

Evidence is about the past,
policy is about the future.
Constructive TA and other ways
of joint inquiry

Arie Rip (University of Twente)

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Evidence is about the past ...

- Has to rely on data that have been collected
- There may be regular patterns, even law-like relationships that allow extrapolation
- Even then, the actual future situations may not resemble the conditions under which the earlier regularities were established
- Futures are to be captured in narratives
- Arie Rip, 'In Praise of Speculation,' Ch. 8 in OECD, Proceedings, Social Sciences for Knowledge and Decision Making, Paris: OECD, 2001, 95-103.

Robustness

- Add the complexities of actual policy making and implementation (cf. Marjan Slob and Jan Staman, Policy and the Evidence Beast (2012), The Hague: Rathenau Institute)
- Instead of evidence-based, go for ‘robustness’: hard to undermine, can withstand interference or attack, also from stakeholders, politicians
- Is outcome from ‘repertoire learning’, as in the controversy about the link between smoking and health (see Arie Rip, 'Controversies as Informal Technology Assessment', Knowledge 8(2) (Dec. 1986) 349–371.)

Joint inquiry

- Fact-finding includes “best efforts to interpret uncertainties” (Keystone Center, Nuclear Power Joint Fact-Finding (2007), Executive Summary, p. 9)
- Yes, but that’s not enough. There is also **indeterminacy**, especially about future technology and society.
- Think in terms of ‘joint inquiry’ and the articulation and learning that can occur (cf. also Peter Adler on ‘collaborative inquiry’.)

Joint inquiry (2)

- Philosophical roots in pragmatist philosophy, especially John Dewey (cf. his notion of ‘publics’ (in the plural) gathering around a shared concern)
- Pre-amble to this workshop: “Joint Fact-Finding can make significant contributions to resolving or preventing science-intensive public controversy.”
- Yes and no; the “no” because **public controversies may be necessary as opportunities for learning, also because values, interests, and gradients of force are present.**

Public engagement?

- Joint inquiry can happen in/through public engagement, but not if public engagement is only oriented towards collecting opinions and preferences.
- This can be done in a sophisticated manner (e.g. Kei Kano, Toward Achieving Broad Public Engagement with Science, Technology and Innovation Policies: Trials in JAPAN Vision 2020. *Intntl. J. Deliberative Mechanisms in Science* (Hipathia Press) 3(1) (2014) 1-23.)
- Focus groups will do better because there will be interactions, but often the learning that is involved is not reported.

Positions on a continuum?

- Evidence production ↔
- joint inquiry ↔
- collecting opinions/comments

- Only joint inquiry can address indeterminacy (including value and interest indeterminacy)
- Importance of **'framing' (through a narrative)**, Norwegian consumer focus groups discussing nanotechnology (H. Throne-Holst): "new technologies are risky", "yes, but old technologies can be risky as well," "so let's see what advantages new technologies might have." This shapes fact-finding!

Orientation towards the future

- Constructive TA creates **evidence-based futures**, not based on extrapolation but on scenarios.
- Sociotechnical scenarios (emphasizing technology and innovation) using **multi-level pattern analysis and insights from innovation studies** -- but the approach is general.
- Essential further step: use the scenarios as a **platform for discussion** in strategy-articulation workshops with a broad variety of stakeholders (thus, a **micro-cosm**).
- It is a joint inquiry, even if participants just take home whatever learning they have drawn out, there is no need for a consensual conclusion.

Example: nanotechnology and food packaging

“The food industry is hooked on nano-tech's promises, but it is also very nervous (The Observer, 2006)” [about acceptance]



