Aix-en-Provence 23-24 april 2010
Iron metallurgy and African societies

Anthropology,
ethnoarcheology,
iron ethnoarcheology

What is the status of
actors' statements?

OVERVIEW

1. How to integrate heterogeneous disciplinary paradigms ?
- The specificity of the human sciences
- The nature of explanation
- The nature of the languages of description and explanation

2. Language of the observer, language of the observed: a necessary distinction

3. The status of actors' discourse in scientific constructs

4. Scientific discourses and indigenous classifications
- Functions of artefacts
- Ethnic identities

5. Conclusion

1. HOW TO MERGE heterogeneous DISCIPLINARY PARADIGMS

History of African metallurgy :

diverse disciplines contribute to the field : physics and chemistry, social and cultural anthropology, ethnohistory, ethnoarchaeology.

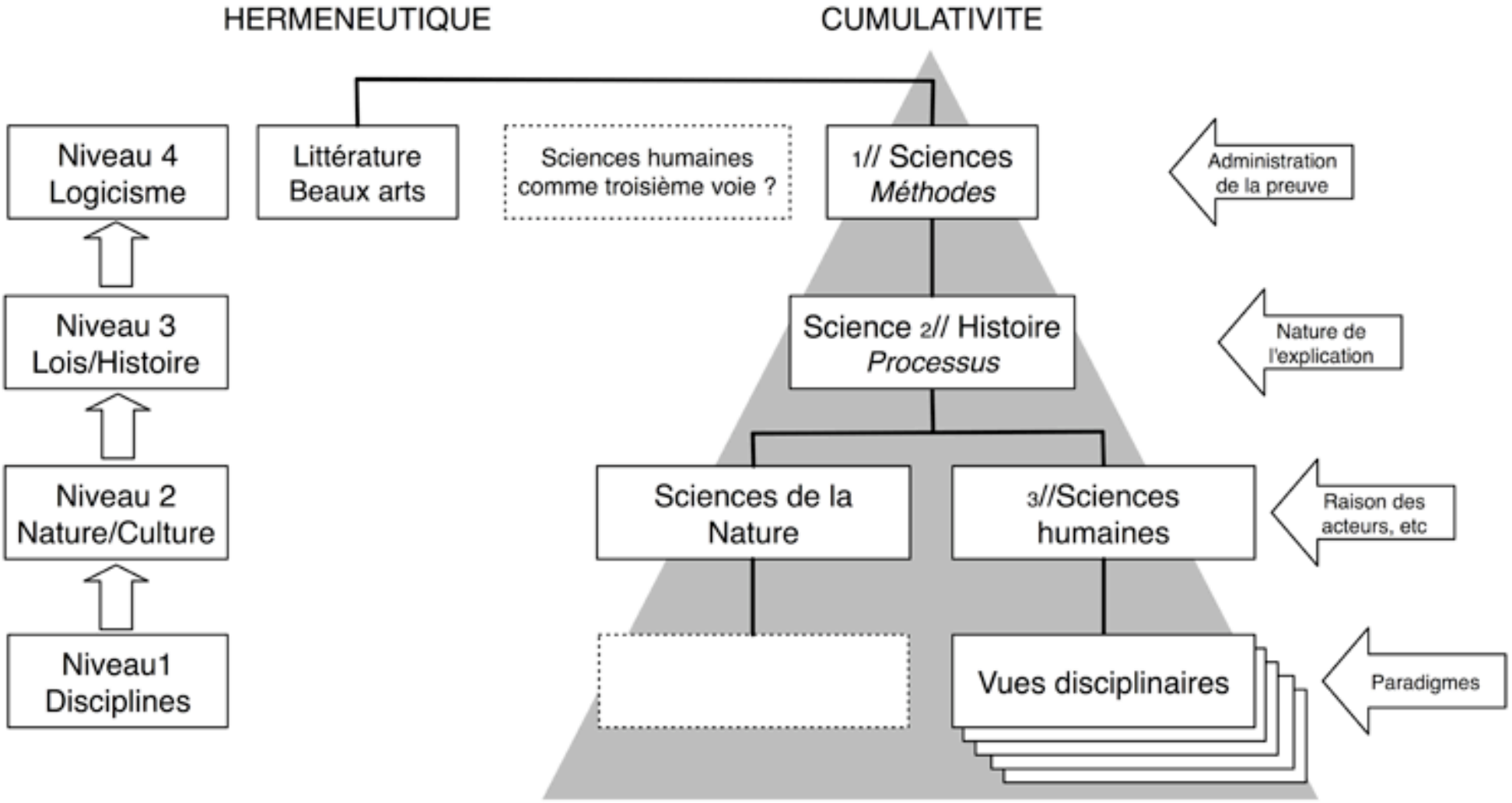
Reflection on what they have in common is a prerequisite for integration of their results

Three aspects that must be considered in order to achieve an effective merger :

1. Features special to the human as against the natural sciences
2. The nature of scientific explanation
3. The natures of the languages of description, classification and explanation

Integration of heterogeneous disciplinary paradigms

Analysis of the relations between scientific and actors' discourses requires explication of the conditions of disciplinary paradigm articulation



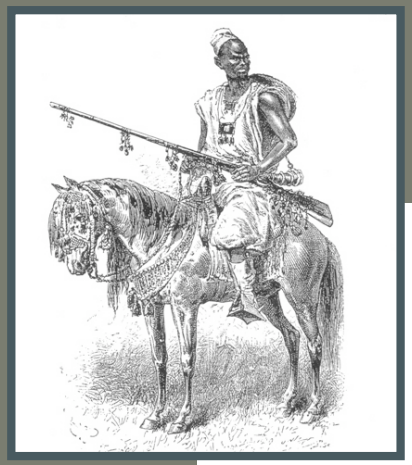
Integrating heterogeneous disciplinary paradigms

1. Features special to the human as against the natural sciences

   The major role of actors' "discourse" in all fields of the human sciences raises the question:

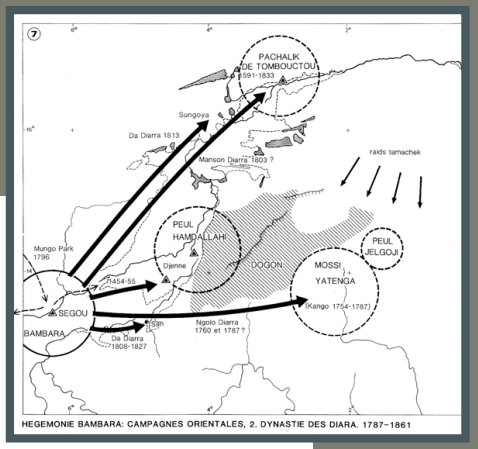
   What place do we give this "intentionality" in our scientific constructs ?

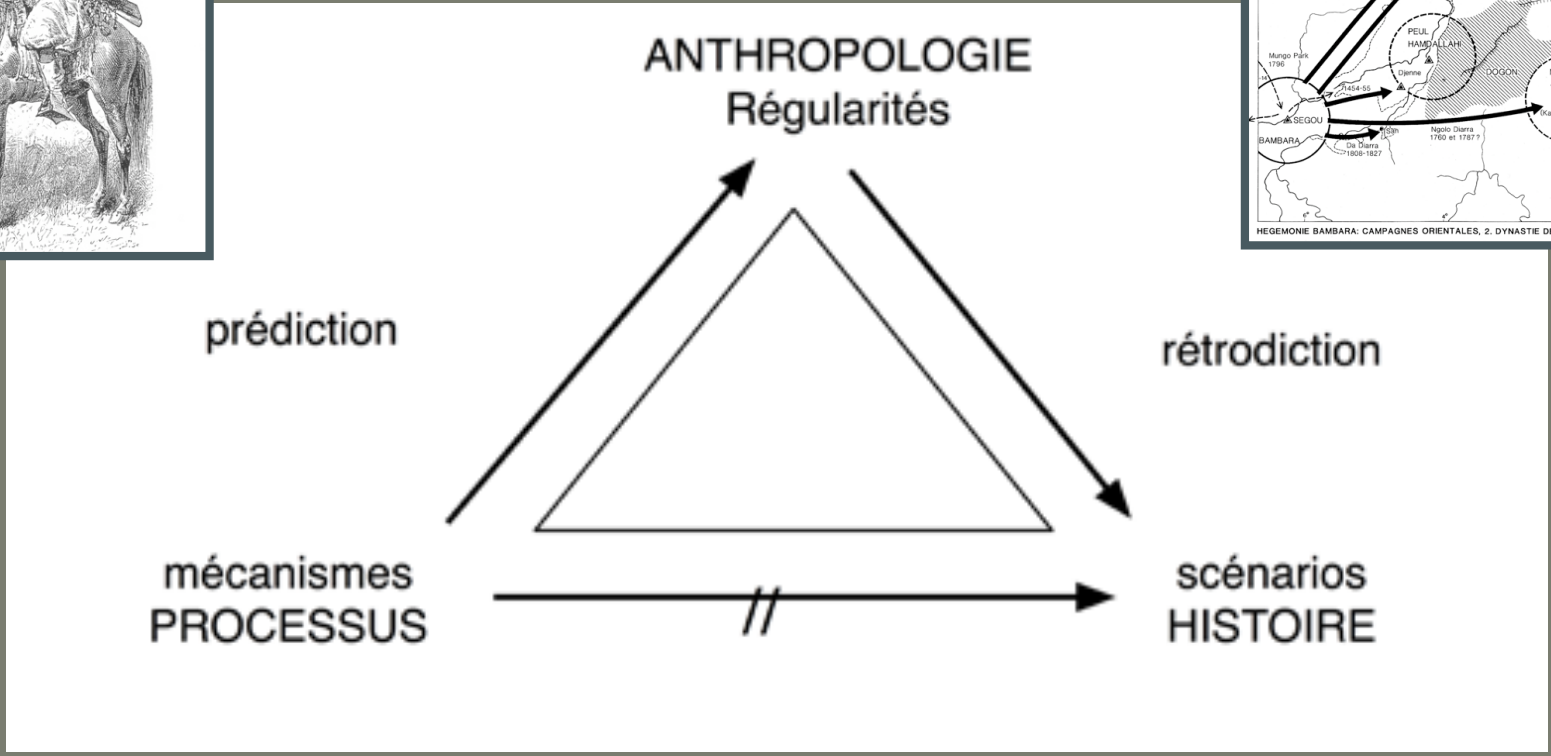
Merging heterogeneous disciplinary paradigms



