

# Foresight and TA as telling each other forward

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Vienna, 16 March 2012

# Why this title?

- “Telling yourself forward” – creating purpose and direction through story-telling (Deuten & Rip 2000) incl. diffuse scenarios of desired worlds
- Such stories also position others, often explicitly (Callon 1986, on “actor worlds”), and can try to move them in certain directions
- Expectation statements as “terse stories” (Boje)
- Key question: how do these add up? Collective expectations “emerge”, somehow (Carla)!? But it is more than “exchange” (Pietro), there is aggregation (sometimes formally)

# We encountered such foundational questions

- Especially in our work on Constructive TA, earlier on, and recently in the large program on CTA of nanotechnology
- New/emerging technology – lives on promises
- We add to the ongoing anticipations of actors (and some anticipatory governance) through
- socio-technological scenarios (“endogenous futures”) and
- strategy-articulation workshops with variety of stakeholders (“micro-cosmos”)

# Start with a diagnosis (“bridging the gap”)

- Around NEST there are “enactors” and “comparative selectors” (Rip 2006, inspired by Garud & Ahlstrom 1997)
- **Enactors** invest in promoting and realizing the new technology, having/articulating diffuse scenarios where to go (up to roadmaps).
- They see the world as either conducive to their goals, or constituting barriers to be overcome
- And interpret responses in those terms (up to nanophobia-phobia, cf. Rip 2006)

# The other side

- **Comparative selectors** do not identify with a particular technological option, can move across options, compare and select
- Also indirect selection by “third parties” (e.g. insurance companies) and “framework conditions” (e.g. nature of patent law)
- **Structural difference in perspectives** between enactors and comparative selectors, but they can “probe each other’s realities” in “bridging events” (Garud & Ahlstrom 1997)

# General divide

- “zones of enactment” vs. “zones of comparative selection” – different types of expectations are put forward
- Up to different government ministries and agencies being responsible for the one (“promotion”) or the other (“control”)
- A division of institutional/moral labour in handling new technology in society
- Now there’s more bridging/interaction, cf. “responsible innovation” (is policy discourse!)

# Interaction and aggregation of expectations

- I.e. promises and concerns (about impacts, about hype)
- Some aggregation occurs in our CTA workshops (so on a small scale)
- In the wider world?
- Starts with recognition that there are different expectations, and for good reasons
- Cumulation without actual consensus (ex. health risks of nanoparticles – is now on the agenda, even enactors who find risk exaggerated have to accept that it is legitimate, and do something (anything) about it)

# Further dynamics

- Indirect interaction, and third parties “waiting in the wings”
- Example from Pietro (p. 5): actors (public agencies) take potential audiences (“the public”) into account when writing up their expectations and positions
- Net effect: a somewhat stabilized (but perhaps evolving) **repertoire**, here of expectations
- Cf. also dynamics of controversies: agonistic collective/repertoire learning (Rip 1986)

# What is the basic mechanism?

- One thing is that expectation statements will be used as strategic resources (cf. Koen, p. 3)
- Yes, but they have content, and their value lies in their content as well (incl. performativity)
- A good way to see this, and to analyse it:
- A story/scenario about a future world (an “actor-world” (Callon 1986)) which elicits a response
- Electricité de France articulating a future world full of electric vehicles – where car maker Renault would be reduced to just making car bodies. So Renault had to respond, creating another future, but still taking items of EdF scenario into account.

