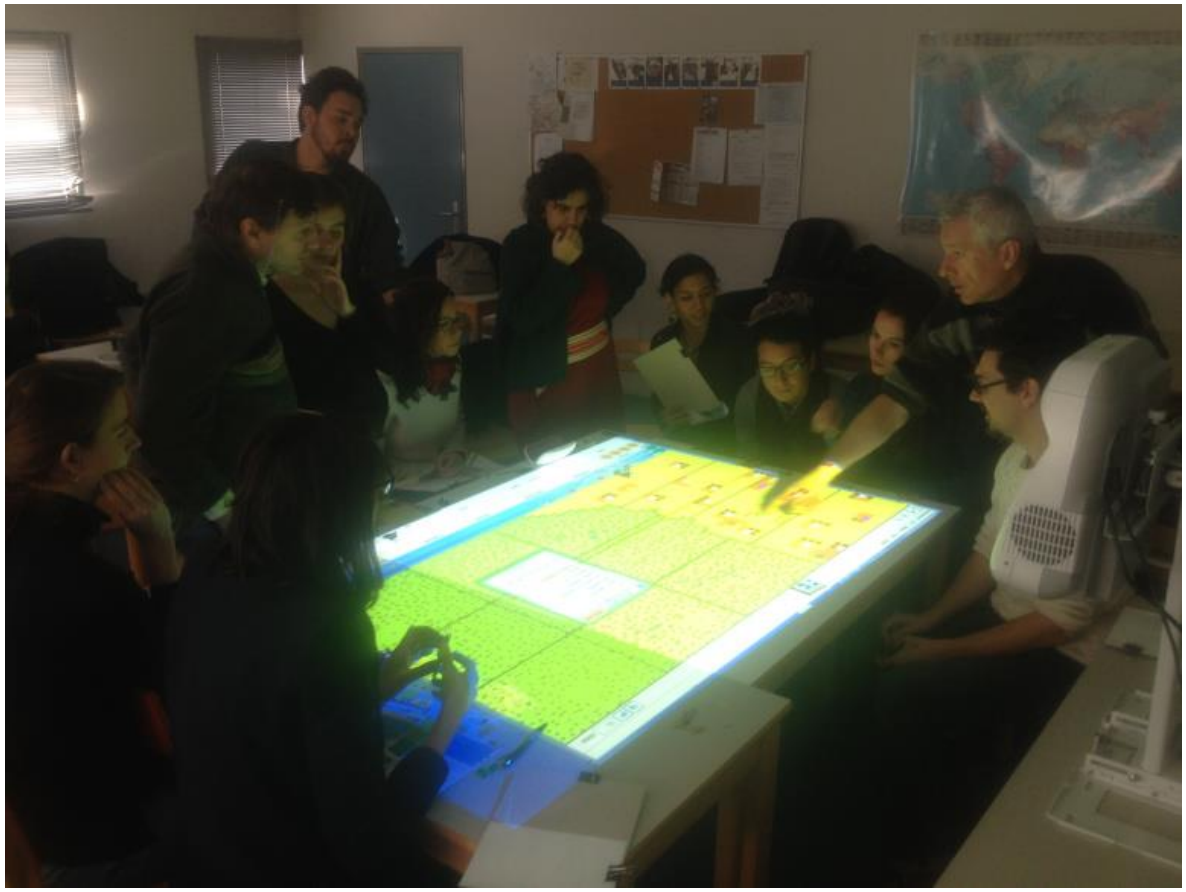
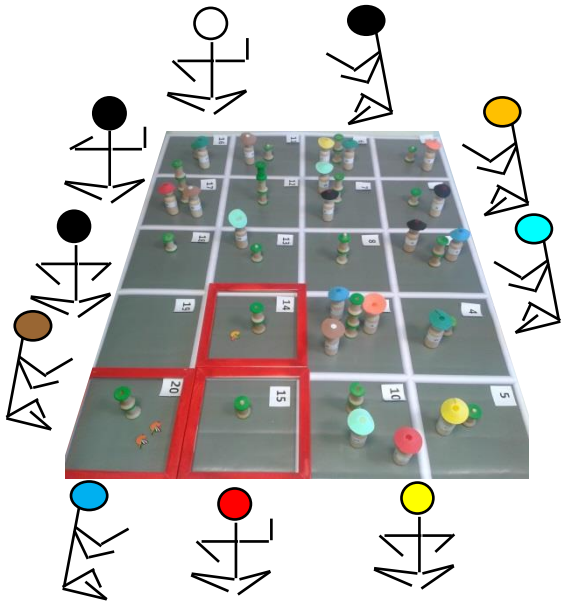
Participatory agent-based simulation of stylized socio-ecosystems to stimulate social learning: the KILT approach