Warring state

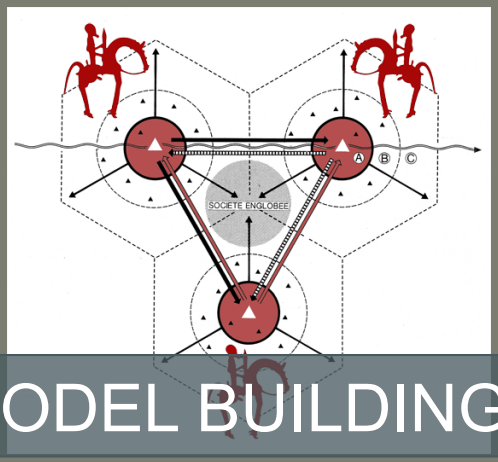
Bamana Empire of Segu





2. Nature of explanation

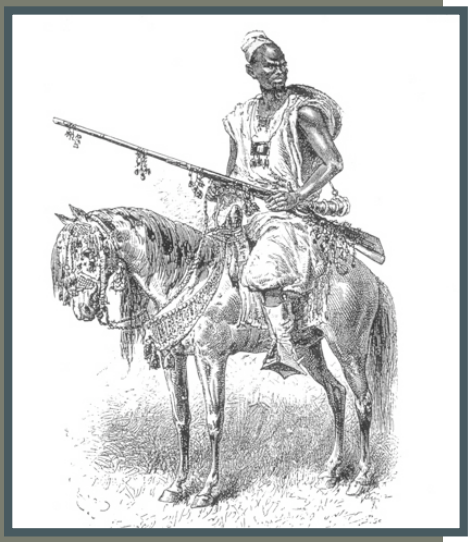
Features common to all sciences involving observations of time-dependent events

