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## **Patrimalp, Science of Heritage: perspectives on cultural artworks**

Laurence Ciavaldini Riviere, Emilie Chalmin, Mélanie Duval, Pauline Martinetto, Pierre Bordet, Karine Froment, Catherine Dejoie, Nils Blanc, Nicolas Holzschuch, Danielle Ziébelin, et al.

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# Patrimalp

## Univ. Grenoble Alpes



### Science of heritage: perspectives on cultural artworks

#### Development of an integrated and interdisciplinary heritage science

##### CHALLENGES

Patrimalp aims to:

- Develop an interdisciplinary scientific community at the heart of Univ. Grenoble Alpes
- Create innovative heritage research methods
- Initiate an interdisciplinary academic course on heritage
- Support heritage and culture policies

Carrying out these goals will strongly contribute to the attractiveness and international outreach of Univ. Grenoble Alpes.

#### A cross-disciplinary project

- history of art
- archaeology
- material sciences
- geosciences
- restauration and conservation
- computing sciences
- geography

#### Links with heritage institutions

##### Case studies

- Antic Theater of Lyon
- Epigraphical stone of Vaison-la-Romaine
- Saint-Michel de Connexe Priory
- Costumes and Jewelleries in the Alps
- Brocades transposed
- Neolithic rock art sites (Rocher du Château, Trou de la Féclaz)

#### Scientific and technological challenges



#### Time and space

The innovativ approach developed by Patrimalp consortium is based on carefully selected case studies carried out in the West Alpine region and Rhône corridor, from the Neolithic period to the pre-industrial period.

#### WP1 - Raw matter ressources and contextualisation

- **PURPOSES:**
  - ▶ Identification of raw materials used in the processing of artefacts
  - ▶ Socio-ecosystemic contextualization of raw material strategies and rock art production

Integrated study of Neolithic rock art

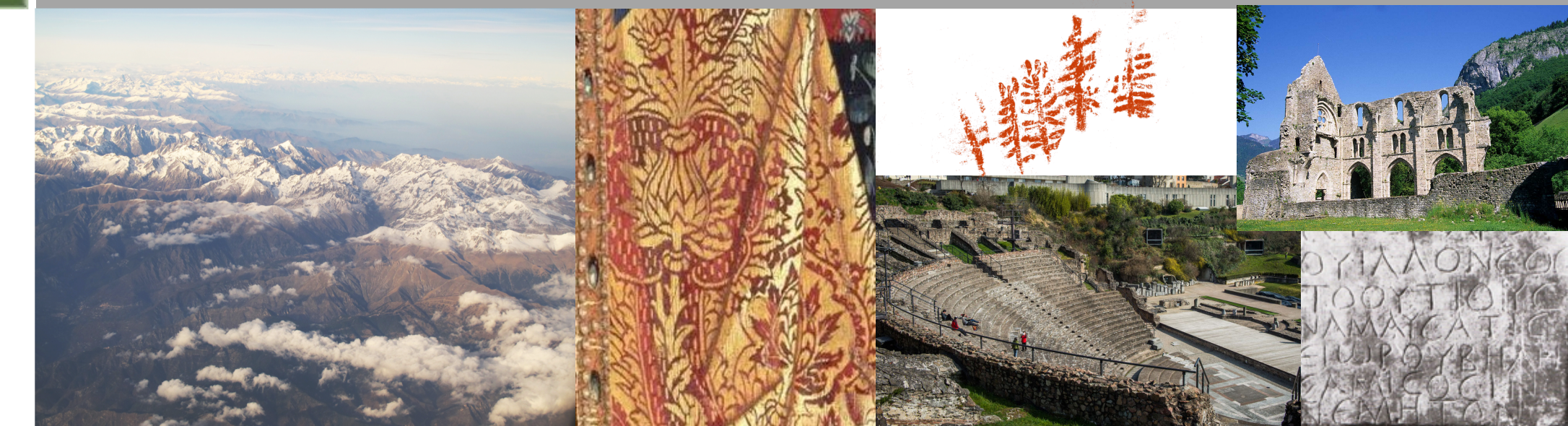


#### WP3: History, life and trajectories of artifacts

- **PURPOSES: EXTRINSIC ANALYSIS**
  - ▶ Artefact story in native cultural context
  - ▶ Understanding the artefact as artistic and cultural technical clue
  - ▶ Spatial and temporal following tracks
- **SCIENTIFIC APPROACH**
  - ▶ Historiography of artefact
  - ▶ History of artefact (primary and secondary sources, workshops, treatises, literature)
  - ▶ Form and creation life
  - ▶ Artistic cartography

