ETHICAL STORYTELLING AND COLLECTIVE INTELLIGENCE: THE SITUATED TRANSMISSION OF INTANGIBLE HERITAGE IN THE AGE OF AI

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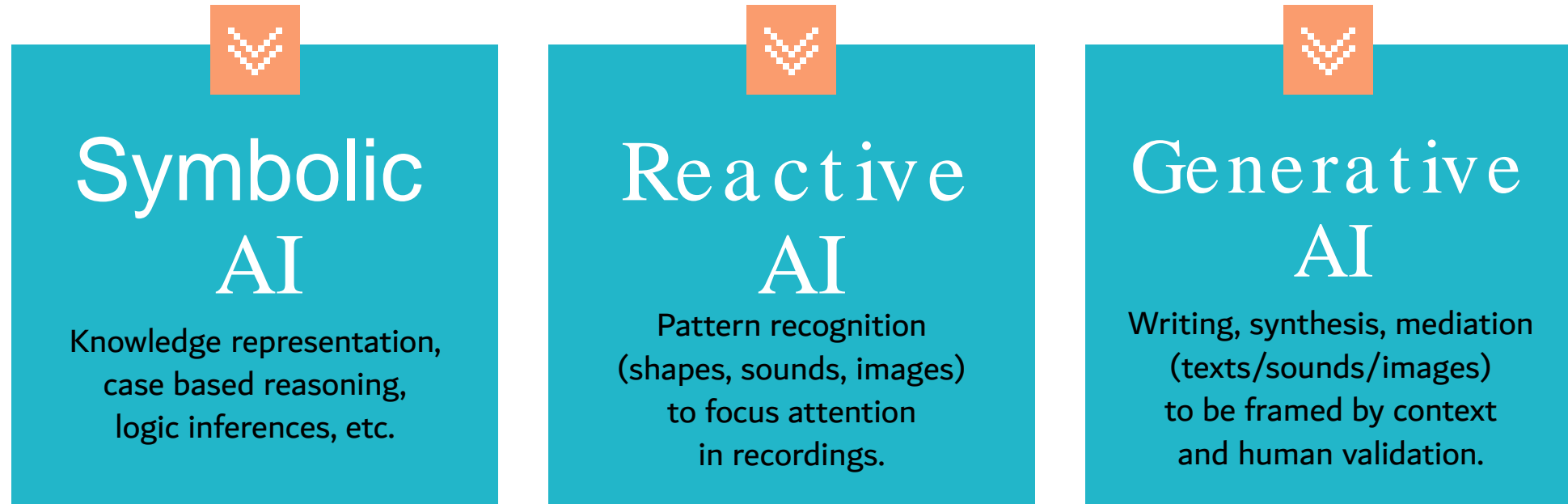
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Situated transmission of Intangible Heritage in museums in the age of AI

The aim is to make knowledge, often tacit, visible, transmissible and shareable, without uprooting it from its situations
(places, seasons, gestures).

Value Chain: AIM → CAPTURE → MODEL → TRANSMIT.

Base: MASK, knowledge engineering method (symbolic AI) to analyse/structure and produce a Knowledge Book.

Artificial Intelligence Panorama (complementary)

Symbolic AI
Knowledge representation, case based reasoning, logic inferences, etc.

Reactive AI
Pattern recognition (shapes, sounds, images) to focus attention in recordings.

Generative AI
Writing, synthesis, mediation (texts/sounds/images) to be framed by context and human validation.

Phase 1 – Aim

Objective: to give a perimeter to intangible heritage

Means: Strategic analysis of the field, criticality of knowledge, **knowledge network** (determine which actors are to be mobilized).

Method: OIDC model (reference system):

• **Operatives** (practitioners) • **Information** (notebooks, texts, photos, etc.)

• **Decision-makers** (sponsors) • **Knowledge** (implicit and explicit).

Deliverables: prioritized scope + objectives of the **Knowledge Book** (uses, audiences, levels of confidentiality).

AI tools: generative AI to shake up and improve the deliverable

Phase 1 – Aim

Application to the living heritage of cognac

Objective

Mapping **critical knowledge**: viticulture of crus, wine cutting, **double distillation**, **cooperage**, **ageing and blending**, sensory control, rituals (grape harvest, Saint-Jean bonfire), intergenerational transmission.

Identify the **knowledge network**: cellar masters, distillers, coopers, winegrowers, merchants, INAO/BNIC, museums/archives, volunteers, schools.
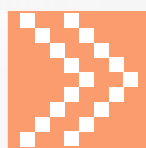
OIDC Reference System Model
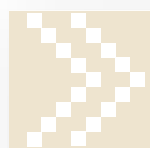
Operatives

O

Winegrowers, distillers, cellar masters, master blenders, coopers, laboratory assistants, designers, etc.