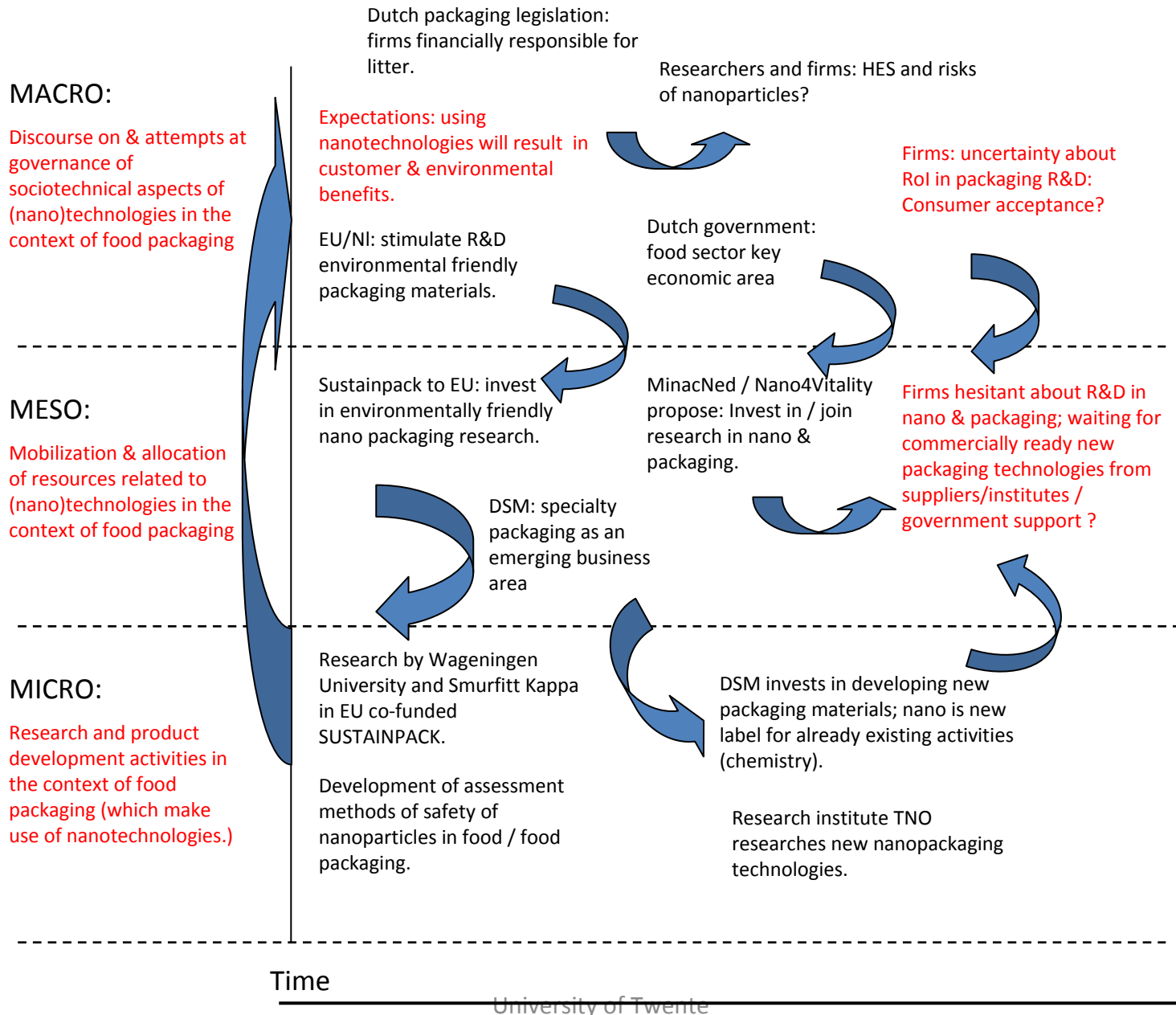
“Colors without Dyes”

Anticipation on uptake and embedding: depending on who takes the lead, different scenarios unfold