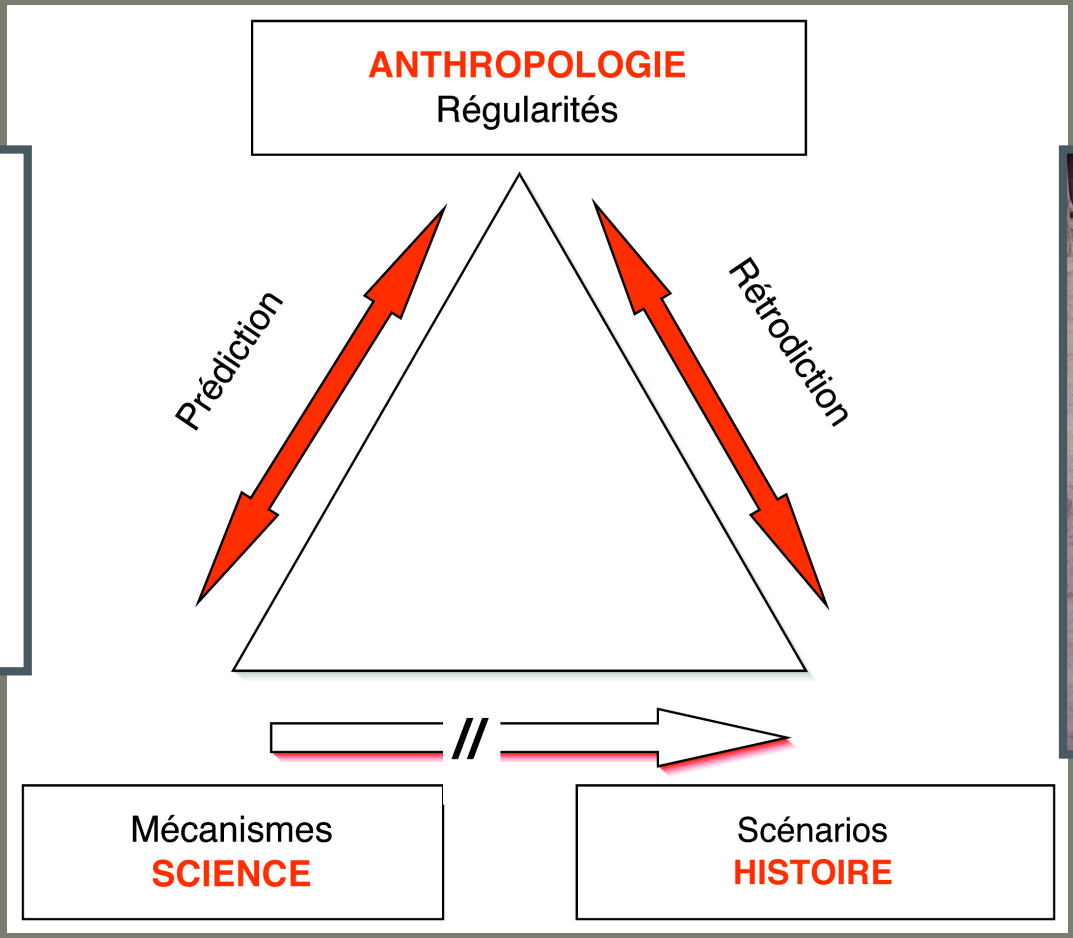


MODEL BUILDING

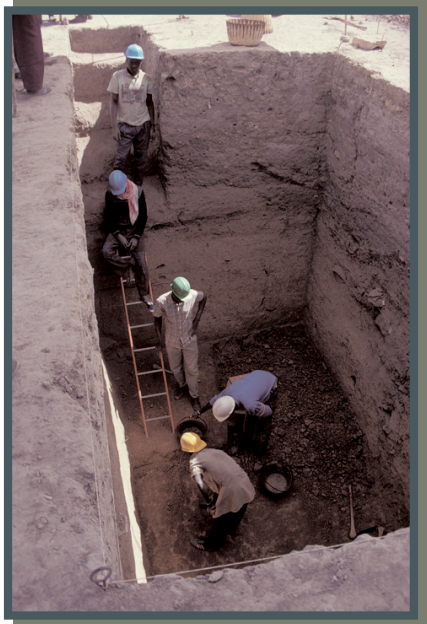
ETHNOLOGY &

ETHNOHISTORY

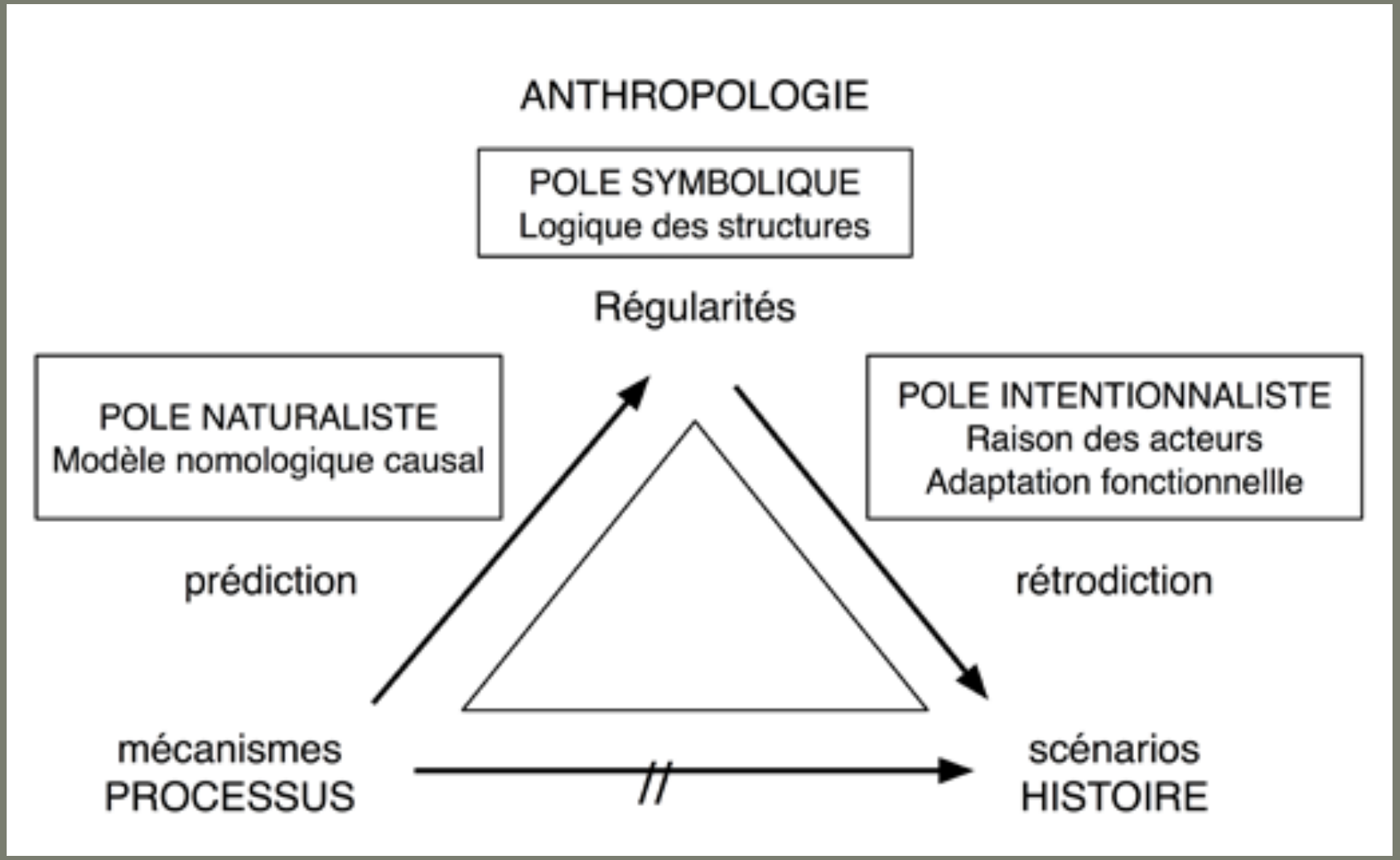




ARCHAEOLOGY



Integrating heterogeneous disciplinary paradigms



2. The nature of explanation

Actor-based explanations belong to the category of *a posteriori* explanations

Integrating heterogeneous disciplinary paradigms

2. The nature of explanation : the natural science pole

Causal nomological model phrased as a universal law

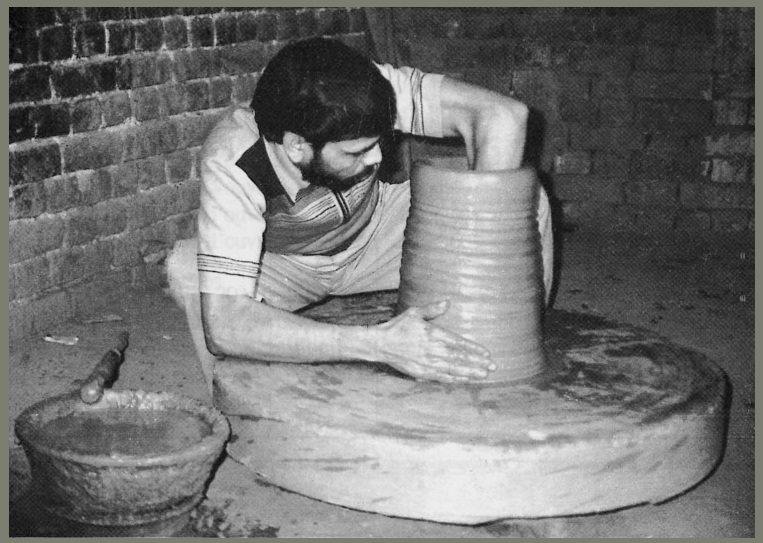
P1 : Long and difficult apprenticeship required to master the potter's throwing technique

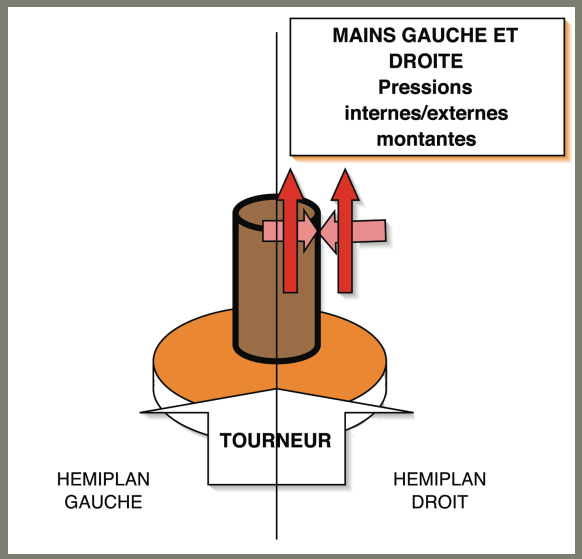
Working with both hands in the right half of the work space

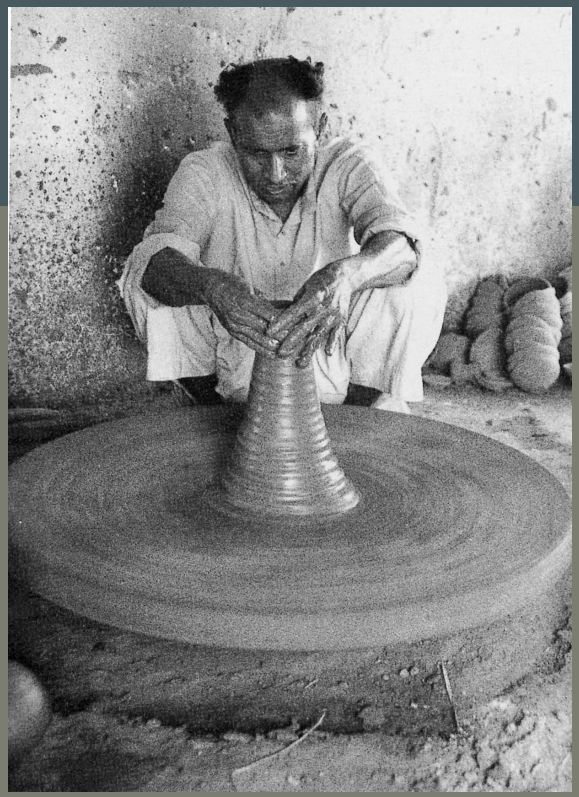
Control of independent motor and physical parameters

Physical strength

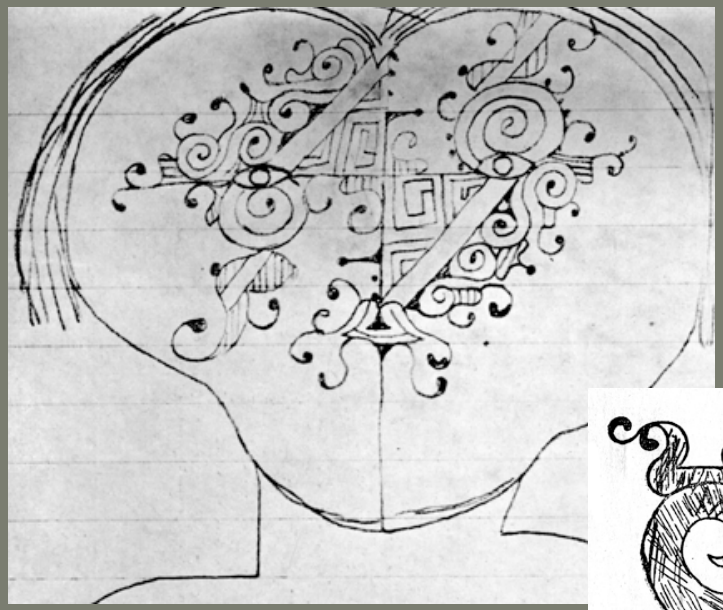
P2 : Relation between throwing technique and craft specialization

