socsemics is an **ERC-funded** project focused on the appraisal of so-called echo chambers, « bubbles » or, more broadly, fragmentation in online public spaces.

The project addresses these phenomena through a dual socio-semantic approach, considering jointly the interactional and informational confinement of users.

socsemics is hosted at **Centre Marc Bloch**, the French-German social science and humanities research institution located in Berlin.
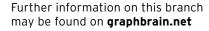
Project website:
socsemics.huma-num.fr

Team website:
cmb.huma-num.fr

The research axis on automated content analysis is meant to progressively become a stand-alone subproject to be collaboratively re-used by the scientific community at large. It currently materializes as an umbrella platform called "graphbrain".

Further information on this branch may be found on **graphbrain.net**

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socsemics
Socio-Semantic Bubbles of Internet Communities

European Research Council
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socsemics aims at studying confinement both on the social and the semantic sides, especially by appraising the empirical existence of clusters and fragmentation both in interaction networks and in the distribution of information and claims.

To this end, the project focuses on four main challenges:

1 A socio-semantic theory of confinement:

developing a socio-semantic theory of confinement by appraising the social, semantic and socio-semantic aspects simultaneously.

Online communities often feature clusters and, thus, fragmentation, which may be either interactional (whereby users essentially discuss with the same cluster of users) or informational (whereby they are only confronted with the same issues and opinions). The possible conjunction of both phenomena is of particular interest to the project. **socsemics** aims to leverage, rather than just show, the existence of this type of fragmentation to conceive a socio-semantic theory able to explain jointly social and semantic confiment.

2 A breakthrough in content analysis:

drastically improving content analysis by going beyond classical distributional approaches and by addressing the linguistic complexity of utterances in text corpuses.

Classical topic detection methods make it possible to presume, for instance, that the frequent cooccurrence of "change", "climate", "human", "activity" in a text probably relates to "climate change". Recent advances in machine learning show us that we can now go beyond this. **socsemics** aims at enabling automated analysis of not only what is being talked about, but what is being actually said by whom in what context – dealing with more complex claims such as "climate change is linked to human activity".

3 Fragmentation in digital public spaces:

focusing on a couple of broad case studies pertaining to the European public space to illustrate the interface between these methods and qualitative approaches.

Where the issue of fragmentation is particularly pregnant, such as debates surrounding the management of migration flows and the existence of a pan-European public sphere.

Such topics enable a multi-country analysis, thereby putting the question of bubbles at a meta-level and illustrating further its potential for comparative analysis. Qual-quant approaches will aim at comparing the purely quantitative results with the perception and discourse of a number of actors to be selected on a random basis and according to quantitative features.

4 Hybrid qual-quant visualization instruments:

developing interactive platforms which implement the above innovations and thereby facilitate qual-quant digital social research.

We aim to demonstrate the epistemic potential of visualizations where social and semantic realms are given equal status. Furthermore, by developing natural language processing methods that go beyond word clouds and clusters, **socsemics** will endeavor to take into account the rich text analysis requirements of social sciences – we deem these advances to be crucial in fostering truly interdisciplinary qual-quant studies.