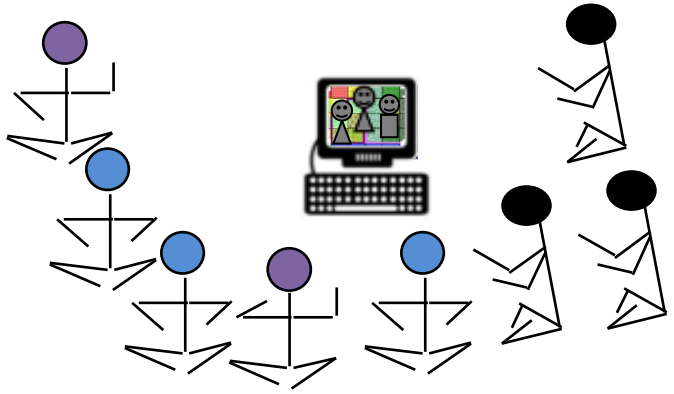
Christophe Le Page

Role-playing games and agent-based simulation

Role-playing games (computer-free)



ComMod

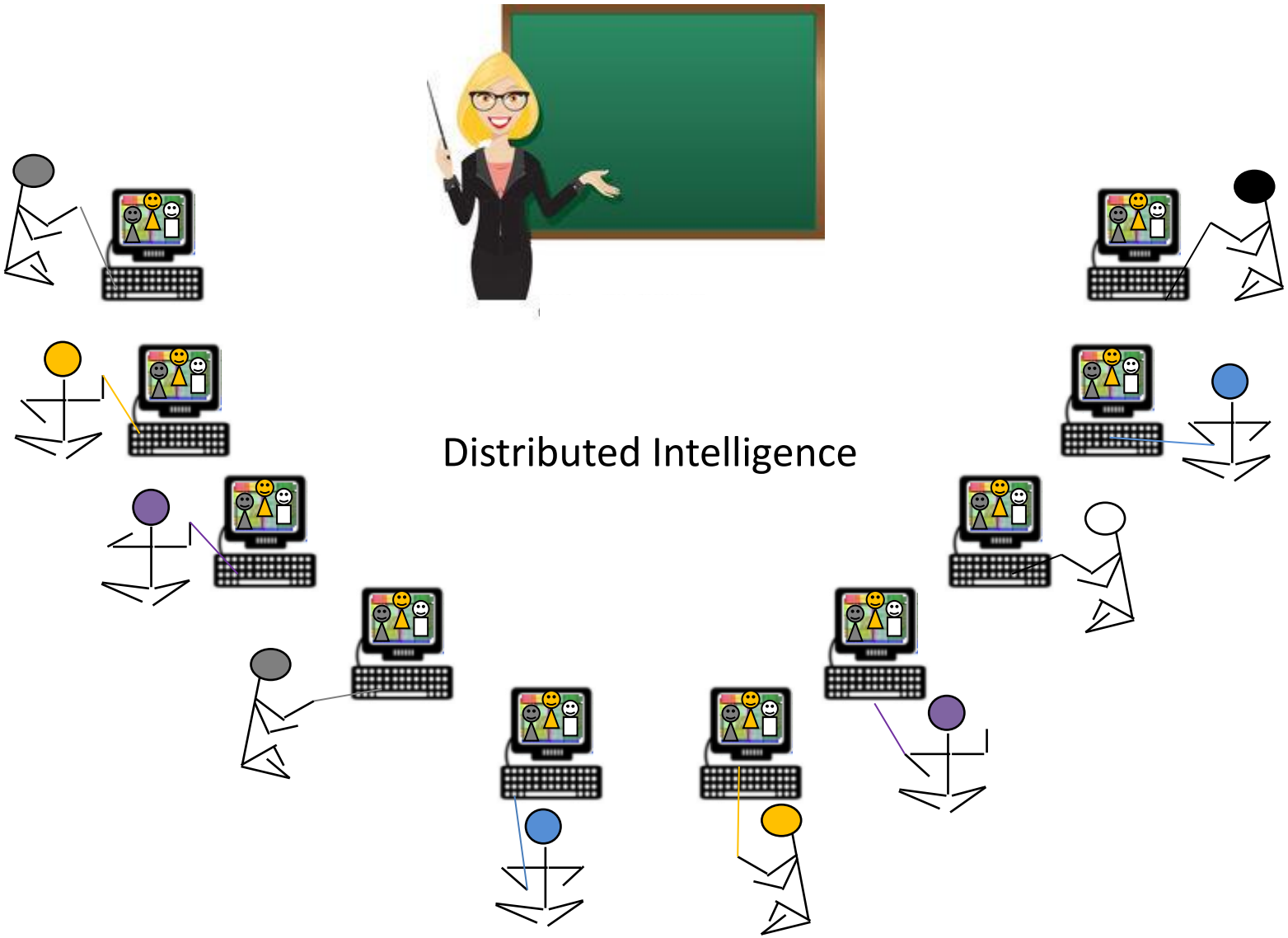


Agent-based simulation

Role-playing game (computer-free)