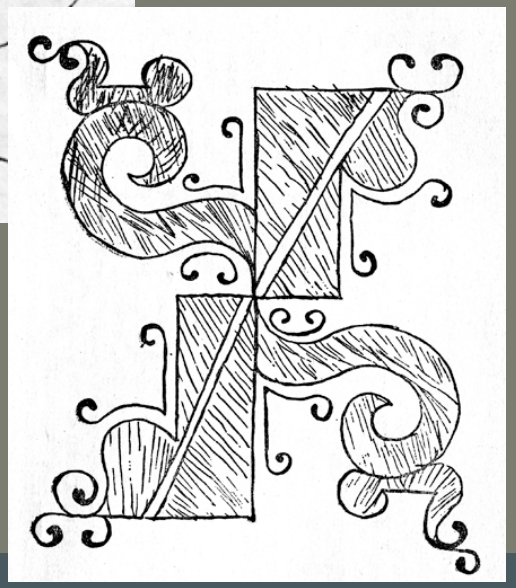






Integrating heterogeneous disciplinary paradigms

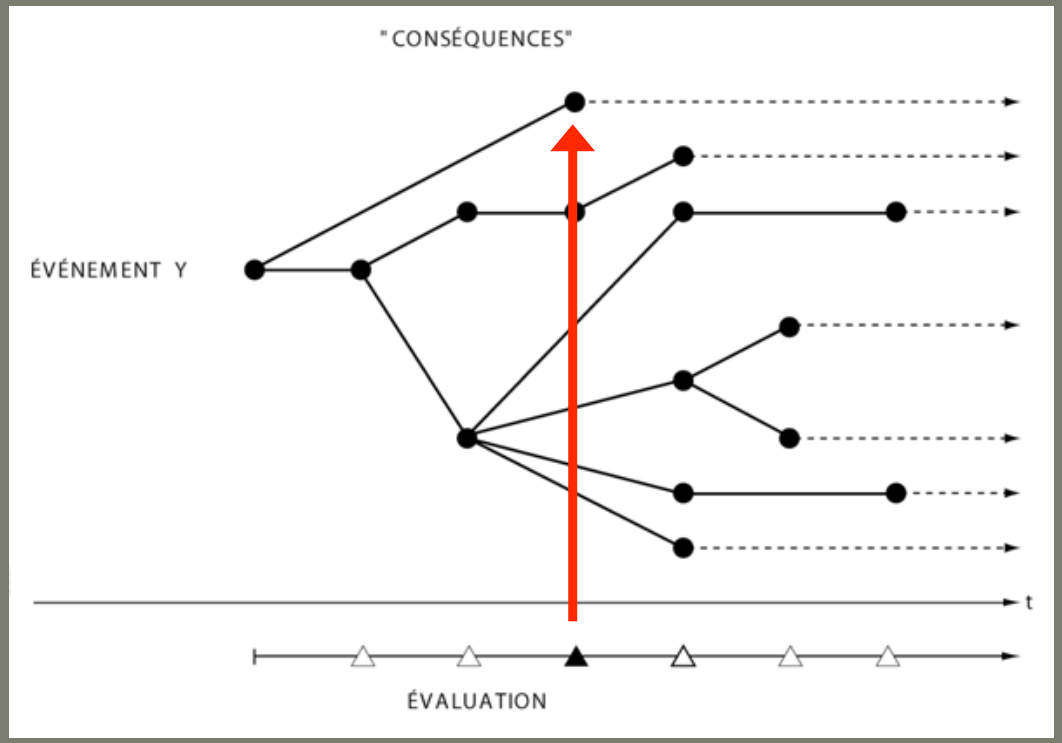


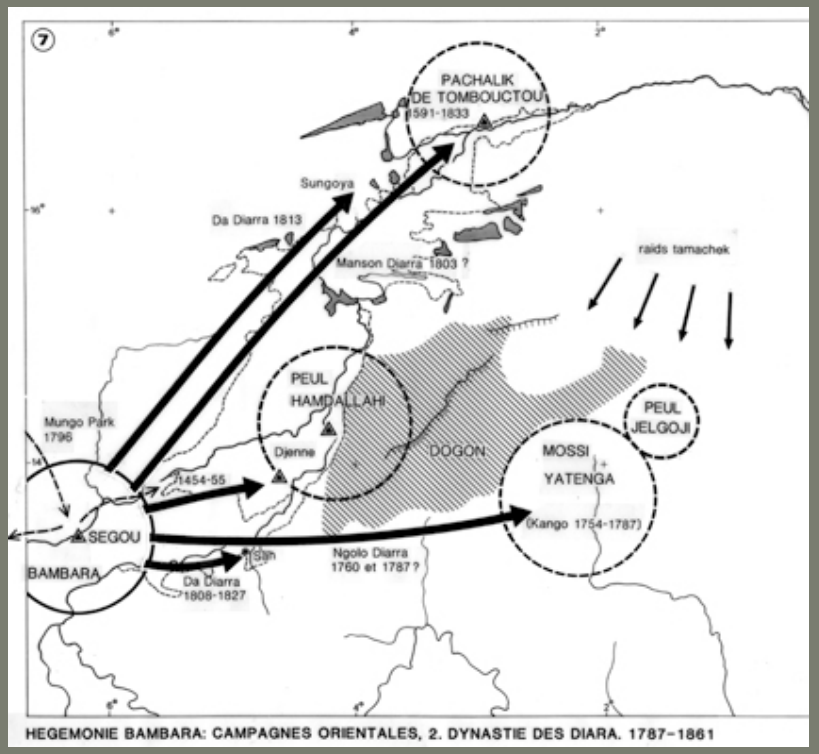


2. The nature of explanation : the symbolic pole and explanation in terms of “structural logic”

Lévi-Strauss : Caduveo designs depicting the unconscious tension between class assymetry and the symmetry of moieties

Integrating heterogeneous disciplinary paradigms

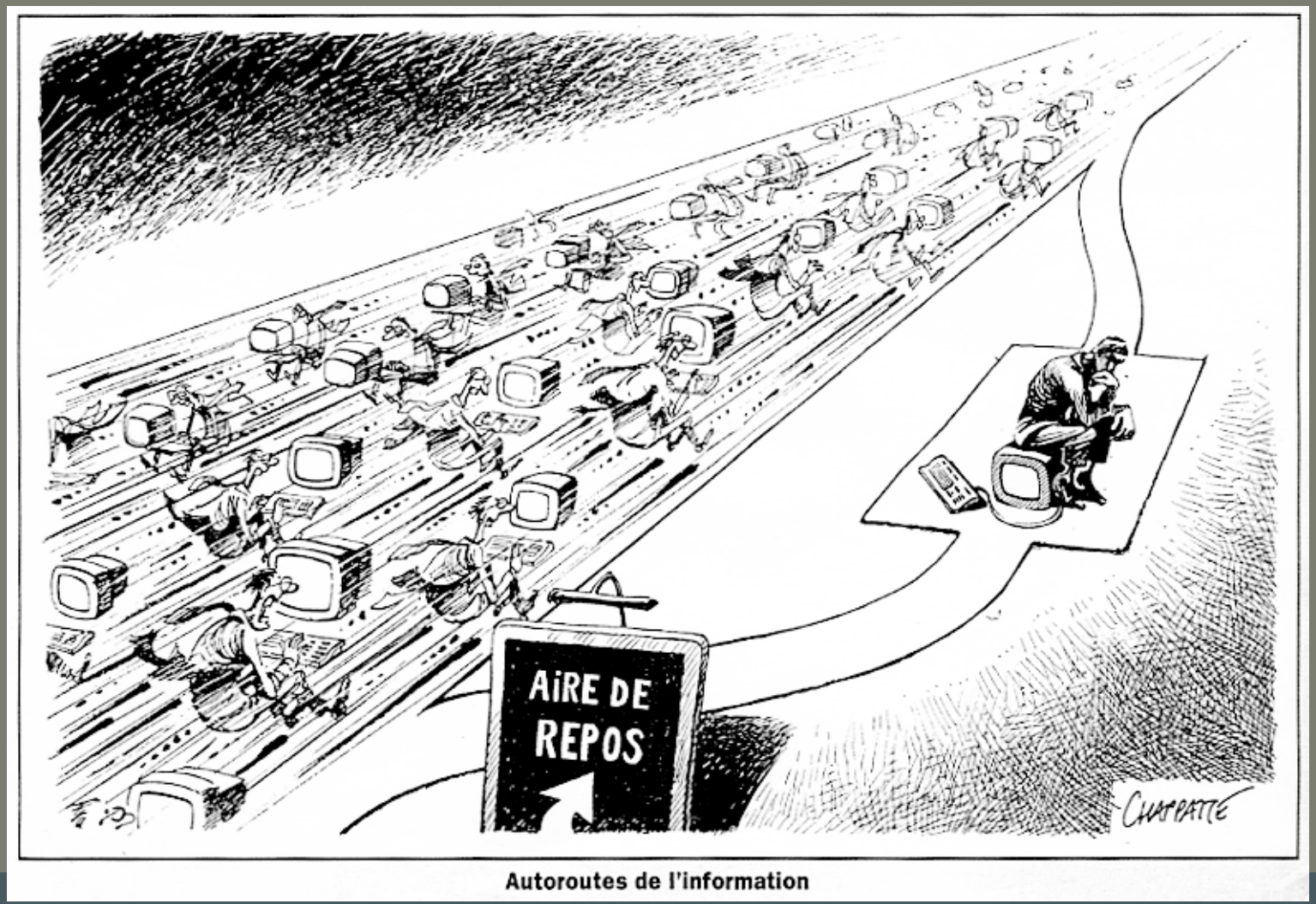




2. The nature of explanation : the rationalist/intentionalist pole accepts the validity of *a posteriori* explanations, as seen for example in the discipline of history

   The expansion of the Segu Empire seen as the “logical” consequence of the activity of a warring state

Integrating heterogeneous disciplinary paradigms

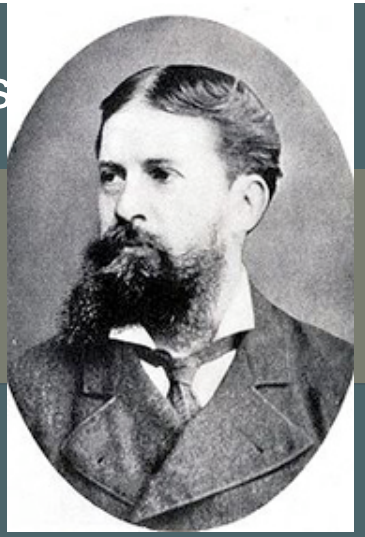


Autoroutes de l'information

3. The nature of the languages of description, classification and explanation

Logicism as a method stemming from logical positivism and constructivism

Integrating heterogeneous disciplinary paradigms



REFERENCES

Semiology (Charles S. Peirce, Charles Morris)

Study of systems of signs used in scientific discourse

{Semiology → Languages for documents/LS → Empirical world}

OBJECTIONS

Neo-semiologies (Roland Barthes, Paul Ricoeur, Umberto Ecco)

Quest for a holistic science of the symbolism of material objects

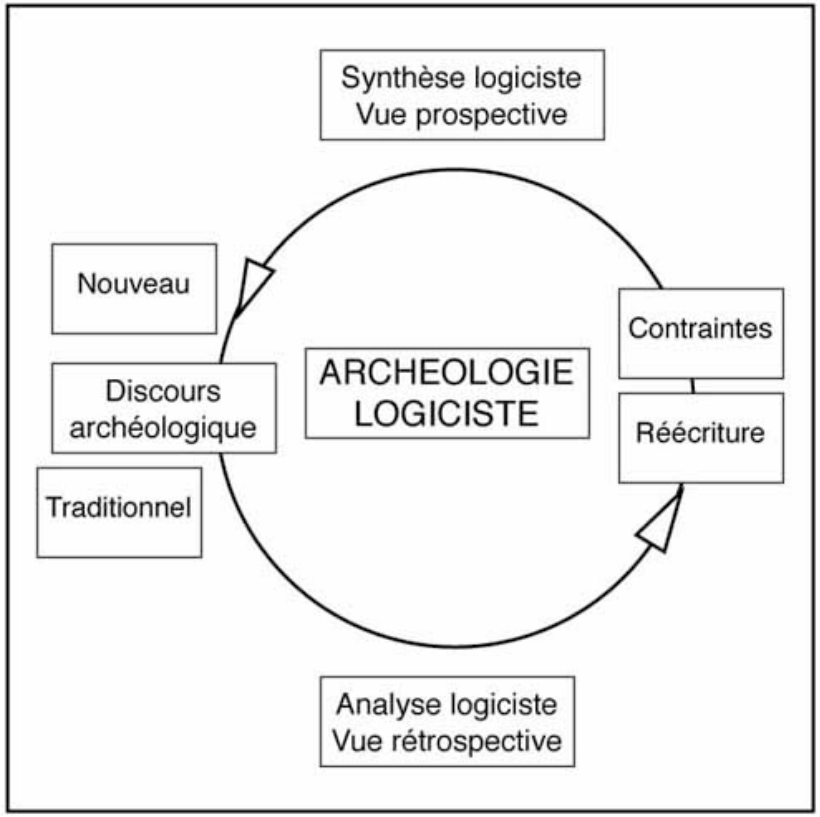
{Semiology → Empirical world}

Integratinging heterogeneous disciplinary paradigms

A SEMIOLOGY OF THE PRACTICE OF DISCOURSE

- Secondary critical role: constructs as they are

- Development of implicit encyclopedias of forms of knowledge :
  - Philosophical approach : no
  - Methodological approach : yes
  - Practical approach : yes



