Rethinking communication in the age of AI and Digital Humanities

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Questions for reflection:

- What is Digital Humanities?
- What new things have researchers in this field proposed for the Human Sciences?
- How can technology help in research without taking away the scientist's leading role in their work?
- How have investigations related to Digital Humanities contributed to the university?

The DH phenomenon

- Digital Humanities (DH) are an emerging and interdisciplinary phenomenon, resulting from the convergence between technology and human sciences, inserted in the context of the network society and digital culture.

- The field implies the need to rethink the role of the university and research in the digital age.

Characteristics

- **Interdisciplinarity**: convergence between technology, culture, and society.
- **Digital preservation**: safeguarding cultural heritage through emerging technologies.
- **Computational analysis**: new methods for interpreting cultural texts and artifacts.

Historical context

- **1940s–1960s Humanities Computing:** Priest Roberto Busa begins the automatic indexing of texts by Thomas de Aquino, marking the birth of the field.
- **1990s–2000s Internet Era:** Emergence of digital libraries, mass digitization projects, and the first textual analysis tools.
- **2010s Consolidation:** Establishment of specialized centers, academic publications, and institutional recognition of the field.
- **2020+ AI and Big Data:** Integration of artificial intelligence, machine learning, and analysis of large volumes of cultural data.

Conceptual and epistemological foundations of Digital Humanities

Definition and interdisciplinarity

- DH constitute an interdisciplinary field that integrates computational methods, digital technologies, and traditional humanistic issues.

- What differentiates them is the direct involvement of research with computers, with an emphasis on graphic and digital methods of production, organization, and dissemination of knowledge.

Critical praxis and ontology

- DH go beyond the mere instrumental application of digital resources; they represent a (re)creation of how we formulate questions and conduct research in the digital age.
- The Digital Humanities Manifesto (2011/2012) is the conceptual framework that proposes a paradigm shift in the Humanities. (Location: Paris/France. Event: THATcamp 2010. Date: May 18 and 19, 2010).
- The 'digital humanist' is a subject who interprets, analyzes, and creates using technology, integrating critical reflection and innovation.

The critical field of Digital Humanities

Open Science and collaboration

- Academic knowledge becomes collaborative, interactive, and accessible to the public.
- Open Science (Open Access and Open Research) is a central principle that promotes a new form of collaborative production and dissemination.
- The transdisciplinarity of DH enhances traditional humanities disciplines, linking them to social spheres.

From University to Pluriversity

- Humanistic practice, by using electronic networks, free software, and open access, becomes deterritorialized and open and participatory.

- DH studies propose a shared and collaborative model, promoting the transition from a closed university to a pluriversity, where the process matters more than the product.

Innovative practical applications

- **Digital Libraries and Archives**

Using AI to make ancient manuscripts searchable and globally accessible.

- **Authorship Attribution**

Computational analysis of literary style to identify anonymous authors and detect historical plagiarism.

- **Museums and Virtual Exhibitions**

Digital experiences that transcend physical limitations. Virtual tours and interactive galleries democratize access to world art and culture.

Challenges and ethical considerations

- **Digital divide**

Unequal access to digital technologies creates global disparities.

Technological obsolescence

Digital formats, software, and hardware evolve rapidly, threatening long-term preservation.

- **Intellectual Property and Open Access**

Tensions between copyright, cultural heritage, and the democratization of knowledge.

mA/cm², the discharge capacity retention rate of the Li-Cu battery using the CuMOF-ANFs separato
%. Li-Li batteries can continue to maintain low hysteresis for 2000 h at the same current density
show that CuMOF-ANFs composite membrane can inhibit the generation of lithium dendrites and
cycle stability and cycle life of the battery. The three-dimensional (3D) porous mesh structure of C
separator provides a new perspective for the practical application of lithium metal battery.

