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## Unlocking the Potential of DH+AI: Opportunities, Challenges, and Recommendations

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# La Lettre

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## Édito

On November 27<sup>th</sup> and 28<sup>th</sup> 2024, a meeting was convened bringing together researchers from the *Centre National de la Recherche Scientifique* (CNRS), the *Consejo Superior de Investigaciones Científicas* (CSIC), and the *Consiglio Nazionale delle Ricerche* who specifically work in the fields of humanities and social sciences [p2]

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### LIVRE



*Le travail et la société française*, sous la direction de Thierry Berthet et Delphine Mercier, CNRS Éditions, 2025

Le monde du travail connaît d'importantes transformations. En témoignent par exemple, outre la pratique du télétravail, le développement du secteur de l'aide à domicile ou le boom du numérique. Nous assistons à l'émergence d'une structure sociale

inédite, obligeant les sciences humaines et sociales à aborder autrement la question du travail [...]

voir toutes les publications

### REVUE

*Le Journal de la Société des Océanistes* (JSO) est la seule revue académique francophone consacrée aux sociétés et cultures océaniques. Publiée depuis 1945 par la Société des Océanistes (SdO), la revue a pour vocation de diffuser des travaux dans le champ des sciences humaines et sociales d'une part, des sciences environnementales et des arts d'autre part [...]



voir toutes les publications



# ÉDITO

Salvatore Capasso, director of Department of Human and Social Sciences, Cultural Heritage, National Research Council  
Marie Gaille, director of de CNRS Humanities & Social Sciences  
Francisco Javier Moreno Fuentes, Vicepresident for International Affairs, Spanish National Research Council

On November 27<sup>th</sup> and 28<sup>th</sup> 2024, a meeting was convened bringing together researchers from the *Centre National de la Recherche Scientifique* (CNRS), the *Consejo Superior de Investigaciones Científicas* (CSIC), and the *Consiglio Nazionale delle Ricerche* who specifically work in the fields of humanities and social sciences (see programme).

Although participants were generally able to communicate effectively in their respective native languages — French, Italian, or Spanish - English was adopted as the primary language of communication for the duration of the meeting. The *Institut des études avancées de Paris* hosted the event, providing excellent conditions conducive to productive scholarly exchange.

This meeting, entitled *European Research Perspectives in Humanities and Social Sciences*, aimed at identifying key research priorities that could collectively advocate to the European institutions as regards shaping the scientific agenda for the forthcoming European Framework Programme (FP10) within the domain of the Humanities and the Social Sciences.

The aim was also to explore opportunities for scientific collaboration within the framework of the European Union's widening policy, particularly in relation to countries in the Balkan region. In this regard, representatives from research institutions in Albania, Croatia, Greece, Romania, and Serbia were invited to chair the discussion sessions.

Additionally, the meeting sought to initiate the development of concrete measures to promote researcher mobility among the three participating institutions, with the ultimate goal of fostering collaborative research projects across these disciplinary domains.

The methodology we adopted involved the following steps: first, the identification of common areas of interest grounded in a comprehensive knowledge of the respective research communities; second, the preparatory meetings among researchers; and third, the invitation to a broader audience, including both scholars and representatives of research institutions, to actively engage in the meeting and the intellectual exchanges it fostered. This inclusive approach was also intended to broaden the scope of discussion and to disseminate the outcomes and recommendations articulated in the position papers to key stakeholders within European research institutions such as the Directorate-General for Research and Innovation, and the Joint Research Centre.

Six principal thematic areas were collaboratively identified, reflecting the core strengths and expertise of our respective research communities. Scholars from the three institutions were invited to jointly develop papers on these themes,

with the aim of presenting them to a broader audience on the occasion of the meeting. The selected themes were as follows: 1. A socio-demographic approach to populations: youth, ageing, vulnerable and disabled people, migration; 2. Inequalities: economic, social, educational, gender; 3. The Green transition, with particular emphasis on urban approaches; 4. Cultural heritage; 5. Digital humanities and artificial intelligence; 6. Science for diplomacy and international relations: scientific, cultural, educational and artistic transfers. Revised versions of these papers were prepared for publication in the present special issue of the *CNRS Sciences humaines & sociales - La Lettre*.

It is actually quite common for scholars from France, Italy and Spain and other European countries to gather in scientific meetings. It is however less frequent for such gatherings to be organized by their respective research institutions with the explicit aim of promoting collaborations at a European level and facilitating collective reflections on how research in the fields of humanities and social sciences should develop in terms of topics and epistemological orientations.