3. The nature of languages pertaining to description, classification and explanation

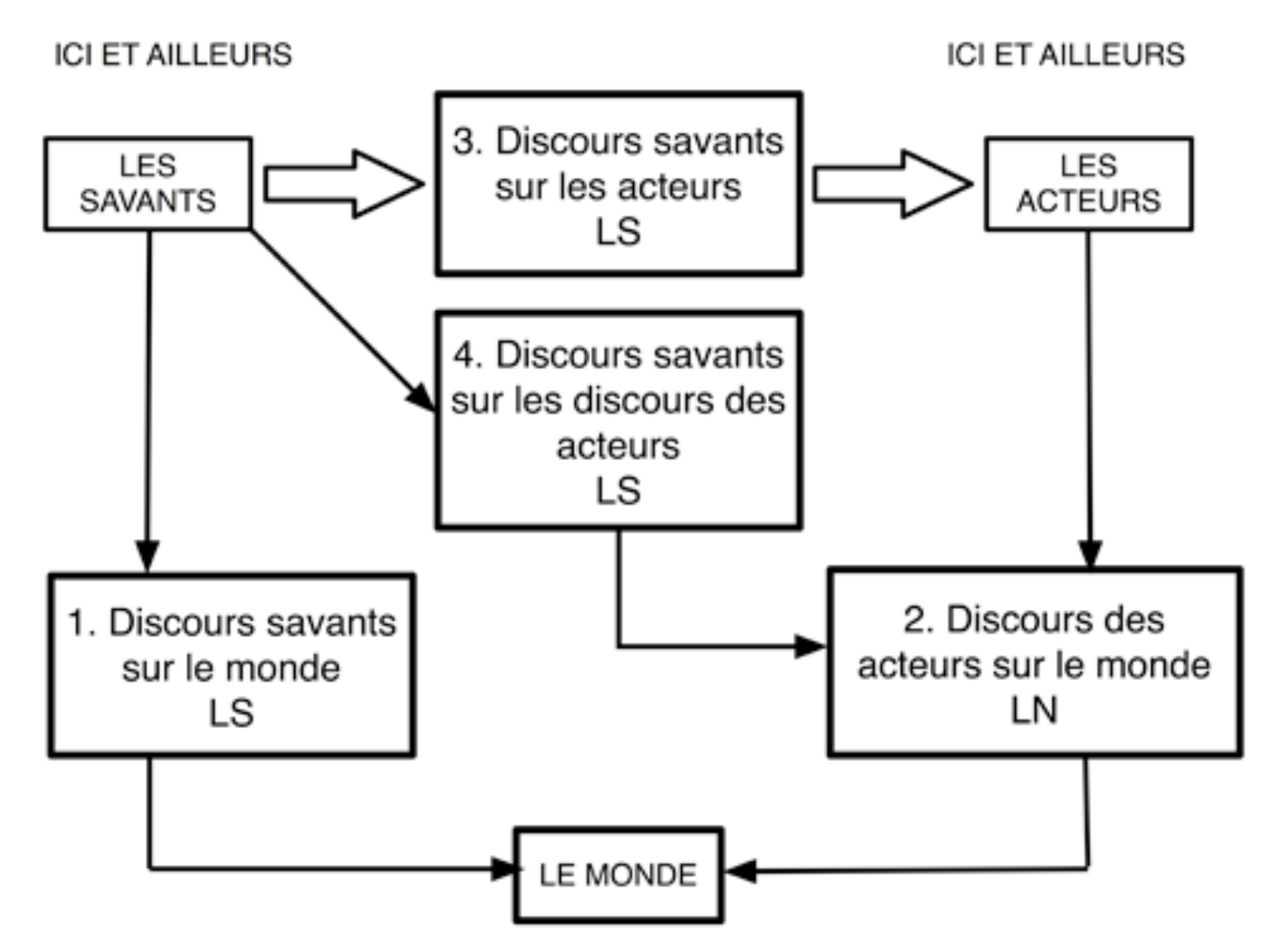
LN : natural languages

- Vernacular language
- Literary language
- Language of the “savage (untamed) mind”

LD : languages of documentation

LS : scientific languages

2. LANGUAGE OF THE OBSERVER, LANGUAGE OF THE OBSERVED : A NECESSARY DISTINCTION



Language of the observer, language of the observed : a necessary distinction

Differentiation of

- the rationality associated with scientific discourses of description and explanatory reasoning
- the rationality attributed by the actor to his action

- Pareto :

”Sociology only begins with the end of the illusion that the meaning of actions is transparent in the consciousness of the actors.”

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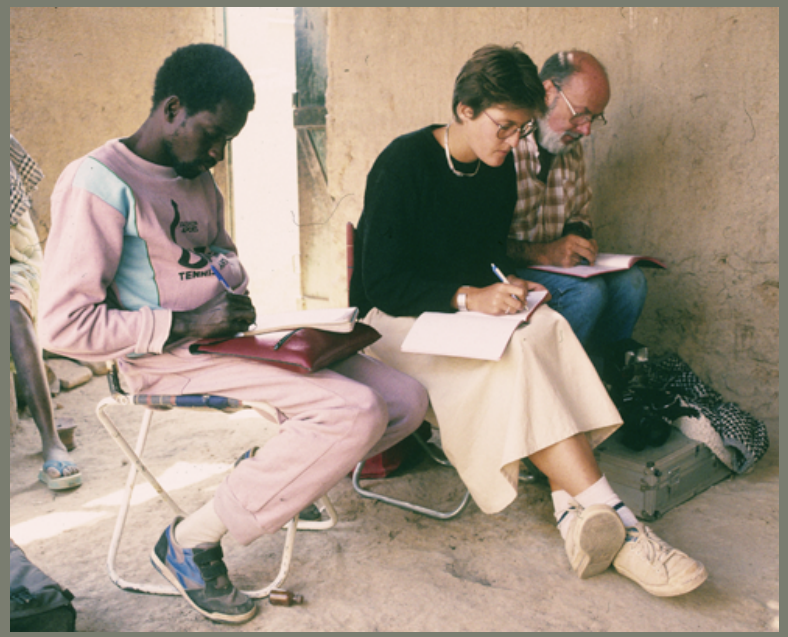
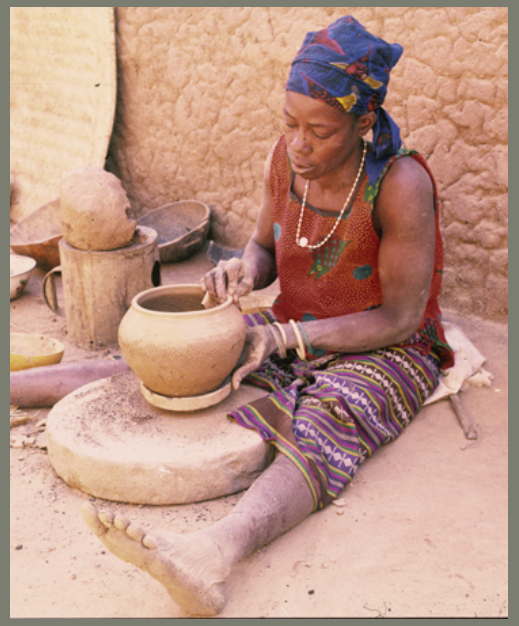




Language of the observer, language of the observed : a necessary distinction

Lévi-Strauss (1950) admits this distinction

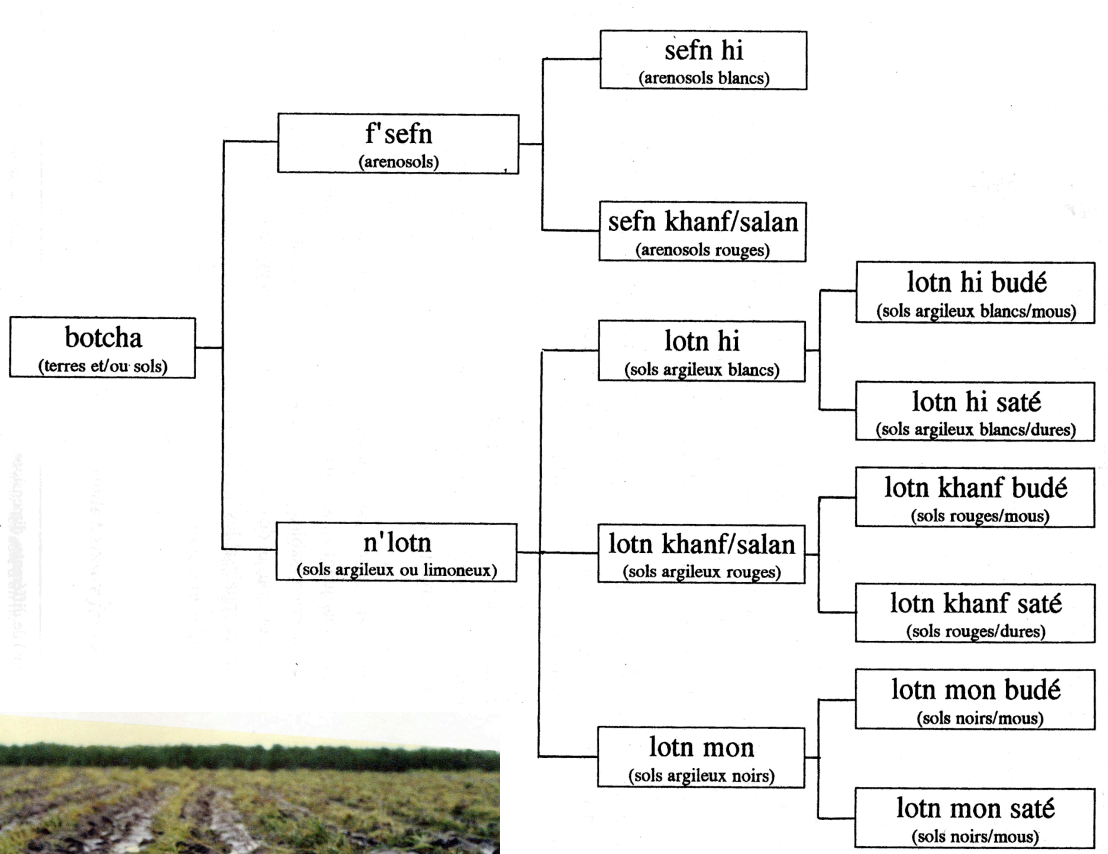
« *The « hau » is not the ultimate goal of the exchange : it is just the conscious form in which people in a given society ... grasped an unconscious need the true reason for which lies elsewhere* ».

