



Facultés Universitaires Notre-Dame
de la Paix



Public debate, Collective Learning Process and Soil-Plant system Expertise: When scientific knowledge becomes socially distributed

Change in governance as a collective
learning process

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Our aims:

- (1) To present one of the **criteria of possibility** of a collective learning process in the field of *forest* governance

- (2) To support that ethical discussion in the field of *forest* governance requires both:
 - soil-tree cycle expertise
 - ordinary moral feeling from citizens

(1) Which kind of governance are we talking about?

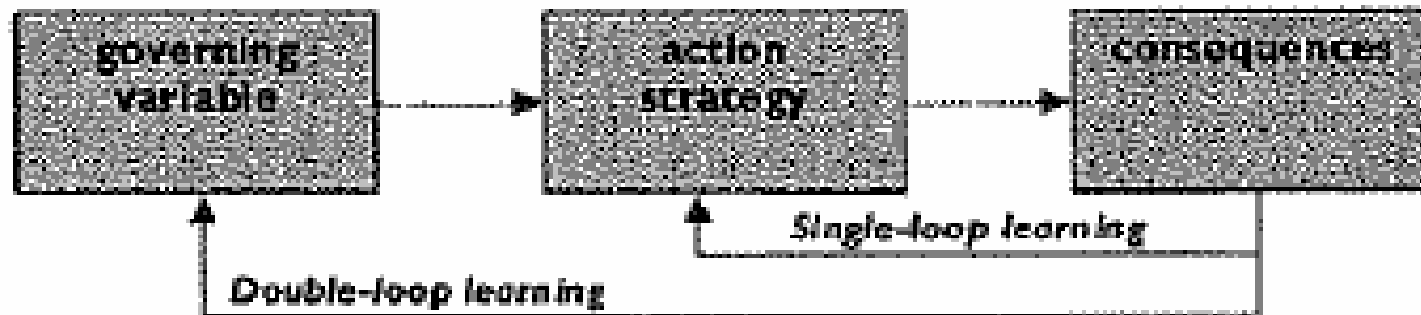
(2) Which criteria are necessary in order to implement learning process?

(3) How could we implement these criteria in the field of forest governance?

(4) Is it possible to establish a forest ethic on these criteria?

(1) Which kind of governance are we talking about?

→ A **kind of governance** involving a double-loop learning process



Governing variable = Values, plans and rules for decision-making.

In other words : the basics presuppositions involving action.

→ A **kind of learning** « based on the willingness to make use of available knowledge ».

Argyris, C. and Schön, D. (1974). *Theory in Practice: Increasing Professional Effectiveness*, San Francisco: Jossey-Bass.

Haas, P, M, and Haas, E., B., (1995). « Learning to Learn: Improving International Governance » in *Global Governance*, 1, 255-285.

(2) Which criteria are necessary in order to implement this model of learning process in the field of **forest** governance?

-As Camille Limoges and Pierre Doray underline, « **Controversy is a process of regulation** »! We agree. And we add: controversy is also an important criterion to involve a double-loop learning process in our governance model.

However, against Limoges and Doray who thought that « experts polarize and exacerbate controversy », we argue that *in the field of forest governance*, experts and their soil-tree cycle model make easy the resolution of controversy.

-**Experts** make easy the resolution of controversy only if this controversy involves also **stakeholders** (civil society, associations, and non-experts citizens).

Limoges, C. and Doray, P., *Le debat public comme apprentissage social et comme regulation constitutive: le cas de l' »environnementalisation «*.

(3) How could we implement this criterion (controversy) in the field of forest governance?

By organizing discussion between experts and stakeholders within controversy.

We argue that this discussion required a common point between two level of knowledge (« *Expert knowledge* » and « *civil society knowledge* »). This common point between two distinct level of knowledge is the condition of legitimacy of the implication of experts in controversy