We may affirm that this initial endeavour was a success. The three institutions intend to organize another meeting in 2026, in Rome. In the interim, the CNRS and the British Academy brought together young researchers for a two-day to engage in collaborative inquiry on governance as a research theme and to explore potential avenues for future collaborations (*UK-France Knowledge Frontiers Symposium*, 14<sup>th</sup> and 15<sup>th</sup> of March 2025, Headquarters of the CNRS, Paris).

We believe this type of initiative to be important for two primary reasons. The first pertains to the examination — particularly in relation to public funding — of how national research communities engage with European-level frameworks (“go to Europe”) and the subsequent conclusions or policy recommendations formulated with respect to research career trajectories.

As far as France is concerned, for example, a recent report by the *Cour des Comptes* highlights that the country contributes 17.5 % to the European budget, yet receives only 11 % in return through successful research funding applications between 2014 and 2023 (*La mobilisation des fonds européens en matière de recherche : les programmes Horizon 2020 et Horizon Europe*). The report stresses that competition for European funding is expected to intensify particularly in light of the United Kingdom's renewed access to such funding. Furthermore, it draws attention to the potential decline in national research funding due to France's overall financial situation. Consequently, it advocates for measures to either incentivize or mandate researchers to seek European funding opportunities (recommendations 5 and 6).

The second issue pertains to the Commission's new competitiveness agenda, which prioritises innovative, breakthrough, and disruptive technologies<sup>1</sup>. In this context, while institutions such as the CNRS continue to advocate for the support of basic research, it is important to dedicate special attention to the humanities, which, according to some perspectives, remain largely peripheral to the priorities outlined in this emerging agenda.

Concerning the first issue, we believe our joint initiative exemplifies the kind of actions that research institutions should initiate and support in order to empower humanities and social sciences communities to develop and advocate their own basic research agenda. This initiative also aims to highlight the fact that research conducted at a European level (as at other levels) is fundamentally shaped by genuine interactions among researchers, intellectual and scientific friendship, common desires to pursue knowledge together and create collaboration to address shared research issues. If our research communities are only presented as competitors in the race for European funding, the probability of this race being seen as meaningless is high.

With regard to the second issue, we maintain that the humanities and social sciences make significant and multifaceted contributions to this agenda. This is evident through the body of knowledge produced in disciplines such as economics, geography, demography, urban planning, and the social sciences of employment and labour, all of which offer critical insights into the factors that enhance or undermine the functioning of economic organisations. Their knowledge and related innovations (often in the field of digital humanities and now generative AI) are key to cultural industries, tourism and the cultural heritage economy, and “play an important role in AI and robotics, particularly in the subfields of cognitive science (for example psychology, linguistics, philosophy, art, social anthropology), alongside informatics and statistics”<sup>2</sup>.

Moreover, it is a well-known fact that innovations developed and deployed without a thorough understanding of their social, legal, cultural and political context are very unlikely to achieve sustained success. Humanities and social sciences knowledge paves the way for technology to be effectively put into the societal context. In the European context in

particular, this knowledge helps to highlight the role of public administration, legal frameworks, and strong institutions governed by the rule of law in facilitating and shaping the innovation process.

Above all, at this historical juncture, the humanities and social sciences assume an even greater significance, as they enable the pursuit of objectives that are as vital as economic competitiveness and must be addressed concurrently. These include the advancement of sustainable development and the adaptation of societies to climate change, social inclusiveness, the development of education — particularly the cultivation of critical thinking in an environment undermined by widespread disinformation — the preservation and dynamic creation of shared cultural heritage, the fostering of mutual cultural understanding, and the protection of human rights and democratic principles.

With respect to both issues, we wish to reaffirm our strong determination to create the right spaces and conditions for humanities and social sciences communities to be key actors in the definition of their research agenda at a European level.

We want to address our sincere gratitude to the CNR, CNRS, CSIC organizing teams, as well as to our broader network of colleagues within our respective institutions who contribute to the development and implementation of our European research strategies. We are equally grateful to the speakers participating in this scientific meeting for their valuable contributions.

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1. *Martin Greenacre*, “ERC should contribute more to competitiveness, says EU research chief”, *Science Business*.  
2. *EASSH*, “Prosperous and Competitive Europe: A truly interdisciplinary FP10”, December 2024.