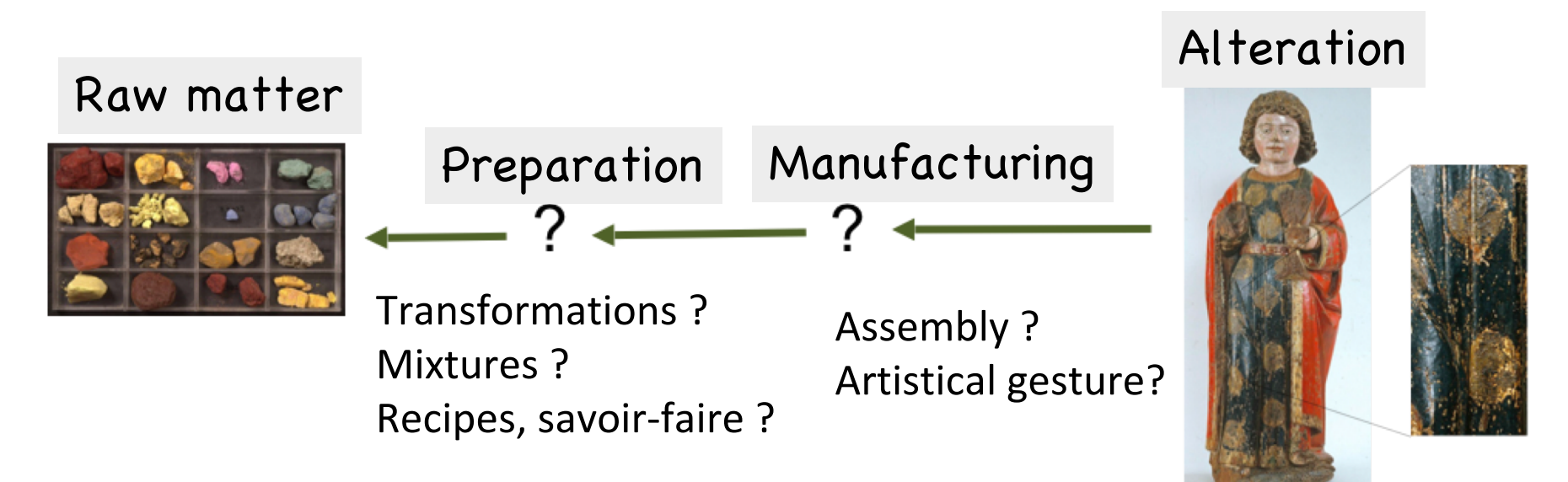
#### Scientific bottlenecks

- ❖ Reconstitute the different "states" of the artefact
  - ❖ Develop an ultimate integrated physico-chemical analysis of artefacts
  - ❖ Understanding artefact materials through a selective analysis method
  - ❖ Dealing with, organising and sustaining heterogeneous multidisciplinary data
  - ❖ Write the history of artefacts
- Production of a common story of the artefact across the time in its environmental and cultural context



#### WP2 - Materials, manufacturing process and alteration

- **PURPOSES: INTRINSIC ANALYSIS**
    - ▶ Identification and characterization of constituting matters of artefacts
    - ▶ Understanding their manufacturing and alteration
- Cultural heritage matter as a « recorder » of artistic human past activities  
Identification of « clues » inside the matter

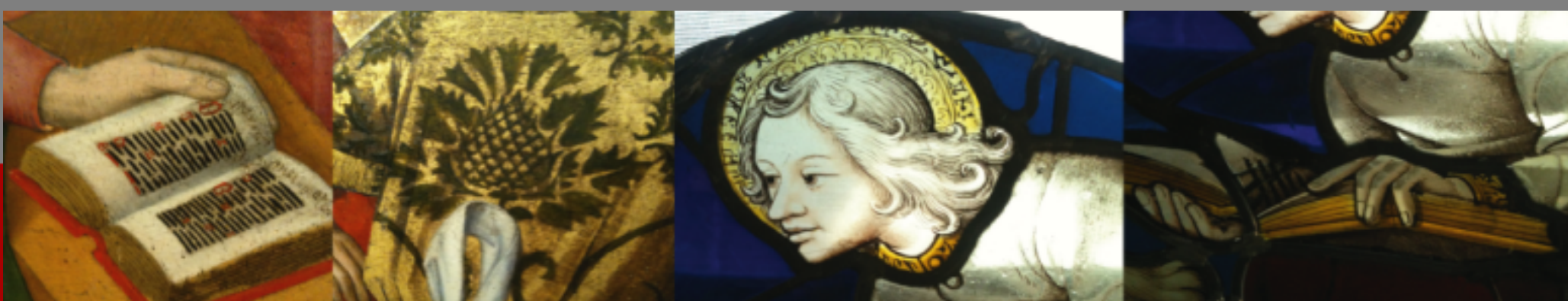


#### WP4 - Modelling and interconnected visualisation of cultural heritage

- **PURPOSES:**
    - ▶ Modelling knowledge and reasoning about heritage artefacts, their components and context
    - ▶ Geovisualisation
    - ▶ Restitution and Rendering
1. Identification of artefacts and their specificities  
2. Interoperability between concept and vocabularies  
3. Identification of process and transformation

#### VISUALISATIONS

Textures, spatial, chronological, upgradable, interactive, 2D, 3D, augmented reality...



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