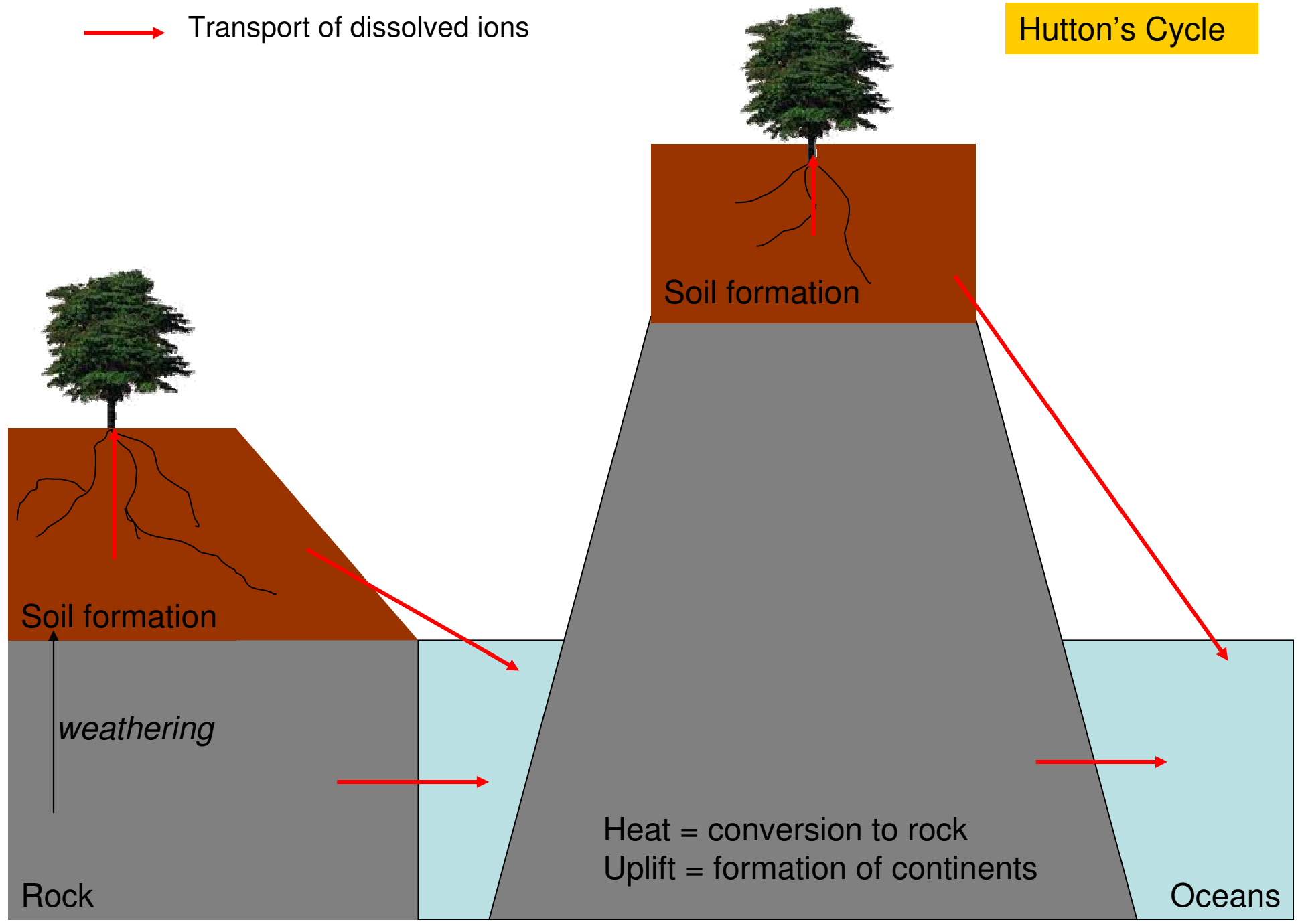
Which kind of common point?

→ The concept of **cycle** !

We argue also that the concept of cycle is a well governing variable by which (in addition to controversy process) double-loop learning is possible.