# Unlocking the Potential of DH+AI: Opportunities, Challenges, and Recommendations

## DH+AI as a Transformative and Emerging Field

The intersection of Digital Humanities (DH) and Artificial Intelligence (AI) is rapidly emerging as a crucial field, offering significant opportunities for both the humanities and social sciences (HSS) and AI research itself. DH+AI not only enhances HSS methodologies — enabling new forms of data analysis, historical research, and knowledge representation — but also contributes to AI development by providing critical insights into ethical considerations, interpretability, and human-centred applications.

Researchers in HSS increasingly leverage AI to model complex social phenomena, analyze vast textual corpora, and develop predictive frameworks for social, political, and cultural trends. At the same time, HSS disciplines critically examine AI's broader societal impacts, from disinformation and biases in machine learning models to AI's influence on democracy, governance, and digital culture. This dual role makes HSS indispensable in shaping responsible AI development and deployment.

However, despite its transformative potential, DH+AI research remains structurally and methodologically fragmented. Many initiatives remain isolated within specific academic disciplines, research programmes, or funding schemes. To fully unlock the potential of this field, several key challenges must be addressed, particularly in ethical, methodological, and institutional domains.

## Challenges in Advancing DH+AI Research

### Ethical and Equity Considerations

The sustainability of AI in HSS depends on strong ethical frameworks that address issues such as intellectual property, data privacy, and equitable access to resources. While public debates often focus on privacy and algorithmic fairness, DH+AI research must also consider:

### Sensitive and contested data

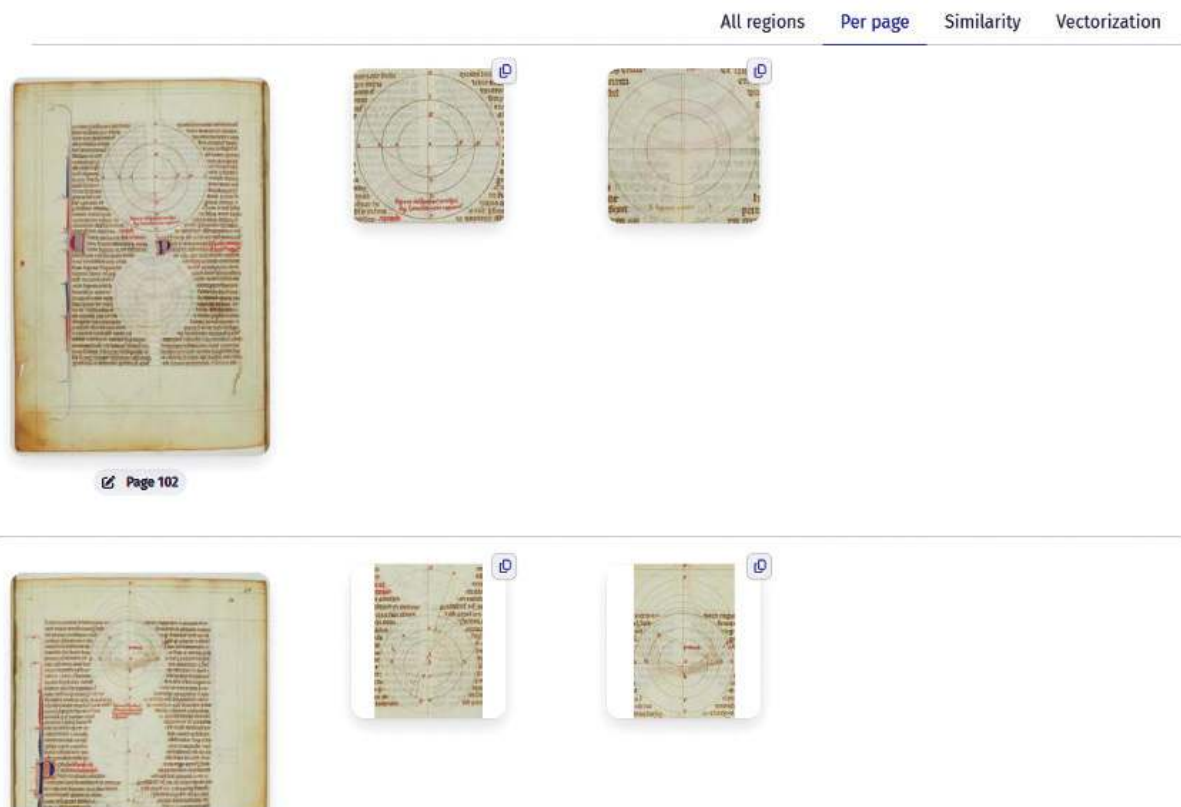
Many HSS disciplines handle complex and politically charged datasets, such as historical records tied to conflicting memories. AI's application to these datasets requires careful methodological revision to prevent misrepresentation or misuse.