...but he incorrectly places “scientific explanation” at the unconscious level.

An idealist stance or a misuse of language

Language of the observer, language of the observed : a necessary distinction

Science in traditional societies : is rice growing in Guinea-Bissau the expression of the savage mind or of scientific discourse ?



3. POSITIONNING OF THE ACTORS' DISCOURSE IN SCIENTIFIC CONSTRUCTS

Use of a scientific language renders possible the study of reality without reference to actors' intentions to act, as Saussurian linguistics did in the realm of language by distinguishing between language and acts of speech.

(Ferdinand de Saussure 1916)

The status of actors' discourse in scientific constructs

In its gross form actors' "natural" discourse can not meet the requirements of scientific inquiry

1. It does not aim at the same goals

2. It does not always meet the requirements of the prediction-validation cycle
   - decisions are not solely based on logic
   - utility of a decision depends upon the time of its evaluation (historical type explanation)
   - impossibility of calculating the social utility of a decision

3. Mental categories must be distinguished from classical (in the logical sense of the term) categories (Edelman)

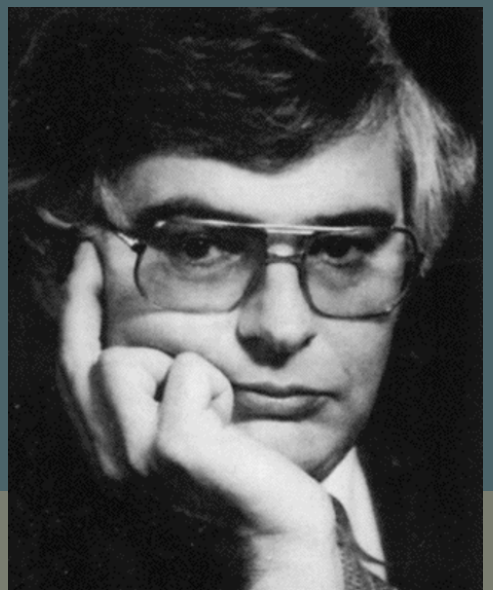
The status of actors' discourse in scientific constructs

Cognitivism : Jerry Fodor's computo-representational model (1975)

Analogy with a computer :
Thought = Software / Brain = Hardware

Possibility of dissociating operations and the material substrate
Unconscious functioning with precise neuronal localization

Natural language independent of the neuronal substrate
Thought and logic analogous
True or false mental representations
Symbol-handling thought
Operations independent of meanings
Algorithms independent of organic implementation



EDELMAN, G. M. 1992, Biology of consciousness

Mental categories of natural language are
not classical categories.
.
They don’t have clearcut borders
(notion of centrality and belonging by degree)
and may contain polymorphous sets :

E = {element X, x with features AB ou AC ou CB}
E = {element X, x with features A ou B ou C}

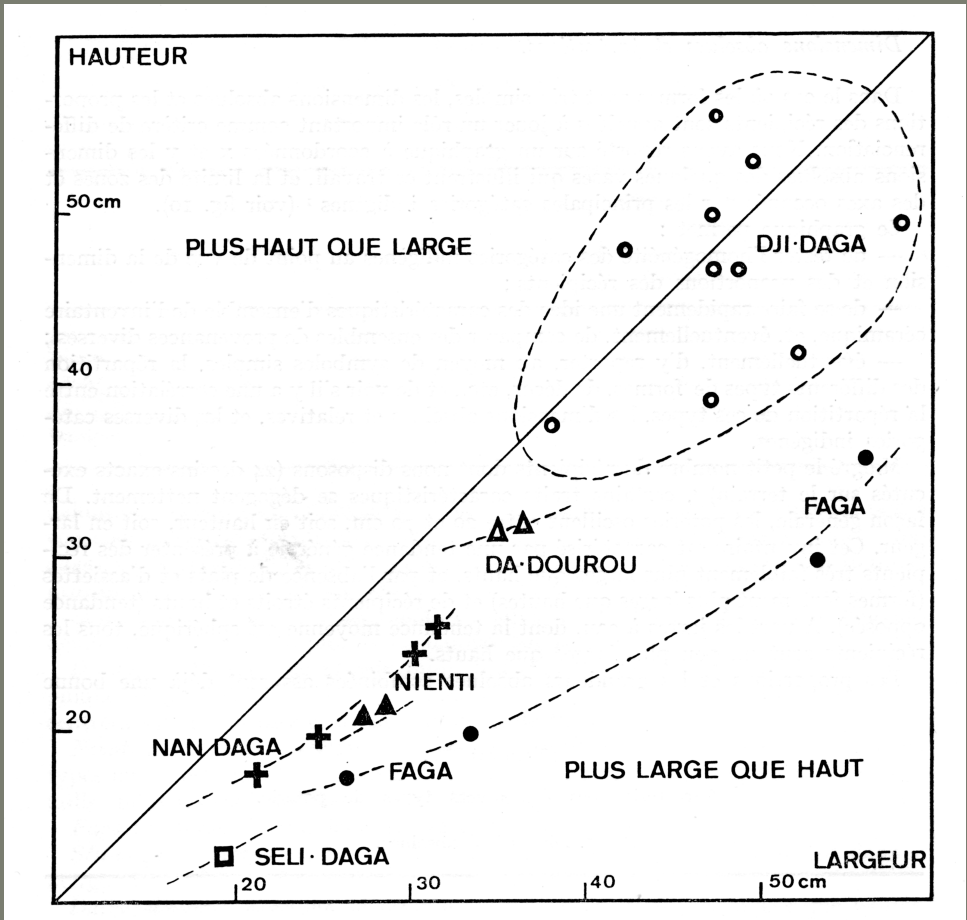
Categories may present a gradation from 0 to 1, where only the value 1 has a complete definition.

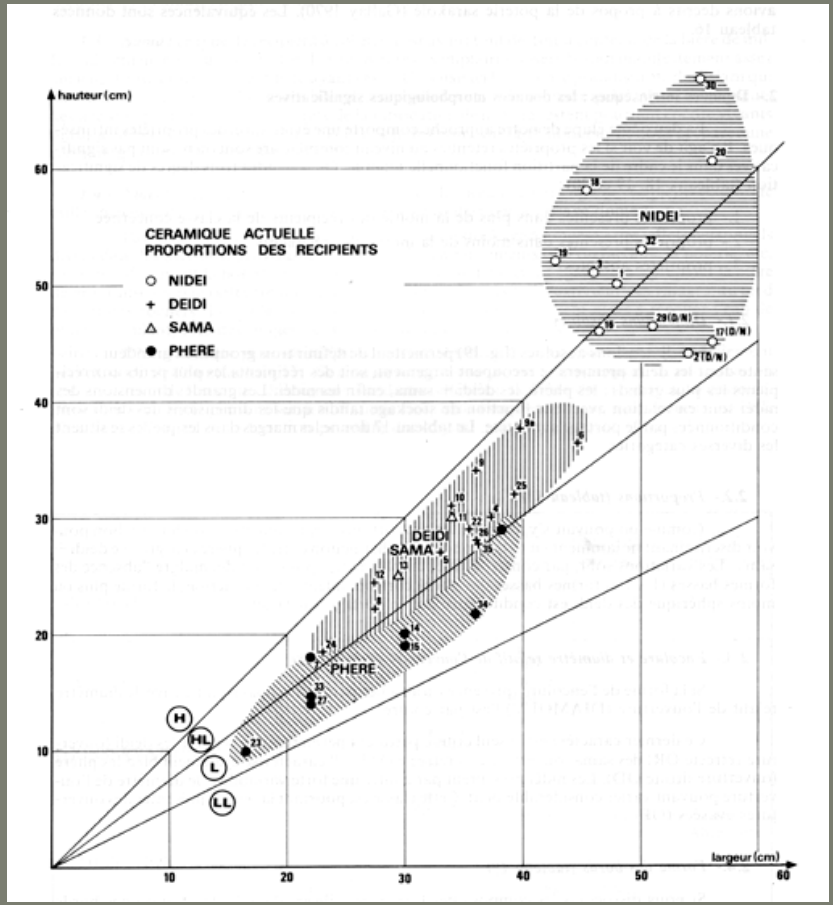
Categories may evolve their structure starting from a prototypic base.

There is not necessarily a precise hierarchy relating supra-ordinated and sub-ordinated classes.