Role-playing game (computer-free)
=> agent-based simulation

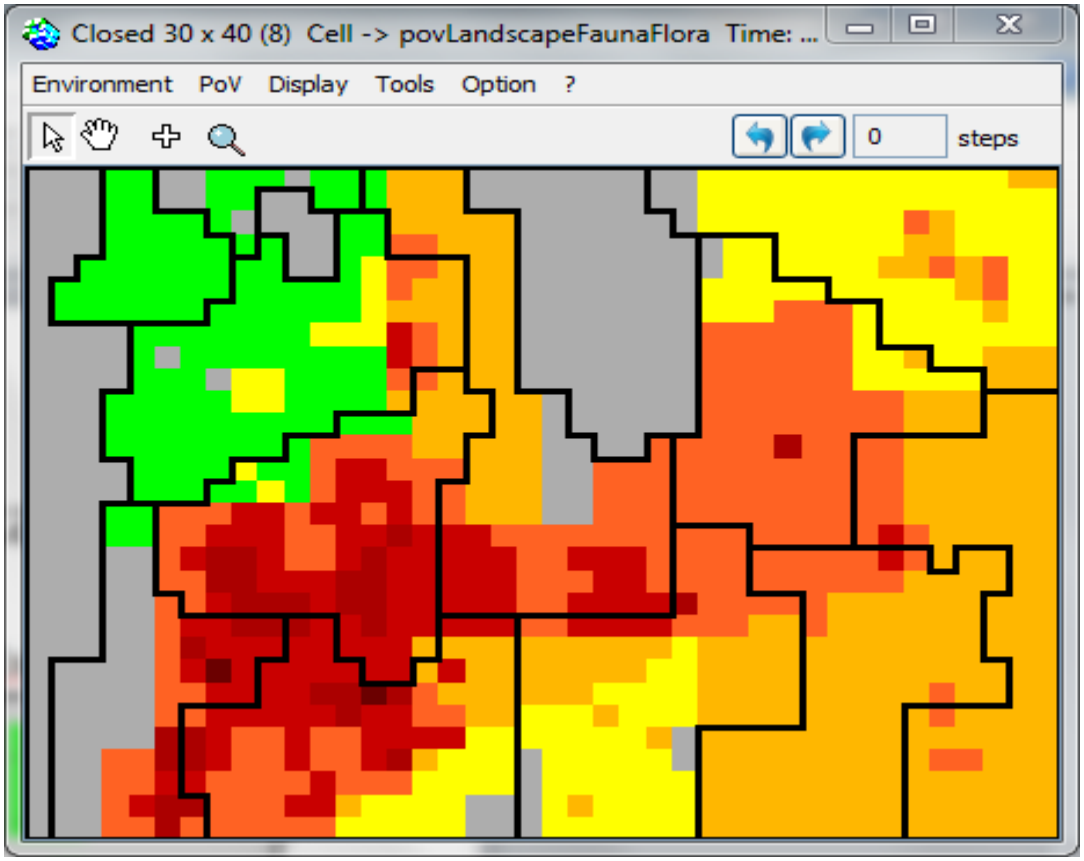
Participatory agent-based simulation

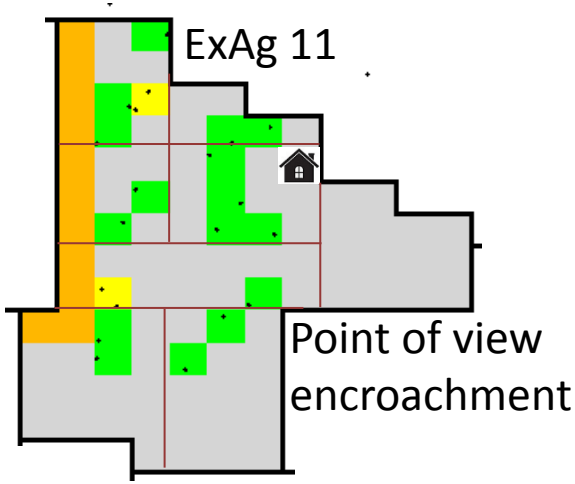


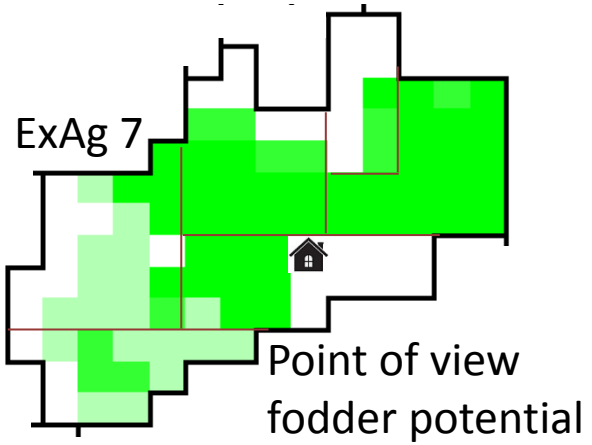
PABS to explore the resilience of contested agricultural landscapes