Hutton's Cycle

→ Transport of dissolved ions



Soil formation

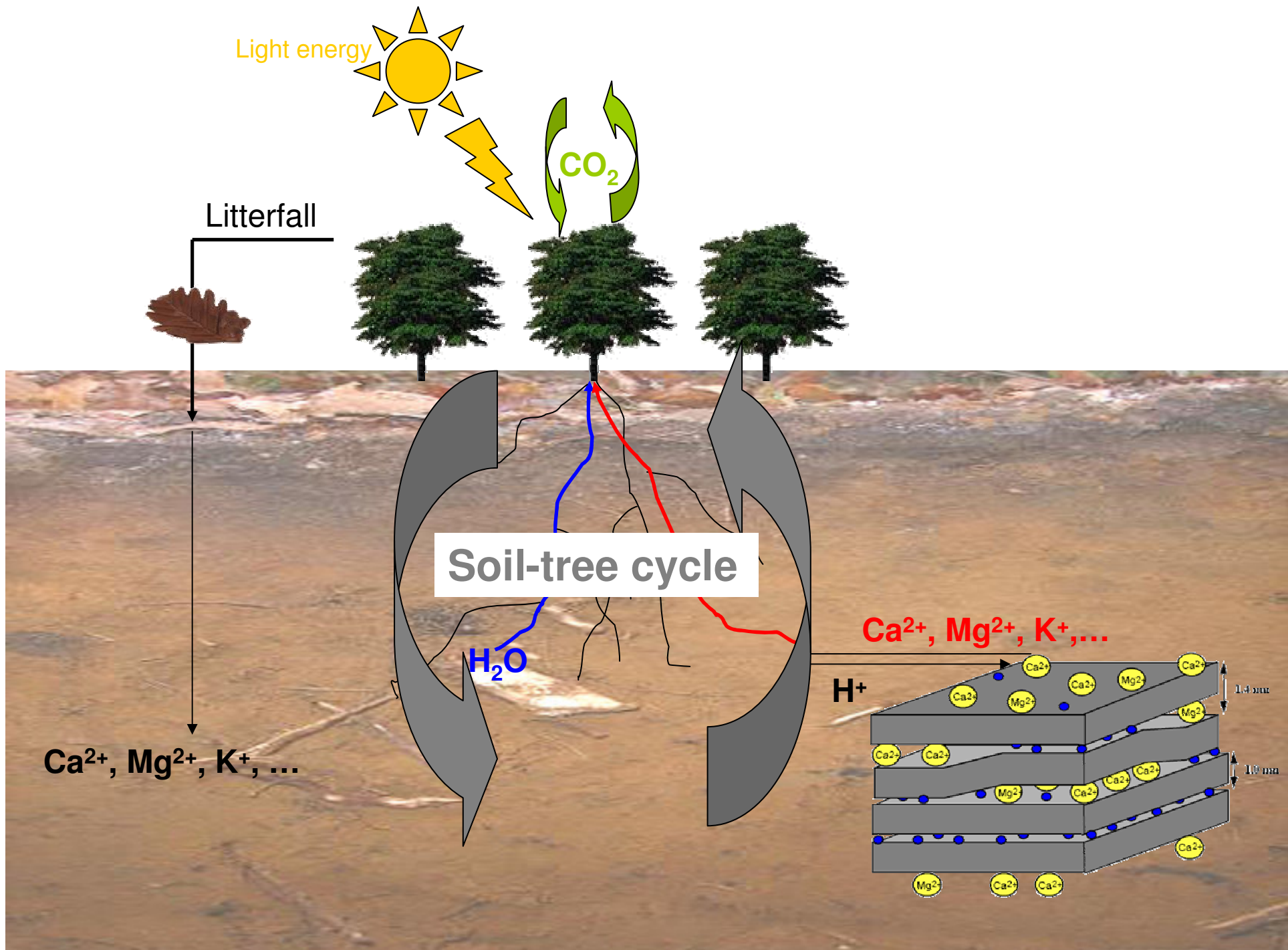
Soil formation

weathering

Heat = conversion to rock
Uplift = formation of continents

Rock

Oceans



A case study by Ranger and Nys, European Journal of Soil Science (1994)

Context

Evergreen species (spruce) were introduced to capture atmospheric pollutants

Experience

- ° Replacement, 60 years ago, of a part of a deciduous forest by a coniferous forest (spruce plantation) in France.
- ° Comparison of soils under the two stands

Results

- ° Soil acidification increases → decrease of the soil fertility

Because of

- change in litter quality and,
- change in interception of acidic components (NH_4^+ , ...).

- ° Change in silviculture management influence the circulation of nutrients through the soil-tree system → disruption of the biogeochemical cycle



Conclusions

° **Forest soil** is a fragile resource and sustainable management must include:

- their capacity to produce
- their high biodiversity
- their capacity to clean up the environment
- their sustainable evolution

° « **production paradox** »:

Production increases with an inappropriate management = Decrease of biodiversity and soil nutrients and in the long term the production decreases

→ To avoid that, we need to adapt better the tree species with his environment (climate and soil)

Symbolic function

- Process of « environnementalisation », i.e, the emergence of a new meaning about the set of natural and cultural conditions
- The concept of cycle is a disposition of the common decency underlines by B. Bégout.



Bruce Bégout, *De la décence ordinaire. Court essai sur une idée fondamentale de la pensée politique de George Orwell*
Allia, septembre 2008, 128 p.

(4) Is it possible to establish a forest ethic on these criterions

From learning process to forest ethic : The importance of **critical knowledge**

Critical knowledge : « critical knowledge ought be able to self assess, to identify and discern within itself what is relevant according to the very activity by which it is constituted, and, through this, become able to evaluate on its own the value and boundaries of the validity of what it ends up proposing »

Critical forest ethics : An ethics which involves both soil-tree expertise and stakholder's moral feeling about cycle within a controversy. This ethics involves the detection and correction of errors of both experts modelization and civil society ordinary thinking.

Ladrière J, *les enjeux de la rationalité. Le défi de la science et de la technologie aux cultures*, Aubier-Montaigne/UNESCO, Paris, 1977, p128.

To conclude...

(1) What about of the **criterion of possibility** of a collective learning process in the field of forest governance?

Controversy involving discussion between expert and citizens levels of knowledge

(2) What about the implementation of the soil-tree cycle expertise and ordinary moral felling from citizen together within **ethical discussion**?

The idea of cycle playing the job of governing variable with its two distinct functions enable us to make use of available and distinct knowledges.

Thank you for your attention