4. SCIENTIFIC DISCOURSES AND INDIGENOUS CLASSIFICATIONS

What place do we assign in scientific constructs to indigenous classifications of artefacts: functional categories of pottery

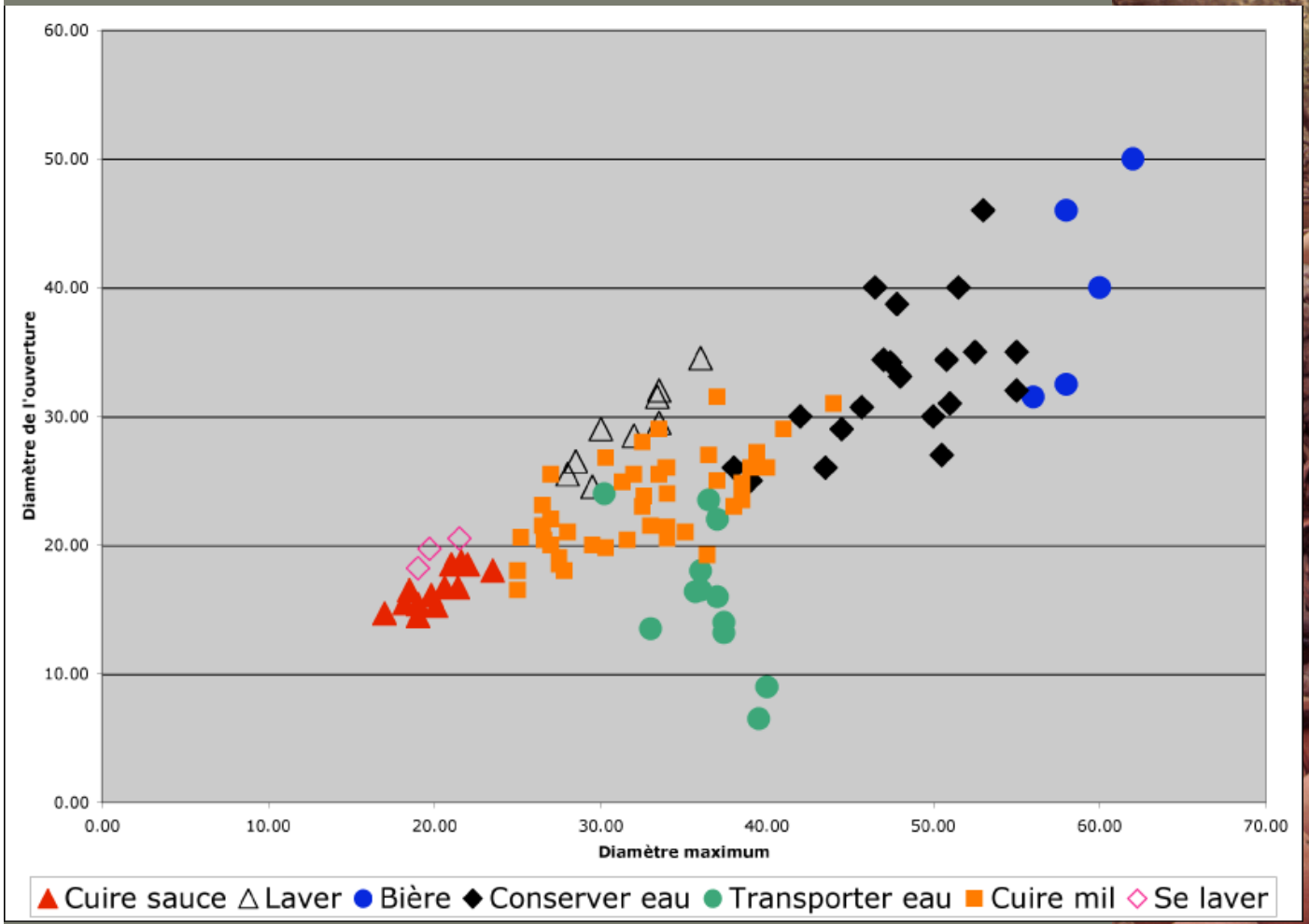


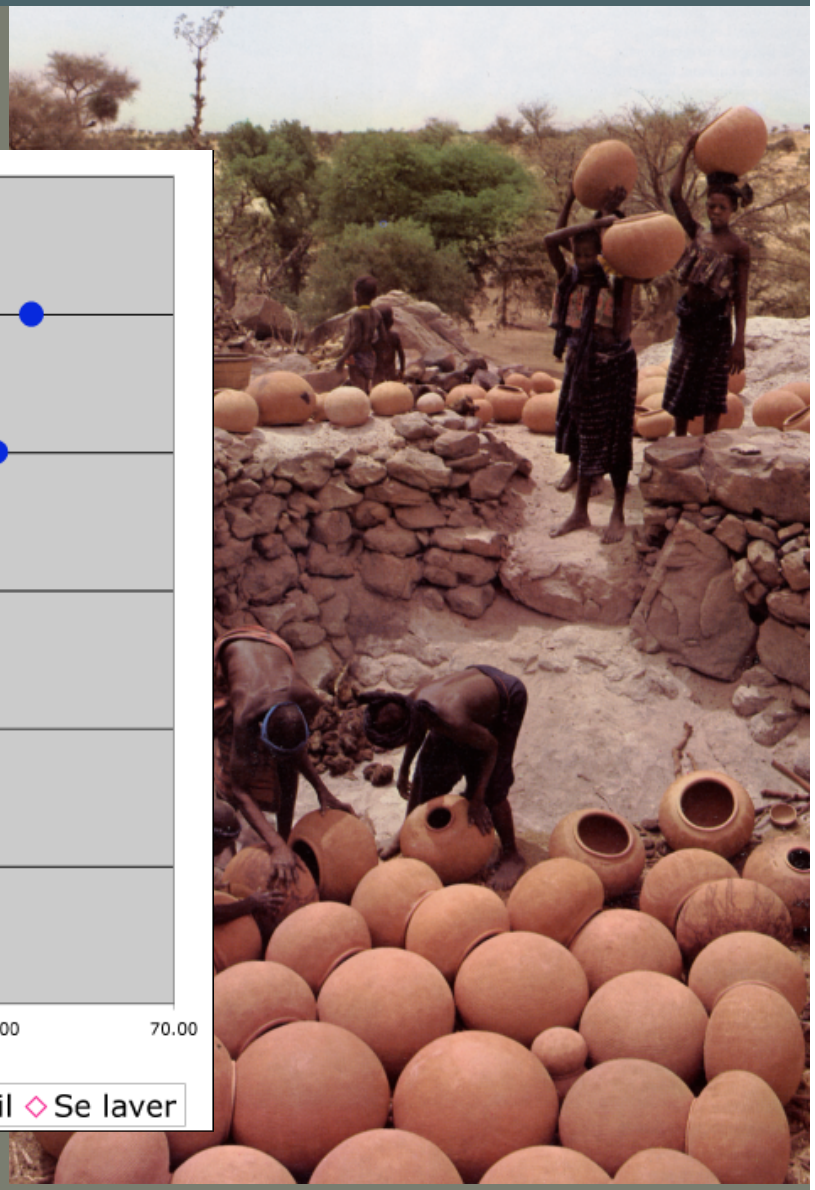


« Soninké » pottery of Mourdiah and dogon pottery in the Sarnyéré

Scientific discourses and indigenous classifications

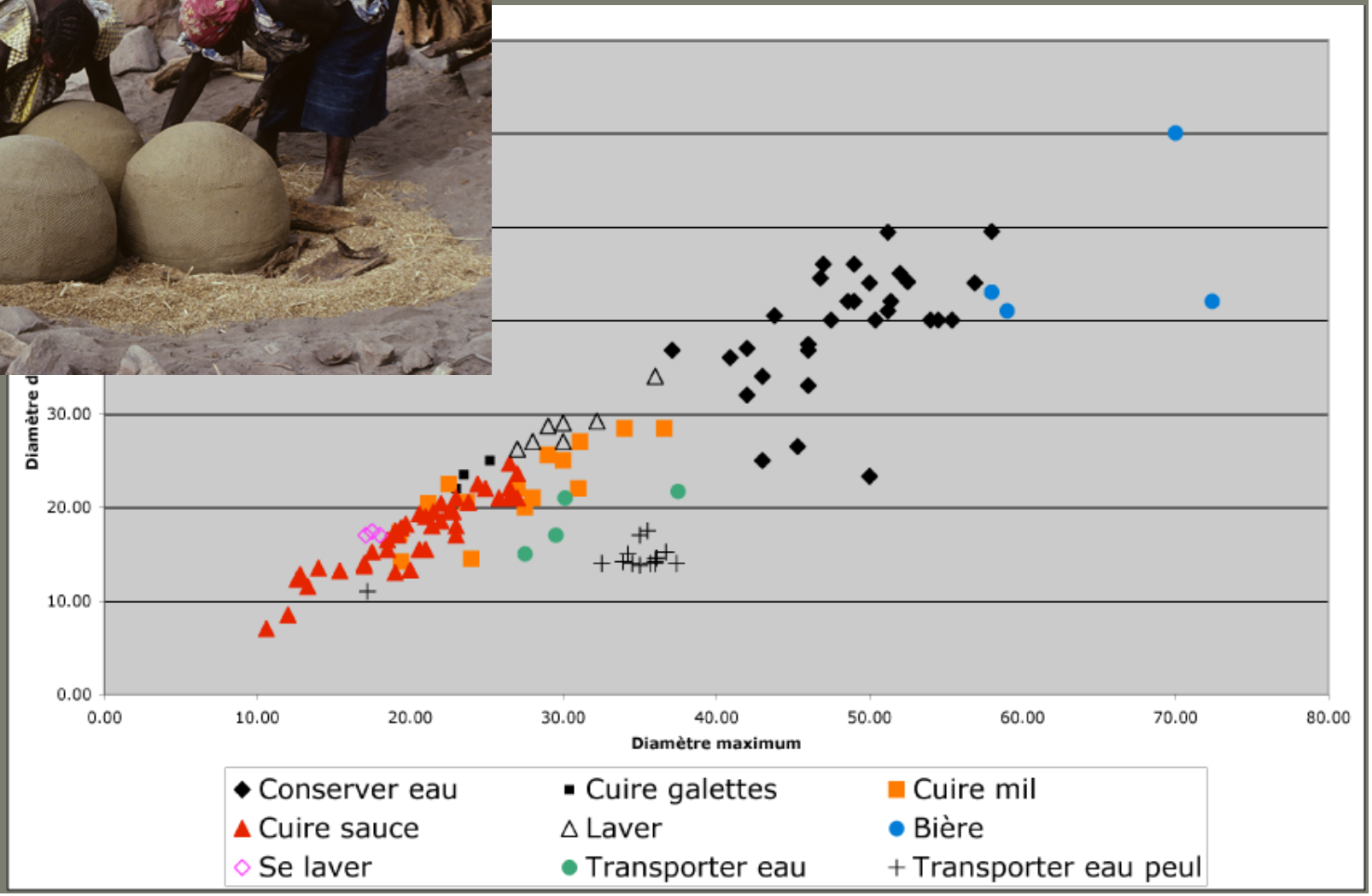
Dogon ceramic tradition A





Scientific discourses and indigenous classifications

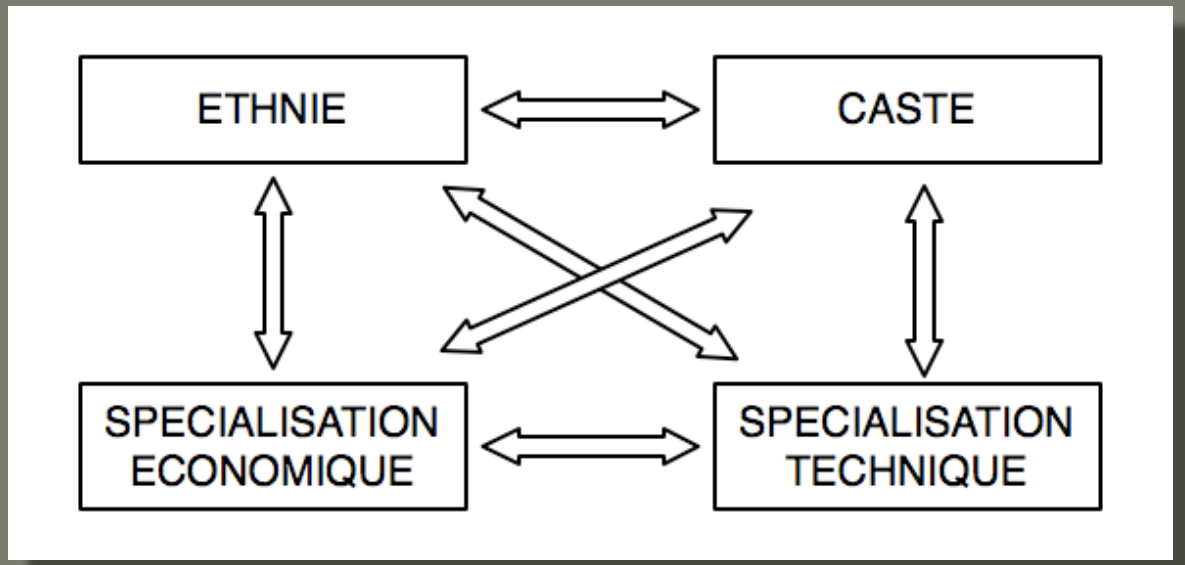
Dogon ceramic tradition D (Jèmè Irin)



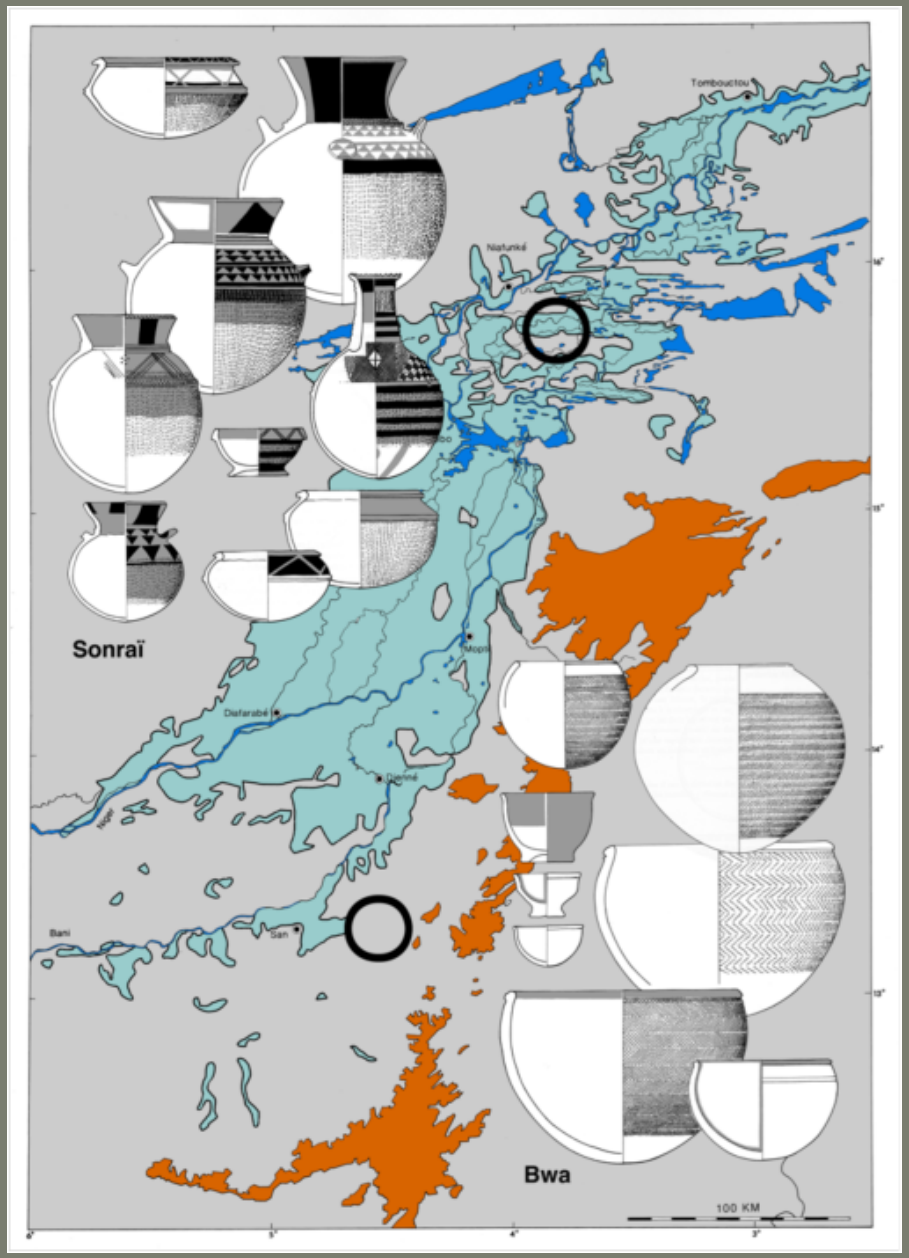
Scientific discourses and claimed identidies

- 1. Challenging the ethnic « reality »
- - ethnicity does not exist
- - it is a construction developed to serve the needs of colonial political management
-
- 2. A pragmatic response
- - the external or internal origin of “ethnic” classifications does not matter