Dealing with specific scales & indicators

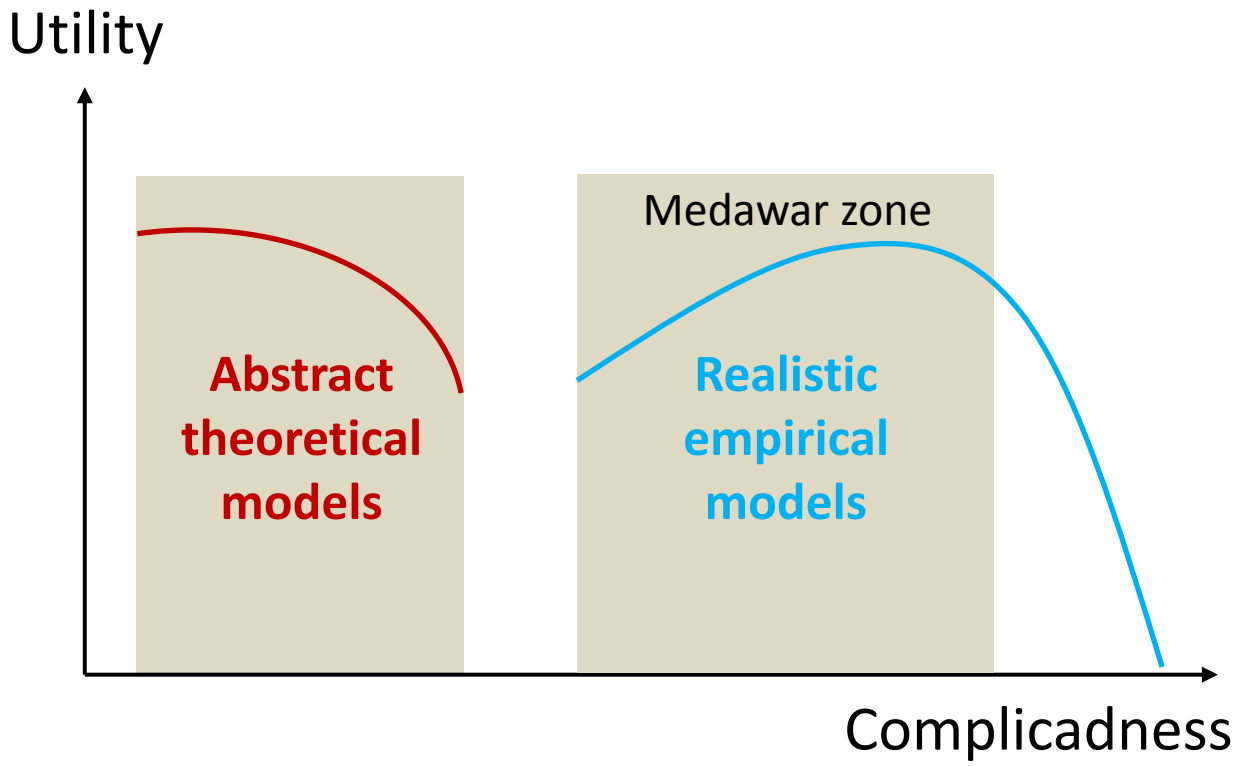
PNC - Point of view global biodiversity







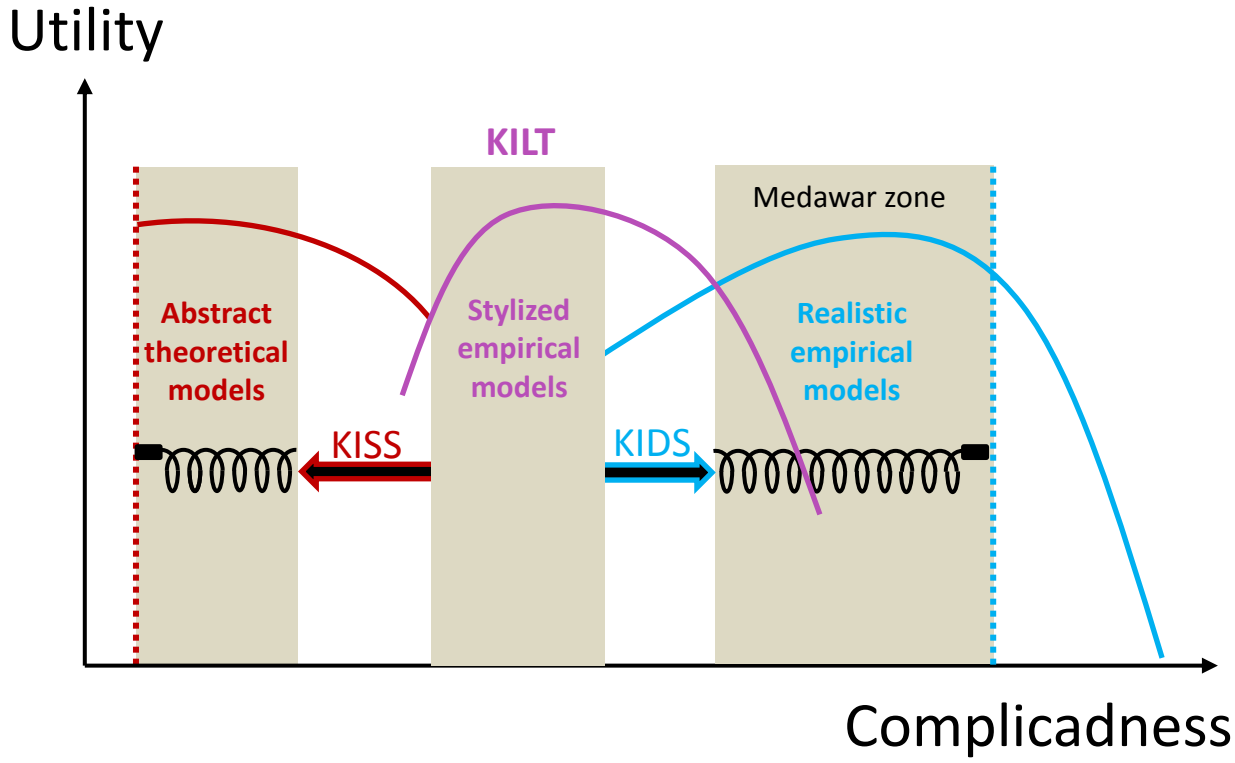
Utility / complicadness of ABMs



Sun et al. 2016

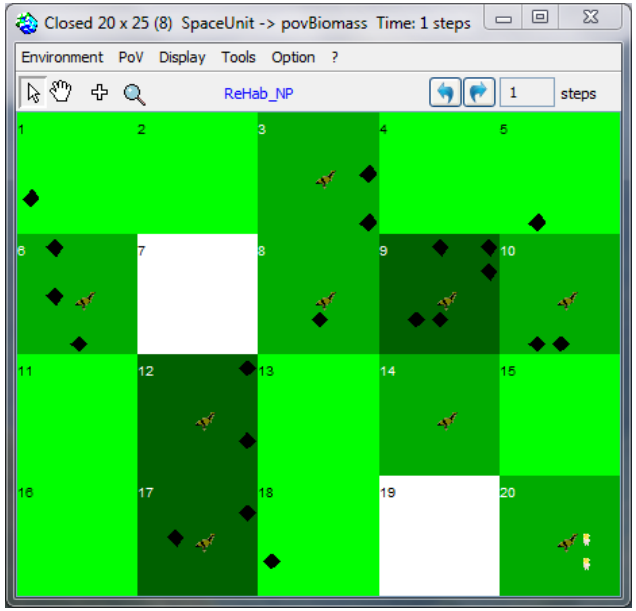
KISS? KIDS?

Keep It a Learning Tool!



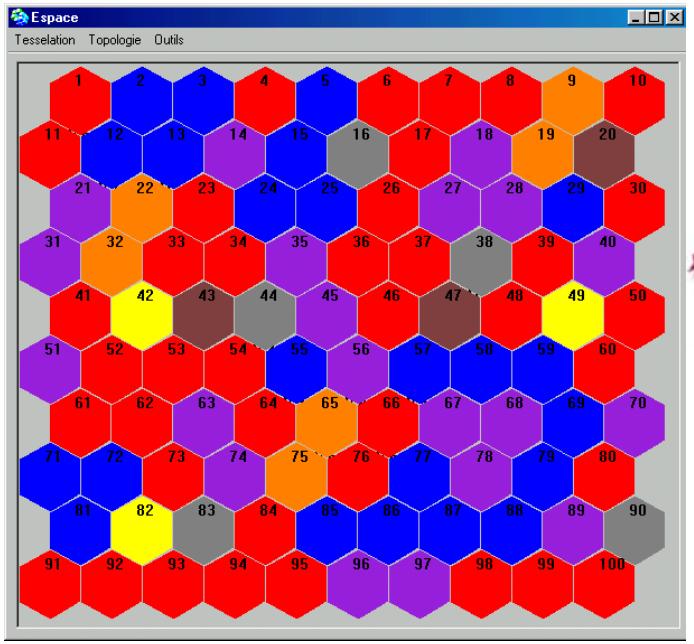
