Materials seen through the prism of social sciences and humanities

The articles presented in this special issue of Matériaux & Techniques all deal with materials, in particular metals and steel. This is the reason why they belong to this Journal.

Materials, however, exhibit such diversity, they are part of so many narratives that the classical approach to materials, based on STEMs (Science, Technology, Engineering & Mathematics), with which engineers are more familiar, falls short of demonstrating their full richness and complexity. It is also necessary to understand them in the context of Social Sciences and Humanities (SSH) or, more simply, the multiplicity of stories (story telling) that are spun about them: one of the authors, for example, speaks of the role of materials as actors in their own destiny in the historical flow of time [J.P. Birat, Materials are social constructs and Materials and ANT].

This is the reason why the conferences, from which these papers stem from, bring together the words of “Society and Materials”.

In this special issue, we give the floor to experts from a large number of fields, in order to discuss materials from the richness of their respective approaches:

- to Engineers, of course, those who design and make materials and use them in a wide variety of industrial artifacts [J.P. Birat, already mentioned];
- but also to Designers, who explain how the design of industrial products has now been complemented by the design of materials [B. Bianco et al., Material research in design field: A gender gap analysis, and A. Squatrito et al., The emerging role of design...];
- to Raw Materials Economists [M. Ericsson, The evolving structure of the global mining industry], who explain how Mining has an essential role in facilitating the energy transition but it should show respect of the ecosystems in the regions where it operates, if it wants to get a social license to operate from people and from nature itself;
- to Historians, who explain how society and business got organized to produce materials (especially steel in the Historians’ article) [P. Mioche, E. Godelier, L’acier et la sidérurgie française, vus par l’histoire économique], in a continuously changing world that travels from crisis to crisis;
- to SSH actors, even if in this case they are autodidacts [J. P. Birat, already mentioned];
- and to knowledge-brokers, such as LCA practitioners, who bridge the gap between STEM and SSH [J.P. Birat, already mentioned].

This is what is called multidisciplinarity. But, is it possible today to tell (stories) about materials in a way that doesn’t involve talking about them in this way?

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