

## Tipping Point? Change and Adaptation of European Societies of the 1<sup>st</sup> Millennium BCE

4<sup>th</sup> Déchelette Prize Conference – National Archeology Museum of Saint-Germain-en-Laye

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A “tipping point” is a figure of speech designating a critical threshold beyond which a system enters a new and altered state. Frequently used in environmental science when discussing climate change, the notion of a tipping point calls forth an acceleration of change brought about by interdependent factors, both anthropogenic and non-anthropogenic, that throw the pre-existing system out of balance. Deciphering this immense network of relationships enables us to move beyond the causal duality of nature versus culture, and to think about the transformation of protohistoric societies in a new light.

Defined as either a continuous process or a brutal rupture, change can affect all aspects of human existence and manifest itself at different spatial, temporal, and social levels. For archeologists, changes in material culture are essential points of reference for classifying objects, analyzing the practices associated with them, and creating chronological frameworks. The intensity and scope of the cumulative processes of change lead to a phenomenon of transformation that redefines the material and ideological configurations of communities.

This definition of change is worth exploring when studying societies of the first millennium BCE, because the increased exchanges and interconnectedness across the European continent at the end of the Bronze Age and during the Iron Age led to an acceleration and intensification of change. The widespread circulation of objects and of people created a network that facilitated innovation and the dissemination of ideas and models. The emergence of iron metalwork, of agricultural inventions such as the rotary quern, the widespread practice of planting monospecific crops, the introduction of monetary instruments, the appearance of marked inequalities in burial practices, the expansion of Celtic material culture and the development of non-linear urbanization are all signs of lasting economic, social, political, demographic and ecological changes.

Human societies develop strategies for adapting to change, the success of which has an impact on their evolution. There are many examples, and they all reflect different rates of change. Modification of agrarian practices might be a first response to climate deterioration, followed by migration in the case of failure of those practices. Periods of trauma, such as pandemics or conflicts, can lead to the restructuring of economic and political systems, and even affect how societies represent the world, spurring modifications of their ritual practices or in their iconography. This raises the question of the intersection of temporal and spatial scales, which spans from the sudden event to the gradual phenomenon, and from the biography of an individual or a site to the history of a territory.

This conference aims to explore the conditions of change in Europe during the first millennium BCE, between the end of the Bronze Age and the Iron Age. The geographic framework will stretch from the Atlantic Coast to the Carpathians, including the Celtic world (Hallstatt and La Tène cultures) and its fringes (the British Iron Age, Pomeranian cultures, the Jastorf culture, the Przeworsk culture, the Púchov culture...), and will extend as far as the Mediterranean world. Two main themes will structure the discussions between the different contributors:

- Characterize change by identifying its scalar rhythms and fluctuations
- Highlight the multiplicity of adaptation strategies used by different communities

These themes can be organized thematically, as they relate to the environment, society, economy, religion, and symbolic practices. Multiple points of view from different disciplines will facilitate the comparison of sources, including archeological remains, paleo-environmental models, bio-archeological analyses, and texts. These many perspectives will highlight diverse ways of looking at change, which, far from being isolated case studies, will necessarily overlap and highlight the dynamism of societies in the first millennium BCE.

## 1. Observing change, from the individual to the societal scale

What does change mean for protohistoric societies? Which temporal and spatial frameworks are adapted for observing them? How do we characterize the nature of change and measure its magnitude? Which models of transformation can be used for Bronze and Iron Age societies?

Ecological models, such as the resilience theory, have been used to apprehend the adaptive cycles of ancient societies. These models reduce change to sudden episodes leading to a tipping point, but this event-based reading of the past does not account for more gradual processes of change, which are visible on broader scales of time and space.

Several spatial and temporal scales can be studied simultaneously thanks to powerful and diversified analytical tools. We can now trace changes in populations through DNA and strontium isotope analyses. It is also possible to trace transformations within systems of production, such as changes in the supply chain, which are revealed through elemental analysis, or changes in technological developments by using imaging techniques. The modification of ecosystems and climate, whether induced by human activity or by external factors, can also be observed, such as changes in rainfall patterns estimated from the growth rings of trees or clearings in the landscape based upon pollen facies.

This first axis, which is primarily methodological and theoretical, aims to assess material signals of change at different levels: that of the individual, as well as of society and its environment. Social and environmental variables are interconnected, but not in ways that are necessarily decipherable; we must then achieve the reconciliation of potentially conflicting sources of information. A central theme of this conference will be to discuss the implications of the temporal resolution of observations and the contribution of Bayesian modeling in chronological models towards a more accurate understanding of transformational dynamics.

## 2. The mechanisms of adaptability: responses and strategies

How did communities of the first millennium BCE respond to environmental, social, and political upheaval? Adaptation to such changes can be complete or partial, sudden or gradual, lasting or reversible, forced or freely chosen. A first outline of the discussion leads to three broad categories of responses to change:

- **Movement:** Mobility and migration, which imply adaptation to new environments, and which, in turn, generate changes in host societies.
- **Resistance and conflict:** Violence and hostility, as well as the activation of memory and traditions, are forms of resistance to the imposition of new models. Supportive social networks, systems of kinship, and the transmission of knowledge play a role in this dynamic.
- **Adaptation and flexibility:** Innovation is defined as the capacity to incorporate, at varying degrees, different ideas, practices, and knowledge, whether completely new or archaic, to find new solutions.

How are these different responses reflected in archeological documentation across Europe? In what ways are they interrelated, once we confront different sources of information, such as DNA analyses, material culture, and land use?

Indeed, migration, resistance, and adaptation are not mutually exclusive responses. They are interconnected, can take place in any order, and can even occur at the same time. However, the implementation of each of these strategies is more or less feasible according to the ecological and cultural conditions. They can be presented as options that appear acceptable, or not, to individuals or communities, such as the choice of leaving or staying in the face of change.

The 4<sup>th</sup> Déchelette Prize conference is an invitation to explore the forces that lead to adaptation by combining diverse areas of study regarding the first millennium BCE, namely demographics, urbanization, production and consumption practices, and exchange networks. The attention given to the tensions between competition and collaboration, between tradition and innovation, will allow us to move beyond the specificities of each one of these areas of study to identify general adaptive mechanisms and to understand how protohistoric societies reacted when confronted with major, life-changing transformations.