adapted from Sun et al. 2016

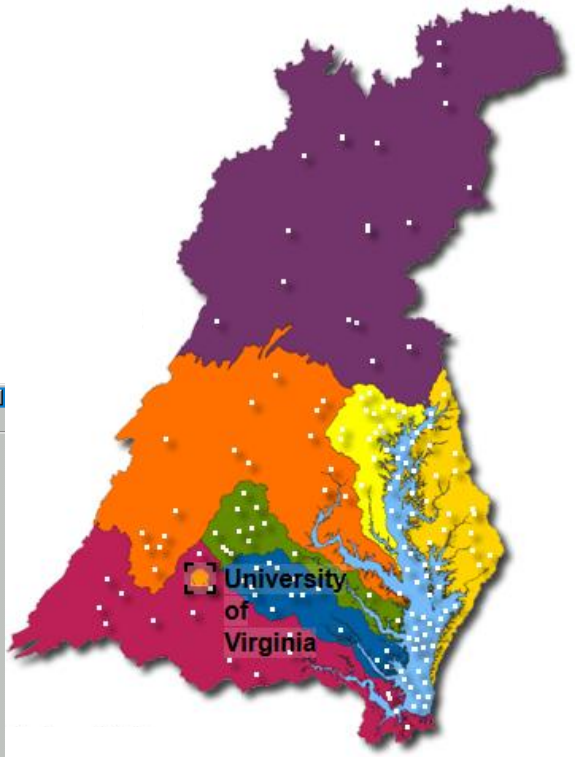
Relation to the explicit representation of space in ABMs



Abstract representation

Stylised representation





Realistic representation

Principles of the KILT approach

Using participatory simulation from an early stage of the process, as a strategic method to facilitate the co-design.

Initiating the process with an over-simplified stylized yet empirically grounded model. As a sketch, it is clearly unfinished: there remains an important work of progressive shaping and improvement so that it acquires its final form and becomes usable with people who were not involved in its design.