Information

I

Cellar notebooks, ageing sheets, toasting profiles, distillation logs, measurements (temperature, hygrometry), sensory lexicons.

Decision-makers

D

Ministry of Culture, Ministry of Agriculture, National Interprofessional Bureau of Cognac, professional unions, etc.

C
Implicit & explicit knowledge

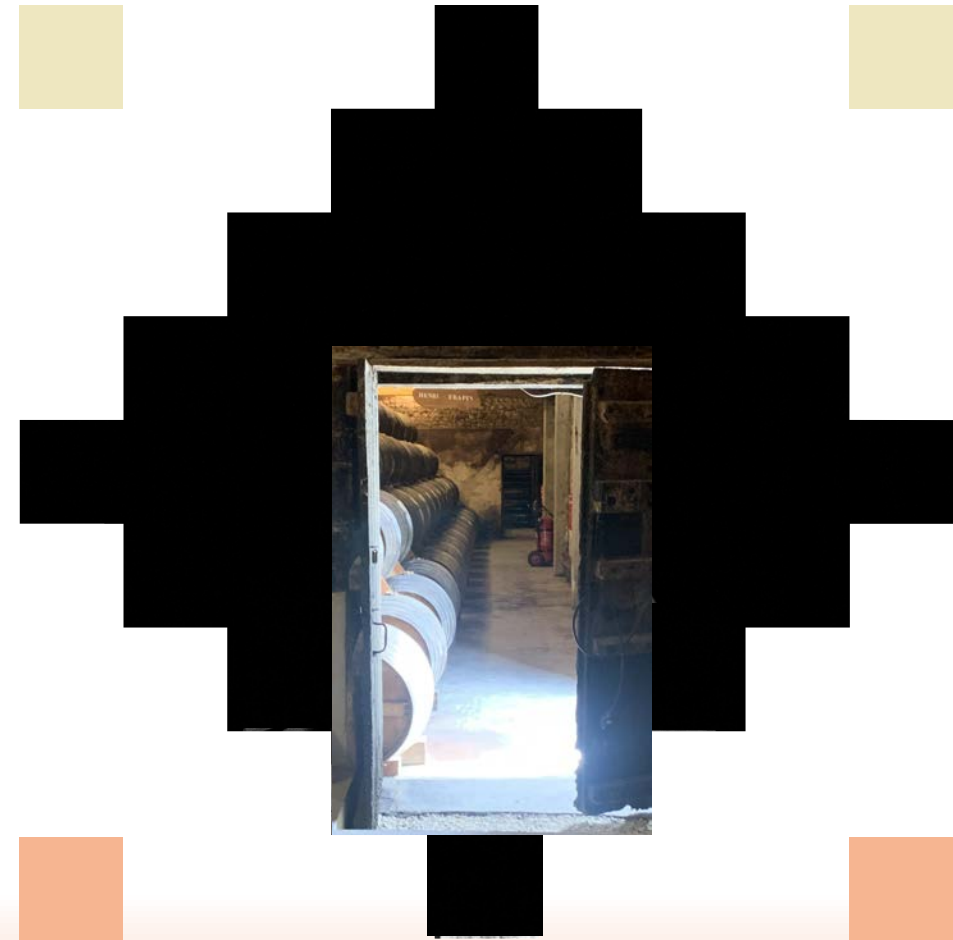Between the operatives (O), Information (I) and Decision-makers (D)

Criticality of the knowledge to be saved

This is a pivotal step that aligns the strategy for safeguarding intangible heritage and operations (cellaring, training, mediation).

Conditions the change of scale:

**isolated testimonies
→ governed, ethical, sustainable collective system.**

Phase 2 – Capturing Knowledge
Living sources & traces

Collection from **knowledge holders** (experts, tradition bearers) + documents/objects **explained by people**.

Advice: guided interviews, climate of trust, consent, **co-construction**.

IA tools (reactive AI & *(Automatic Speech Recognition)* ASR / *(Natural Language Processing)* NLP) :

- **Audio**/video transcription, **object**/gesture/sound detection to guide the analysis.

- **Multimedia indexing** and identification of **salient moments** (fine gestures, expert terms).

Be careful: distinguish **subjective/collective** from the moment of recording (marking of the levels of agreement).

Phase 2 – Capturing Knowledge

Application to the living heritage of cognac

Collection
Holders: cellar masters, distillers, coopers, winegrowers, workers, elders, apprentices.
Traces: Charentais stills in operation, barrels (forest/toast), cellar notebooks, harvest photos, songs, tools (staves, jable, mallet), rites.

Ethical framework
In-situ semi-structured interviews (wet/dry cellar, cooperage), **peer + mediator**.
Consent: opt-out, access levels (public/restricted/confidential).
Co-construction: seasonal calendar; questions validated by peer committee.