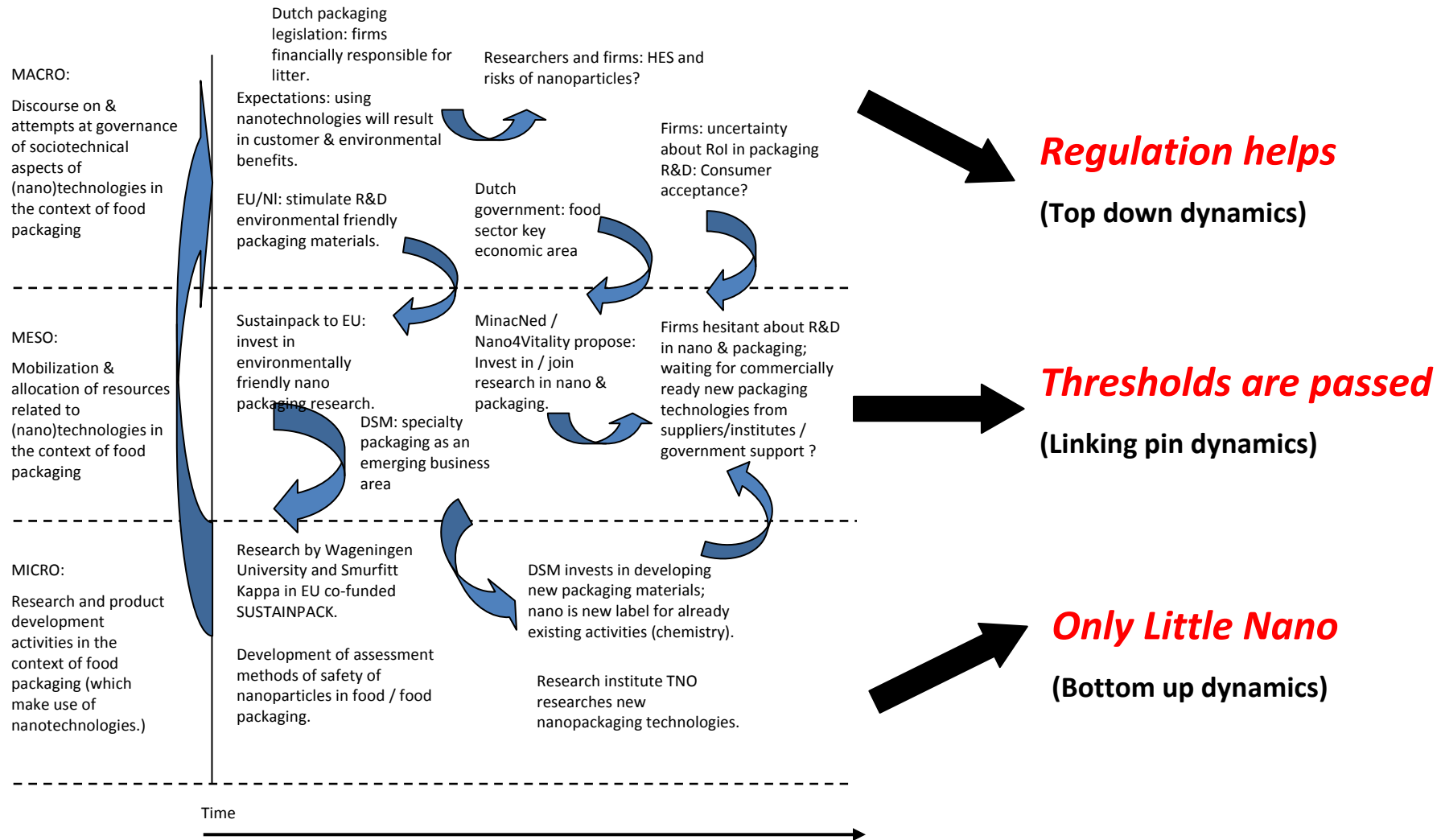
- “Waiting game” in food (packaging), attempts to overcome it
Three scenarios:
Promise pushed by scientists
Regulators become pro-active
Consortium of actors from the whole chain

Occurs in almost all our cases; a general pattern?

Development of nano packaging: an impasse?



Three scenarios



Lessons

- There must be **something at stake** to create incentives for joint inquiry and learning. (People are not keen on putting an effort in learning.)
- Rather than representation of the public (or population), the **micro-cosmos must represent the forcefields at play in the real world**. Otherwise no learning, only brainstorming.
- Constructive TA is specialized (science, technology, innovation, and their embedding in society), **builds on understanding of dynamics**. Overall approach can still be used for broader, more complex issues.

Other ways of joint inquiry

- Analysts are exploring more **sophisticated methodologies**, as in the I2TA project (Shiroyama et al. 2007-2011). One example is **problem structuring** (Nakagawa et al. Techn. Forecasting and Social Change 77 (2010) 615-638)
- At the other end of the continuum, the new social media and the bloggosphere have unstructured interactions, which may have effects (cf. **repertoire learning**)



- I have broadened the idea of joint fact-finding
- And introduced a future-orientation
- While maintaining the goal of robustness, and indicating productive methodologies
- **Who will actually put effort into realizing all this?**
- Will it become part of Responsible Research and Innovation (the latest fashion in the European Union, in addition to Grand Challenges)?