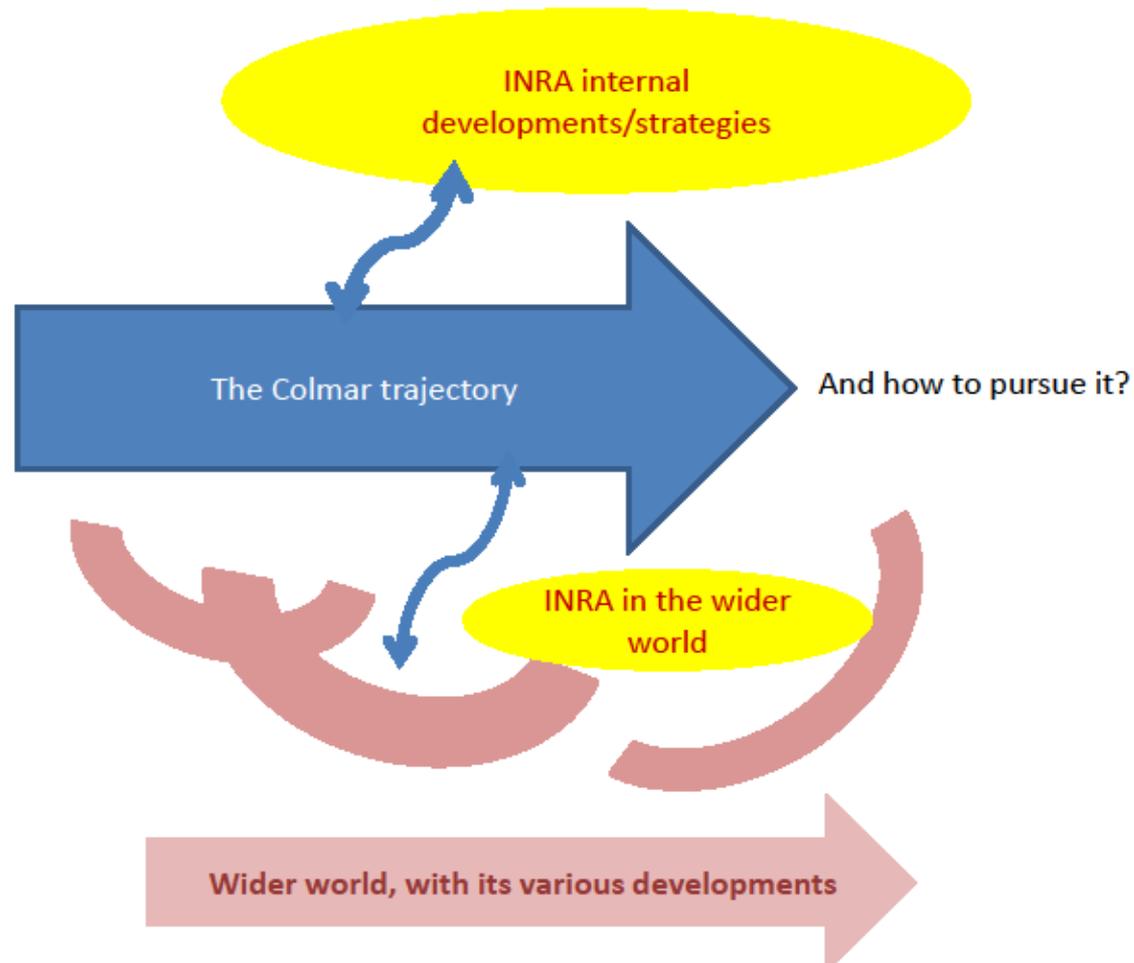
# Background:

- This is Actor-Network Theory+ (enrolling others through a story, creating obligatory passage points etc) – the + refers to aggregation
- Affinity with symbolic interactionism: “interaction between stakeholders enables reciprocal typification of action and reflection on own role in the system and that of others” (Kathy, p. 3) [but be careful about “shared” meaning]. (cf. earlier, on Garud and Ahlstrom)

# Aggregation

- Actor X produces a diffuse or explicit scenario, a story in which other actors are allocated roles. These become characters in the story the actor/author tells. Such scenarios/stories are put forward, with more or less force (also depending on the situation).
- Other actors, portrayed as characters in the story, respond (have to respond), and do so by offering a (partially) alternative story. The original author now becomes a character in the story of the new author, but the new author is not completely free in creating the story she would like, she has to take the original story into account.
- Such interactions continue, new actors may enter the arena. There will be some cumulation, not necessarily a consensus, but with some elements becoming more forceful than others. Partly depending on focusing events/discourses (risk, grand challenge).
- Informal agenda-building, in this arena and more widely, together with a repertoire of accepted expectations that can be drawn upon.
- **Example from a somewhat controversial development (not just about expectations – but these never occur by themselves)**