- - these classifications are functioning today inasmuch as they induce empirically observable behaviours (notably technical and economic)
-

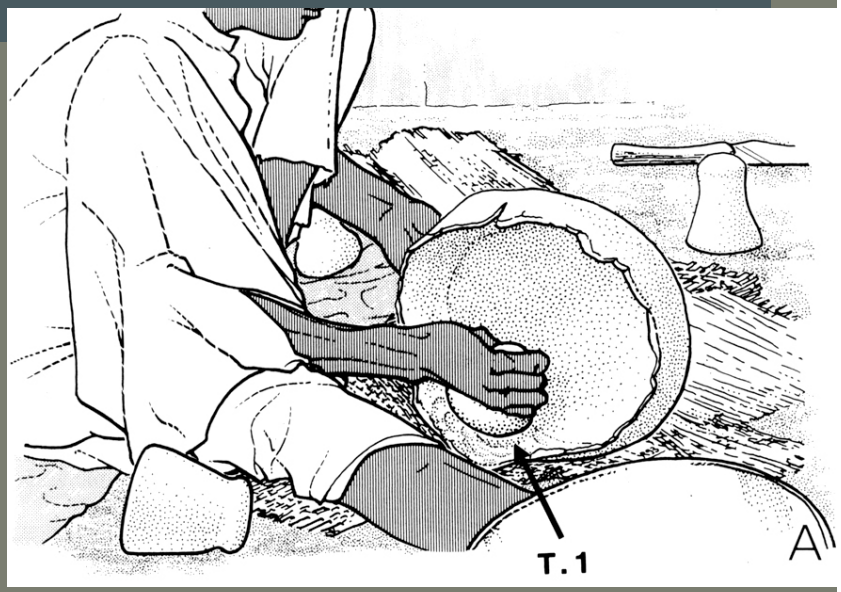
Economic and sociological foundations



Typological foundations of ceramic traditions



- Typologies of traditions based on one-to-one correspondances between :
- 1. Identities of castes and ethnic affiliation claimed
- 2. Pot-forming techniques



5. CONCLUSIONS

- Three levels of reflection for integrating actors' discourse into scientific constructs
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- Level 1 : acknowledgement throughout the human sciences of the problem posed by the existence of actors' intentionality and will.
-
- Level 2 : acknowledgement of the special nature of explanations founded on actors' intentionality as opposed to structural and causal explanations
-
- Level 3 : acknowledgement of the need to build scientific languages that are distinct from the natural languages used by the actors