Methodological steps

The first version of the stylized agent-based model, deliberately simplistic, is designed by a group of 2-3 researchers

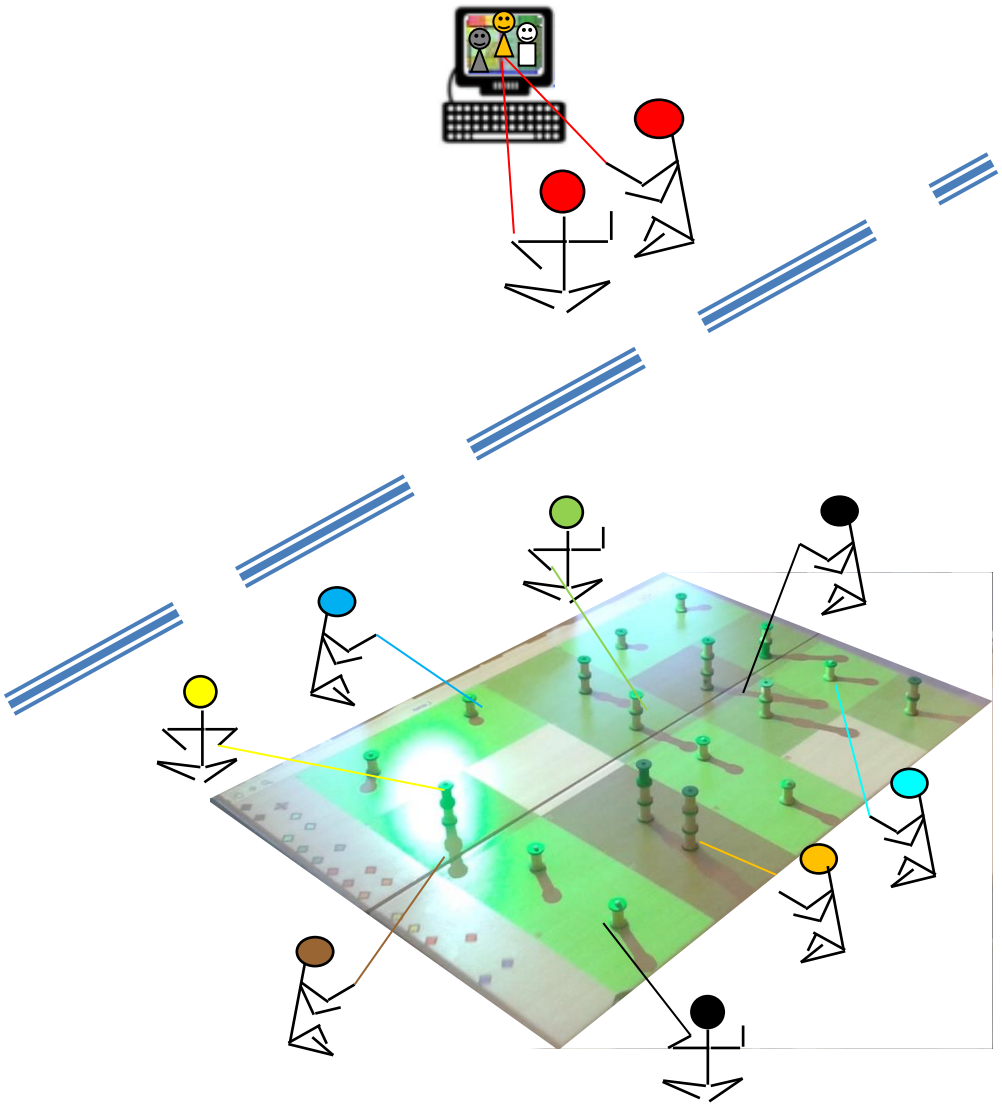
Handled as a participatory simulation tool (the actions of the agents are decided by the participants), it is introduced to a group of local actors to gather their suggestions to adjust it so that it enables discussing an issue related to the target system that was collectively formulated.

A group of co-designers is then set up and the model is fine-tuned through a series of successive workshops.

Once the design of an operational version is achieved, the tool is introduced to the other kinds of local actors as a support for improved communication.