# The trajectory of field tests of GM vines in the Alsace

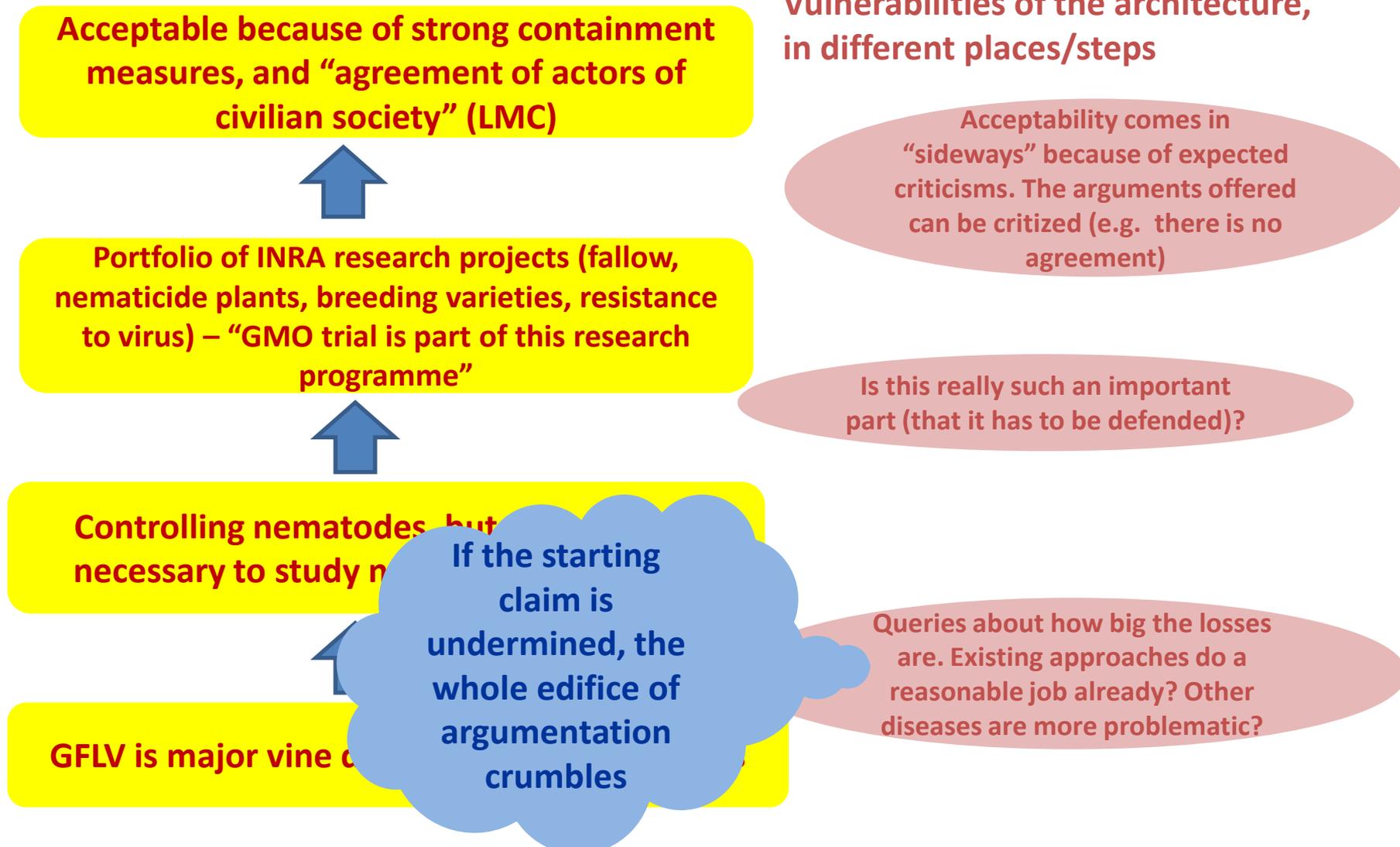


Period	Occurrences, choices
1999-2001, setting the stage	Controversies about GM in France. Because of 1999 <i>Le Canard Enchaîné</i> article (Des bulles OGM dans le champagne) and Moët Chandon's decision to step out, INRA had to make a decision about the next step, field tests, after laboratory tests on GM vines
2001-2002	Interactive TA exercise about field trials in the Alsace. Advice: can be done, but under conditions (incl. local monitoring)
2003-2005	INRA decision to have field trials, set up of local Comité de Suivi, preparations for the field trials in interaction with Comité de Suivi
2005-2010	Detailed design, set-up and conduct of field trials; and a first sign of trouble brewing when an Alsatian critic damaged the field tests
2010-2011	Destruction of the field by les faucheurs volontaires d'OGM, August 2010, creates a new situation. Court trial Sept 2011
2012	Choices/decisions about Colmar, and more generally, have to be made