1. Introduction

Certainly, here is a possible introduction for your topic:Lithium-metal batteries are promising candidates for high-energy-density rechargeable batteries due to their low electrode potentials and high theoretical capacities [1,2]. However, during the cycle, dendrites forming on the lithium metal anode can cause a short circuit, which can affect the safety and life of the battery [3–9]. Therefore, researchers are indeed focusing on various aspects such as negative electrode structure [10], electrolyte additives [11,12], SEI film construction [13,14], and collector modification [15] to inhibit the formation of lithium dendrites. However, using a separator with high mechanical strength and chemical stability is another promising approach to prevent dendrites from infiltrating the cathode. By incorporating a separator with high mechanical strength, it can act as a physical barrier to impede the growth of dendrites. This barrier can withstand the mechanical stress exerted by the dendrites during battery operation, preventing them from reaching the cathode and causing short circuits or other safety issues. Moreover, chemical stability of the separator is equally important as it e the separator remains intact and does not react or degrade ence of the electrolyte or other battery components. A chemi separator helps to prevent the formation of reactive speci further promote dendrite growth. Researchers are actively different materials and designs for separators to enhance chanical strength and chemical stability. These efforts air separators that can effectively block dendrite formatio improving the safety and performance of lithium-ion batte there are several research directions to address the issue formation, using a separator with high mechanical strength ical stability is an important approach to prevent dendrites trating the cathode and ensure safe operation of lithium meta

Several types of separators currently used in resear nanoporous polymer separators [16], ceramic composite [17], nanofiber separators [18–20], and metal-organic skel separators [21–24]. While these separators have shown som inhibit the growth of lithium dendrites, they still have some

%. Li-Li batteries can continue to maintain low hysteresis for 2000 h at the same current density

COPE position statement

The use of artificial intelligence (AI) tools such as ChatGPT or Large Language Models in resear
expanding rapidly. COPE joins organisations, such as WAME and the JAMA Network among o
cannot be listed as an author of a paper.

AI tools cannot meet the requirements for authorship as they cannot take responsibility for the
legal entities, they cannot assert the presence or absence of conflicts of interest nor manage c
agreements.

Authors who use AI tools in the writing of a manuscript, production of images or graphical elem
collection and analysis of data, must be transparent in disclosing in the Materials and Methods

Social relevance

- Issues such as interculturality, social and environmental responsibility, open science, and digital literacy acquire fundamental value.

- Digital technology, beyond its instrumental role, is seen as a means that enables critical thinking and creativity in the knowledge society.

Artificial Intelligence, languages and communication: A critical analysis

The two faces of AI

Artificial Intelligence in Applied Linguistics offers great potential but also critical risks.

The promise of AI in language

- **Expanded Access**: Improved access to language learning.
- **Facilitation**: Translation tools facilitate communication and bridge the language barrier.
- **Personalization**: The possibility of personalized learning experiences.

The dangers and the criticism

- **Normative Standards**: AI imposes standardized linguistic norms over dialectal and cultural variations.

- **Threat to Expression**: AI perpetuates native-speakerism and linguistic exclusion (accentism), threatening authentic expression.

Practices and methods in HD

- The field involves the interaction between human and artificial intelligence, and digital research is a new epistemology of scientific practice.

- Practices include: data mining, algorithmic analysis, transmedia scenarios, mapping, robotics, and game design.

Critical and ethical challenges of AI

- **Dilemmas**: Amplification of biases, authenticity, academic integrity, and accessibility disparities.
- **Regulation**: Difficulties in regulating AI-generated content and ensuring standards of academic rigor.

It is crucial to ensure critical engagement, ethical accountability, and human oversight.

Methods, challenges, and the hybrid future

The future of Digital Humanities

- Digital Humanities are at a crucial juncture in their evolution.
- The integration of emerging technologies such as generative artificial intelligence, quantum computing, and metaverses promises even more profound transformations in how we study culture and history.
- Digital Humanities do not replace traditional methods—they expand them, allowing for new questions and revealing patterns that would remain invisible without computational assistance.
- The future of the humanities is hybrid, combining interpretive rigor with analytical power.

Advances

- **DH Centers Globally**

Dedicated institutions in universities around the world.

- **Growth in Publications**

Increase in academic articles on DH over the last decade.

- **Digitized Objects**

Historical documents available in open access.

Recommendations and guidelines

- **Digital Literacy**: To foster digital literacy and ethical awareness.
- **Specific Guidelines**: To develop particular guidelines to each research domain.
- **Collaboration**: To promote collaborative and interdisciplinary research to address current gaps.

Final considerations

The human at the center

- While embracing computational methods, the field does not abandon the fundamentally human questions about meaning, value, and interpretation.
- The future is digital.
- The human remains central.

Invitation to research

Digital Humanities represent a structural transformation of knowledge, not just a fad, reshaping the role of the researcher, teaching, and the university.

The invitation is open: whether you are a historian, linguist, philosopher, artist, educator, or computer scientist, there is room for your contribution in this dynamic and collaborative field.

The tools are available, the communities are welcoming, and the possibilities are truly limitless.

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In the age of AI, let's continue with electrical,

neural, and blood connections.

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Thank you!

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