### Preserving small but critical datasets

While AI research often prioritizes large-scale data, HSS relies on small, unique, and contextually rich datasets. Ensuring their digitization, accessibility, and long-term preservation is vital for cultural memory and scholarly inquiry.

### Open science and AI governance

AI's growing role in knowledge production necessitates democratic oversight, particularly in cases where AI models influence public discourse, policymaking, and historical narratives. Greater transparency and regulatory measures are needed to prevent biases and reinforce trust in AI-data-driven research.



Automatic diagrams extractions from mediaeval manuscript (BnF, lat. 7195) implemented with the platform AIKON (<https://github.com/Aikon-platform/aikon>)

## Methodological and Interdisciplinary Challenges

DH and HSS disciplines are characterized by interpretive, qualitative, and historically grounded approaches, which contrast with AI's quantitative and algorithmic nature. This epistemological gap presents several challenges:

### Standardizing data representation and analysis

While AI requires structured and standardized datasets, many HSS disciplines work with highly heterogeneous, non-standardized sources. Developing interoperable frameworks for knowledge representation is critical for meaningful AI integration.

### Bridging qualitative and quantitative methodologies

AI's reliance on computational methods risks oversimplifying complex humanistic and social phenomena. More interdisciplinary collaboration is needed to ensure that AI tools accurately capture the plurality of perspectives in HSS research.

### Ensuring transparency and explainability

Machine learning models, especially large language models (LLMs), often function as 'black boxes,' making it difficult for researchers to critically assess their outputs. Enhancing AI transparency and explainability is essential to maintaining academic rigor and public trust.

## Institutional and Structural Barriers

Despite growing recognition of DH+AI's significance, institutional challenges hinder its development:

### Fragmentation in research funding

In European frameworks such as Horizon Europe (HE), DH+AI topics are scattered across multiple sub-areas and funding calls, making it difficult for researchers to position their work effectively. This also complicates evaluation processes, as panel reviewers often lack interdisciplinary expertise.

### Disparities in funding allocation

AI research, particularly in STEM fields, receives significantly more funding than HSS, limiting opportunities for genuine interdisciplinary collaboration. HSS-led initiatives struggle to attract top AI researchers, leading to a one-sided dynamic where AI projects merely extract HSS data without engaging in substantive collaboration.

### Lack of research infrastructure

While AI benefits from large-scale computing facilities, HSS research often lacks equivalent infrastructure for digital scholarship.

## Recommendations for Advancing DH+AI Research

To address these challenges and foster the integration of AI and HSS, we propose the following strategic recommendations:

### Strengthening Research and Funding Structures

Encourage interdisciplinary funding mechanisms  
Horizon Europe and other funding bodies should create dedicated DH+AI programmes, reducing fragmentation and ensuring sustained support for interdisciplinary initiatives.

### Introduce Proof-of-Concept (PoC) calls

Many DH research outputs—such as digital archives, methodologies, and ethical guidelines—are not traditionally

'marketable' but hold significant societal value. PoC calls could help translate these research findings into practical applications, from policy recommendations to AI-driven tools for cultural heritage.

### Enhance HSS representation in AI research clusters

DH and HSS scholars should have a stronger presence in major AI research initiatives, ensuring that ethical, historical, and societal perspectives shape AI development from the outset.

## Building Institutional and International Cooperation

### Strengthen international collaborations

Institutions such as CNR, CNRS, and CSIC have a strong tradition of cooperation, which should be reinforced through renewed framework agreements, joint research programmes, and funding schemes that facilitate interdisciplinary exchange.

### Develop shared research infrastructure

National research infrastructures should be made accessible across institutions to support collaborative DH+AI projects. Key HSS datasets should be recognized as strategic research assets, ensuring their long-term sustainability and accessibility and an effort should be made as well in providing the HSS team with computing power and digital engineers.

### Establish a dedicated interdisciplinary research programme

Following models like the CNRS's International Research Laboratories, a new programme should be created to fund joint DH+AI projects that align with key societal challenges.

## Promoting Knowledge Exchange and Capacity Building

### Support interdisciplinary training

AI researchers should receive training in HSS methodologies, while HSS scholars should develop computational literacy to critically engage with AI tools. Specialized educational programmes should equip future researchers with the necessary skills to navigate this interdisciplinary space.