AI pipeline (reactive & ASR/NLP)
Transcribe + diarize sessions (distillation, heating, tastings).
Detect objects/gestures/sounds; **index** salient moments (micro-gestures, sensory terms, key decisions).
Align video↔text (timecodes) + **extract keywords** (toast, hygrometry, barrel type) → seed knowledge graph.

Vigilance

Subjective vs. collective from the moment of capture: mark **H/M/B** (high/medium/low chord) on each statement.

Systematic context: **date, season, precise location**

Sensitive areas: assembly recipes, wood sourcing, internal practices
→ **"confidential" flag**, local storage, restricted and logged access.

Phase 2 — Model

Make intelligible and shareable

MASK principle: **several models** = complementary points of view of a **knowledge system**.

Background: **Business Model** (SADT) — who does what, inputs/outputs, constraints/resources

+ **Phenomenon model** — what the activity seeks to **control** (physical/chemical/psychological).

Meaning (semantics): **Model of tasks** — **reasoning/strategies** (dynamic knowledge)

+ **Model of concepts** — **taxonomy/objects** (static knowledge).

Time & evolution: **History** + **Lineages** (versions, dates; genetics of solutions) :

Practical note: choose **tasks vs. activities** according to the **grain** and the number of actors (single-actor → task)

+ AI tools: **knowledge graphs**; mapping assistants; QA on modelled corpus.
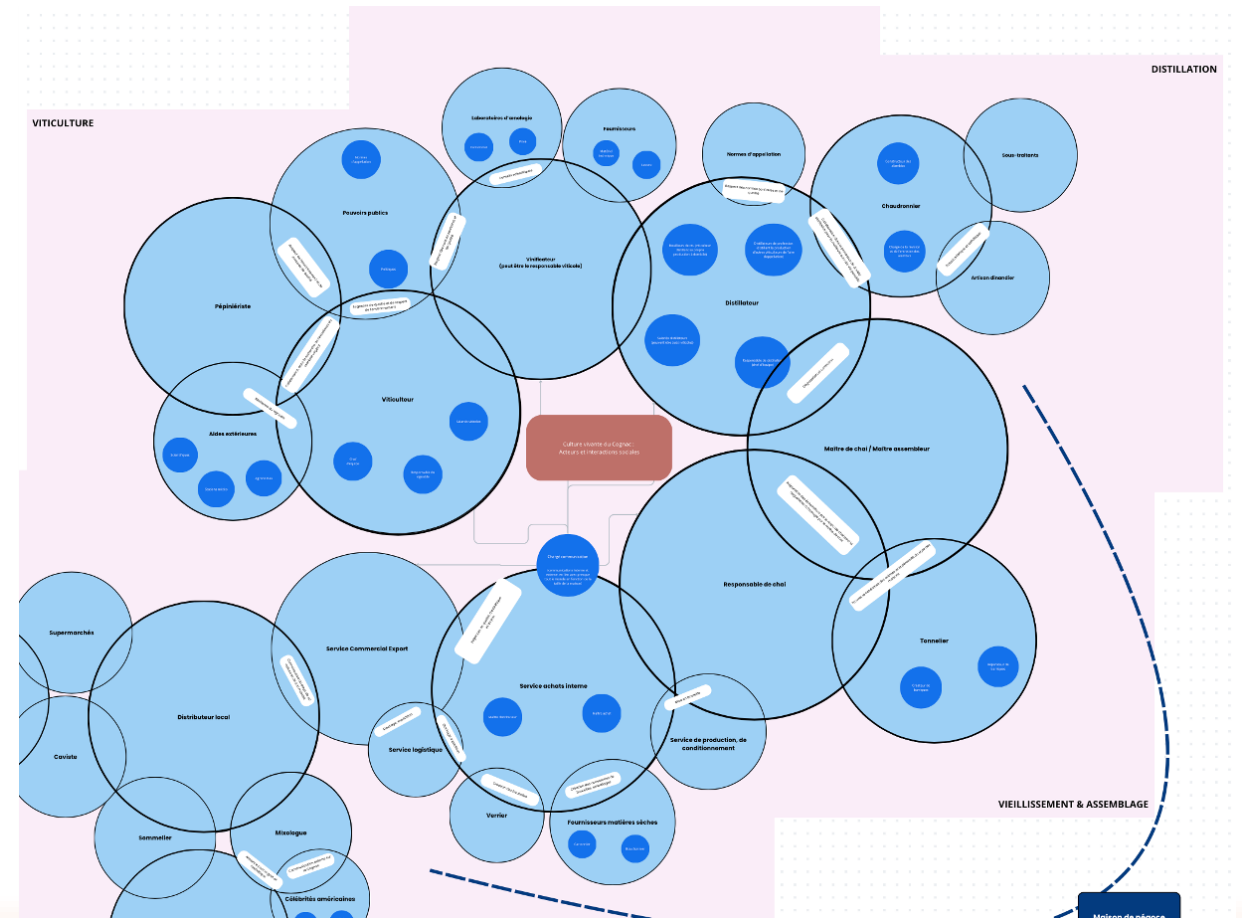
Phase 2 - Model

Application to the living heritage of cognac

MASK benefits

Multiply **complementary models** as points of view
of a **knowledge system** of the intangible heritage
of Cognac know-how.

