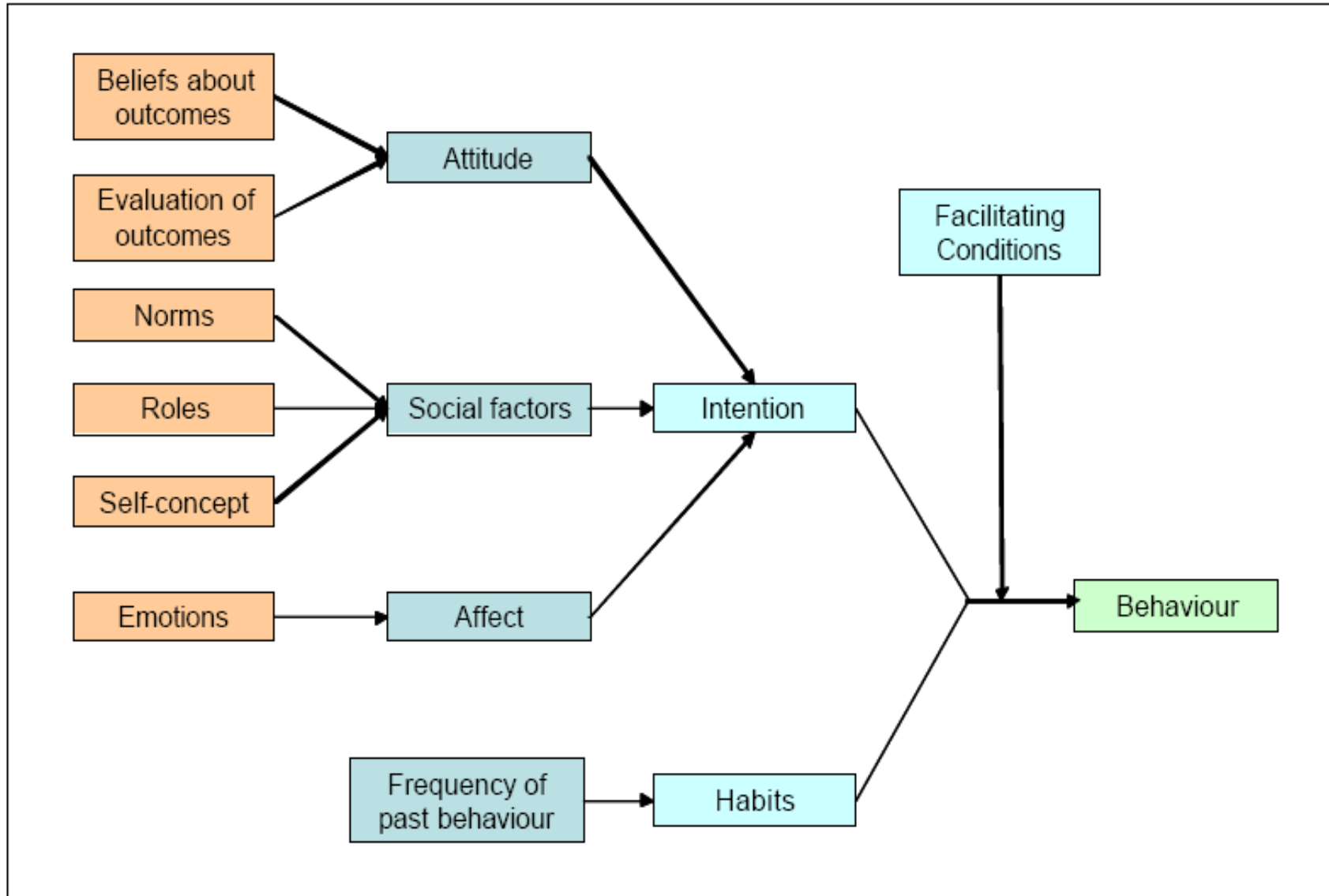
Questions and comments welcome

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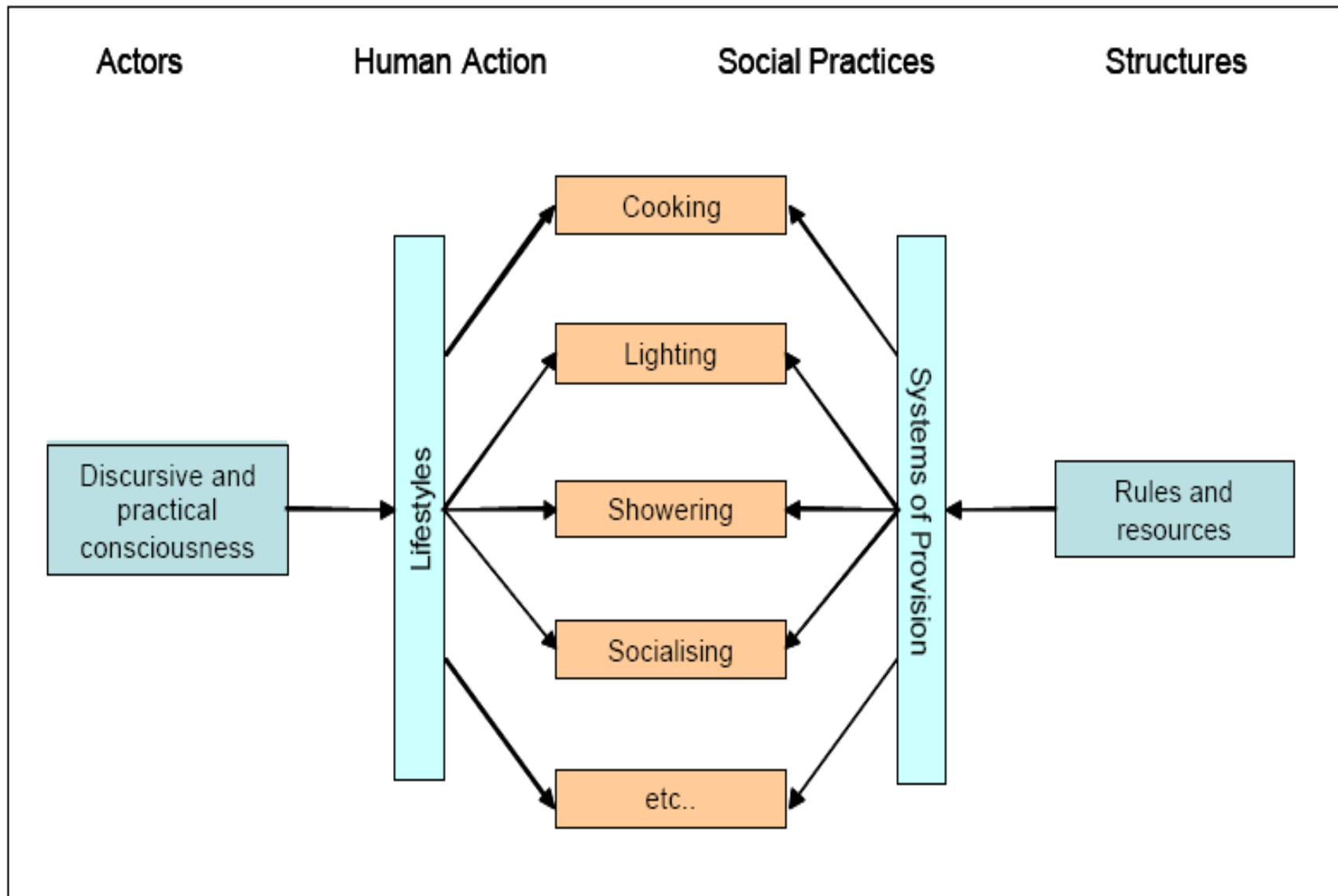