### Foster open science and data sharing

A trilateral forum between CNR, CNRS, and CSIC should be established to address open science, data transparency, and ethical AI applications in HSS.

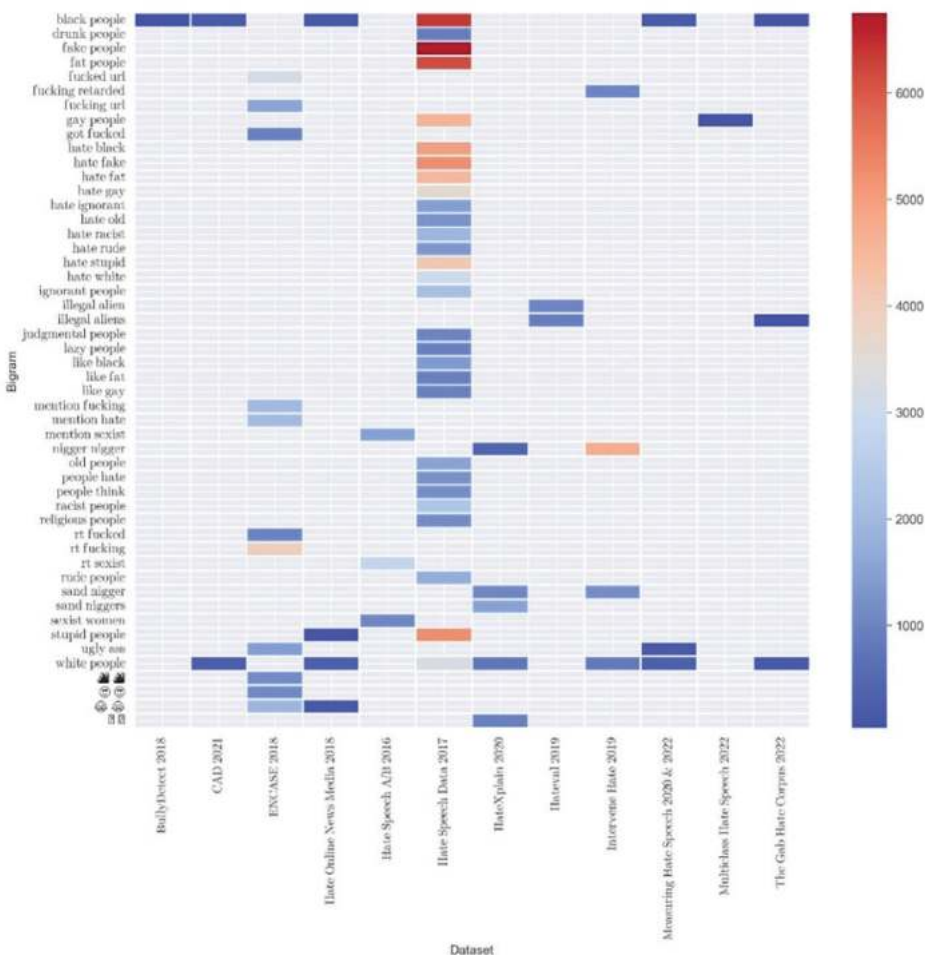
### Establish cross institutions scientific committee

This committee would maintain a scientific watch on this dynamic field, organise a biannual DH+AI conference and be a strategic consulting body for the institutions.

## Conclusion

The integration of AI and Digital Humanities represents a critical frontier for both HSS and AI research, offering new methodological possibilities while raising important societal and ethical questions. However, several structural, methodological, and institutional challenges must be addressed to fully realize the potential of DH+AI research.

By fostering interdisciplinary funding mechanisms, strengthening international collaboration, and enhancing



knowledge exchange, we can build a more cohesive and impactful DH+AI research ecosystem. AI's role in shaping knowledge, culture, and policy will continue to expand, making it essential that the humanities and social sciences play a central role in guiding its development. Through strategic investment and institutional support, DH+AI can contribute not only to the advancement of HSS but also to the broader goal of ensuring AI's responsible and equitable integration into society.

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The image shows a study on hate speech corpus in terms of implicit bias. The general collection is here: [Piot P., Martín-Rodilla P., Parapar J. 2024, "Metahate: A dataset for unifying efforts on hate speech detection", in Proceedings of the International AAAI Conference on Web and Social Media, vol. 18, pp. 2025-2039. The bias study was recently accepted at <https://dh2025.adho.org/>](https://doi.org/10.1017/S0022268924000001)

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