A process initiated with the less favored actors to enable their fair inclusion in a multi-stakeholder communication platform

Supporting multi-stakeholder communication platform



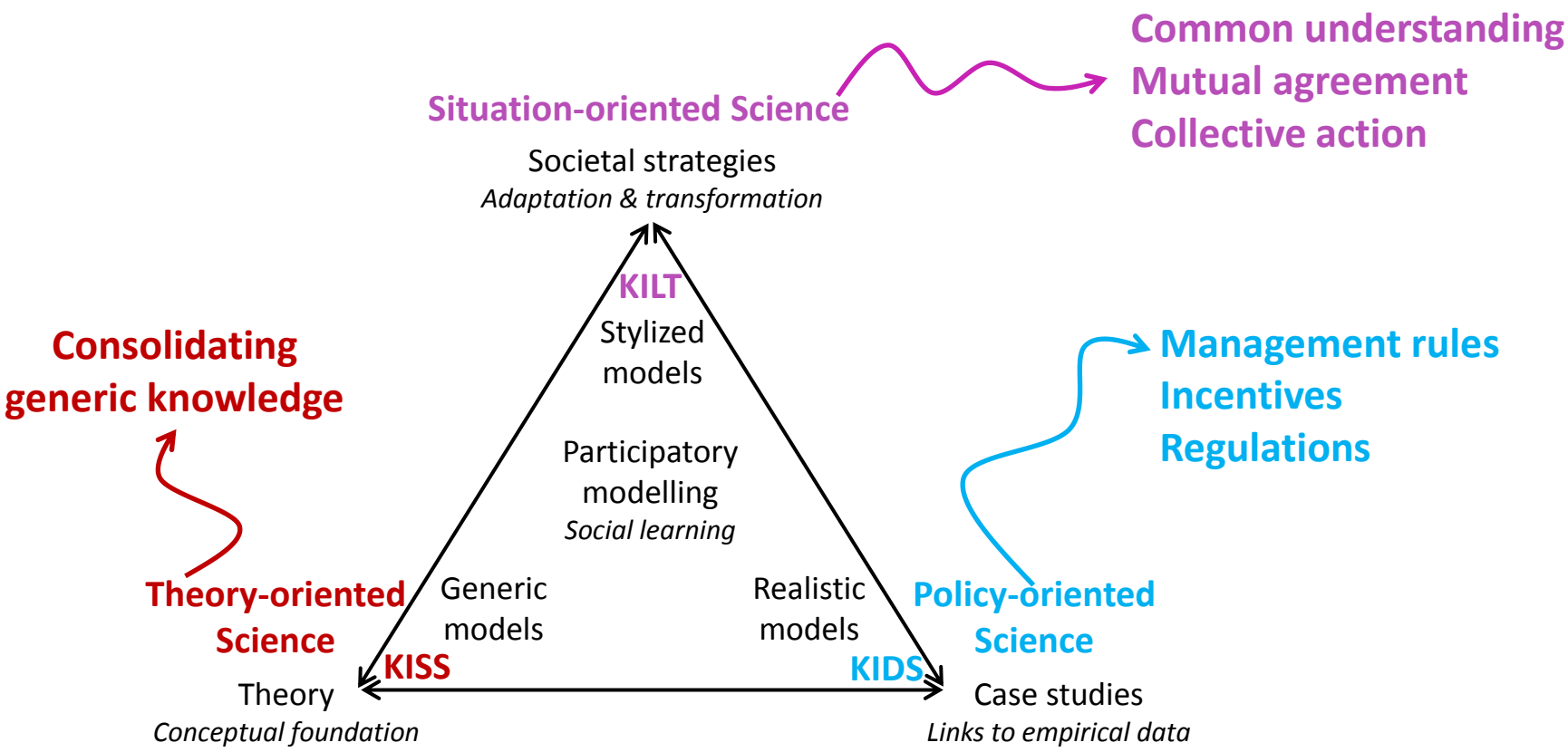
How to save the world?

One hears repeatedly the question of how we in system dynamics might reach “decision makers.” With respect to the important questions, there are no decision makers. Those at the top of a hierarchy only appear to have influence. They can act on small questions and small deviations from current practice, but they are subservient to the constituencies that support them. This is true in both government and in corporations. The big issues cannot be dealt with in the realm of small decisions. If you want to nudge a small change in government, you can apply systems thinking logic, or draw a few causal loop diagrams, or hire a lobbyist, or bribe the right people. However, solutions to the most important sources of social discontent require reversing cherished policies that are causing the trouble. There are no decision makers with the power and courage to reverse ingrained policies that would be directly contrary to public expectations. **Before one can hope to influence government, one must build the public constituency to support policy reversals.**

J.W. Forrester 2007

=> Public awareness raising

Transdisciplinarity?



adapted from Schlüter et al. 2013