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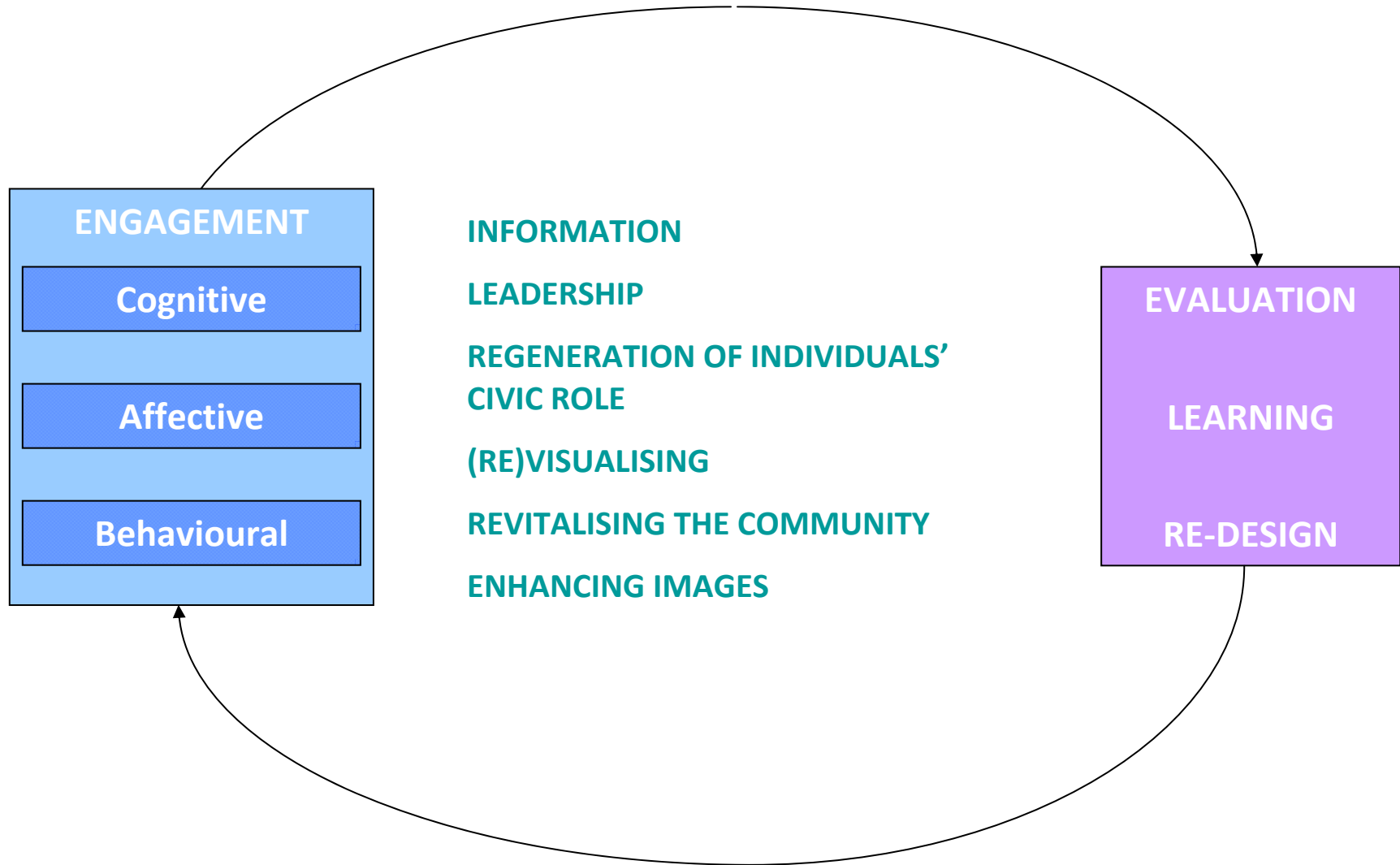
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Theory of Interpersonal Behaviour (Triandis, 1977)



Consumption as social practices (adapted from Spaargaren and van Vliet, 2000, in Jackson 2007)



Source: Whitmarsh et al (in press)