A brief chronology of the Colmar GM vines trajectory  
(sources include Marris et al. 2008 and LMC et al. 2010)

# Architectures of argumentation

INRA's 24 August 2010 press kit



# Argumentation in the real world

- Actors, from their positions, and/or in the spaces they move in, respond, adapt their argumentation.
- For example, Colmar group keeps to this hierarchy: the disease is the problem, and GM is a promising approach. While INRA Directorate wants to move to “understanding basic mechanisms of spread of GM in the soil”, so this hierarchy becomes irrelevant. INRA has also to consider broader issues, including its relations with Confédération Paysanne as well as with relevant Ministries. Depending how INRA moves, and the responses to their moves, a new repertoire will emerge about possibilities and limitations of GM  
(I created scenarios about this.)

# Back to our CTA workshops

- In the micro-cosmos of a CTA workshop, such interactions are played out, with the benefit of the scenarios that participants have read. Parts of the scenarios come alive in the workshop because some of the characters in the scenarios are present and interact. (Cf. John Dewey on 'dramatic rehearsal'.)
- Since there are no immediate consequences, what happens is learning by the participants, rather than agenda-building and perhaps choices. That may come later, when participants return to their own situation(s), and start telling other stories than the usual ones.

# Body Area Networks in healthcare

## (PhD thesis Alireza Parandian)

- *“In our company [an SME producing sensors] we have sessions where we discuss strategic matters, we think about functionality issues but mainly about requirements how to get our products introduced in the market. Having experienced the interactions in the workshop, I see that other actors have a different approach than ours, and I tried to make this difference clear in the workshop. But I also realized that they assess also on other broader aspects! The quality of a service was an important example!*
- *What the healthcare professional was saying about her world was really interesting. They really have a different perspective than ours. I will take these insights with me to the next meetings in our company.”*

# Micro-cosmos and the wider world

- Participants take their wider world with them into the workshop
- A temporary entanglement of actors, perspectives, arguments, interests
- Entanglements leave traces, so the wider world is not the same afterwards
- For CTA nanotechnology: further effect is that such workshop exercises are now a legitimate part of the nano-world (institutionalization)

# General point about Foresight and TA

- The reports try to tell others forward, and can have effects if taken up in the dynamics of scenario interaction
- Interaction/process is important, but only if there are micro-cosmos ↔ wider world linkages
- This plays out against larger backdrops (e.g. liberalisation; participation; globalisation)
- Example from my paper on 'Futures of TA'

# Technology Assessment

domain in its  
own right

a “philosophy”  
of TA

part of larger  
domains/develop  
ments

1970s: first  
generation

1990s: second  
generation

2010s: third  
generation?

strategic  
intelligence

to support

**anticipatory governance**

which evolves under

**reflexive modernization**

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part of larger domains/developments

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strategic intelligence

adds tools on technology dynamics

1990s: second generation

to support

CTA

anticipatory governance

modulation

neocorporatist governance

which evolves under

2010s: third generation?

mainstreaming of CTA:  
co-evolution of T & Soc  
becomes reflexive

reflexive modernization

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Rathenau, also IST

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Technology Festivals: playful TA?

reflexive modernization

# There's more to say

- While professional TA might want to take recourse to a role of professional service, TA in the broader sense is political, almost by definition. Politicisation, as in the politics of stem cells in the USA (and elsewhere), and in a more substantial way in Latin America, may then be welcomed rather than avoided.
- Apart from this political point, requirements on “good” TA exercises (and “good” Foresight exercises, for that matter) have to be (also) derived from the broader societal changes and how TA and Foresight can contribute (at least by making them more reflexive).

# In conclusion

- I discussed micro-interactions as constitutive, but in combination with aggregation, and larger (“landscape”) enablers and constraints
- A multi-level situation and dynamics
- TA and Foresight reports attempt to tell others forward, often keeping the authors protected from further interaction.
- While this is essential for having some effect.