Result 1: Example of an activity diagram
of a cognac know-how: double distillation

Phase 2 - Model

Application to the living heritage of Cognac

MASK benefits

Multiply **complementary models**
as points of view of a **knowledge system**
of the intangible heritage of Cognac
know-how.

Result 2: Mapping of knowledge
of the operating chain
of Cognac production know-how

Practice Note (Modeling Grain)

Single-actor → model in **task**
(e.g. cutting decision by the distiller).

Multi-stakeholder → model in **activity**
(e.g. collegial blending of cellar master
+ committee).

Phase 3 - Transmit
Located provision

Knowledge Book: Models (activity, tasks, phenomena, concepts, history, lineages)

+ **sheets** (descriptive, scientific, feedback)

+ **pointers** to docs/videos/sounds — a real **"professional encyclopedia"** of intangible heritage.

Deployment: **intranet/extranet** (museum & partners), **mediation** (course, augmented labels: real time), **training** (apprentice/professional modules), **decision-making support** (dashboards, cultural programming).

AI tools (generative AI): tutorials, **specifications**, **audio guides**, **translations**, **serious games** — with **safeguards**: access levels, **peer validation**, traceability of AI contributions.

Phase 3 - Transmit

Application to the living heritage of Cognac

Deployment

Intranet/Extranet (winery, cooperage, schools, museums/archives, interprofessional desk/partners)
Mediation: "rhythm of the cellar" tour, augmented labels (season/stage), audio-olfactory points
Training: apprentice/pro modules (distillation, ageing, blending)
Decision support: dashboards (barrel rotation, gesture calendar, scarce resources)

Generative AI (supervised)

Tutorials, **specs**, **multilingual audioguides**, **translations**, **serious games**
Safeguards: access levels, peer review, AI traceability ("role/sources")

Key principle — situated diffusion

Tailor to **location/season/audience/level**

Never decontextualize:
date/season/place/stage

Respect **sensitive areas**
(assembly secrets, wood sourcing)
& **rights of use** (licenses, renewable consents)

Ethical Storytelling

Co-authors from the start: cellar masters, coopers, distillers, winegrowers involved in the framing and validation.

Consent & rights: clear forms (right of withdrawal, access levels), community attributions.

Situated mediation: narratives anchored in **places/seasons/gestures** (harvest, winter distillation, ageing), **audio-olfactory installations**.

Contextual AI, not prescriptive: AI helps to **make intelligible** (transcription, indexing, formatting), never to decide on meaning.

Preservation of sensitive areas: secrets of wood assembly and sourcing → graduated distribution (public / restricted / confidential).

Temporalities respected: integration of **cycles** (seasons, rearing times), intergenerational benchmarks in each story.

Indicators: % content with **time/place metadata**, % items **co-validated**, **0 leaks** of sensitive information.

Collective Intelligence

Shared governance: committee of peers for framing, arbitration, validation of narratives.

Common Knowledge Book: models (activity, tasks, phenomena, concepts, history, lineages) + **RETEX** (feedback).

AI as a mediator: helps to link objective, subjective and intersubjective topics without standardizing.

Active transmission: training modules, intergenerational workshops, serious assembly games.

Indicators: rate of **use** of books in training, **feedback period** ≤ 30 days, **diversity** of voices per college (none < 15%).

Smart Heritage

Definition: collective, **situated and multilingual** ability to understand, decide and **transmit** living know-how without decontextualizing it.

Foundations (2003 Convention): **community participation**, **free and informed consent**, **safeguarding** (and not staking), **equitable access** and **respect for customary practices**.

What the method produces

- **Ethical narration**: co-authors, rights of use, graduated dissemination (public/restricted/confidential).
- **Collective intelligence**: peer committee, Knowledge Book, feedback loops ≤ 30 days.
- **Temporalities respected**: cycles, seasons, **lineages** (batches, master→apprentice gestures).
- **Contextual AI**: mediator (ASR/NLP, graphs), never prescriptive; traceability "AI used: role/sources".

Expected effects (Cognac): reinforced intergenerational **transmission**, **situated** mediation (audio-olfactory), better **argued** and documented cellar decisions.

Thank you for your attention.

NO **DATA** WITHOUT **CONTEXT**,
NO **CONTEXT** WITHOUT **COMMUNITY**,
NO **COMMUNITY** WITHOUT **SMART HERITAGE**.