SYMBOLIC-COMPUTATIONAL CURATION IN DIGITAL MENTAL HEALTH: AN INTERDISCIPLINARY APPROACH FROM THE GENERAL THEORY OF COMPUTATIONAL INFORMATIONAL UNCONSCIOUS (TG-IIC)

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Resumo

O NeuroNexus é um projeto conceitual em fase de ideação que busca, pela lente da Ciência da Informação (CI) e da Teoria Geral do Inconsciente Informacional Computacional (TG-IIC), criar uma ponte tecnológica entre pessoas neurodivergentes e profissionais de cuidado integral. A iniciativa combina levantamento quantitativo de necessidades, modelagem semântica de perfis e algoritmos de aprendizado de máquina para aproximar dados clínicos, preferências de comunicação e contextos de vida. Ao integrar camadas explícitas e latentes de informação, a proposta pretende encurtar o tempo de busca por apoio especializado, aumentar a assertividade das conexões e, assim, favorecer inclusão social e saúde mental. Embora ainda sem resultados empíricos, o projeto delineia um roteiro de desenvolvimento guiado por ética informacional, legislações como LGPD e GDPR e padrões de interoperabilidade (HL7 FHIR).

Palavras-chave: Ciência da Informação; Neurodivergência; Inteligência Artificial; Cuidado Integral; TG-IIC

Abstract

NeuroNexus is a conceptual, early-stage project developed through the lens of Information Science (IS) and the General Theory of Computational Informational Unconscious (TG-IIC). It seeks to design a technological bridge that connects neurodivergent individuals with integral care professionals. The initiative combines quantitative needs assessment, semantic profile modeling, and machine learning algorithms to integrate clinical data, communication preferences, and life contexts. By weaving together explicit and latent layers of information, NeuroNexus aims to shorten search time, improve the precision of matches, and support social inclusion and mental health. While empirical results are not yet available, the project sets out a development roadmap guided by principles of informational ethics, data protection laws such as LGPD and GDPR, and interoperability standards like HL7 FHIR.

Keywords: Information Science; Neurodivergence; Artificial Intelligence; Comprehensive Care; TG-IIC

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Symbolic-computational curation in digital mental health: an interdisciplinary approach from the general theory of computational informational unconscious (TG-IIC)

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Abstract. We live in what Floridi [5] calls the *infosphere*: a hyperconnected environment where massive data flows shape relationships, identities, and collective decisions. Within this context, sensitive information about mental health and neurodiversity circulates in fragmented and often ephemeral ways. This article proposes *Symbolic-Computational Curation* as a response to the limits of purely technical preservation models, integrating computational infrastructure, symbolic attribution of meaning, and informational ethics. Anchored in the *General Theory of Computational Informational Unconscious* (TG-IIC), the proposal engages directly and indirectly with Floridi, Drucker, Hjørland, Lévy, Parry, among others. We present a lifecycle for neurodivergent data—from production to cultural reinterpretation—that incorporates affective metadata and strategies for symbolic preservation. Practical cases (AURA-T, Care360, and Bruna AI) illustrate the model's feasibility. We conclude that Symbolic-Computational Curation expands the role of informational technologies in mental health, offering a paradigm oriented toward inclusion, cognitive justice, and ethical innovation.

Keywords: digital curation; neurodiversity; infosphere; TG-IIC; informational ethics; symbolic preservation.

1 Introduction

The advancement of digital technologies has profoundly transformed how we produce, store, and share knowledge. Owens [13] observes that "preserving digital data is not just about bit stability but about meaning stability." This observation is especially relevant in mental health, where electronic medical records, self-reports on social media, and algorithm-mediated interactions carry crucial affective dimensions.

However, established curation models—such as the *Open Archival Information System* (OAIS) and the *DCC Lifecycle*—prioritize technical integrity while sidelining the symbolic layers of such data. To address this gap, we mobilize the TG-IIC as a framework capable of integrating psychoanalysis, information science, and symbolic computation. Our goal is to demonstrate how a form of curation that listens to the *informational unconscious* can benefit mental health platforms, neurodivergent users, and public policies [15].

2 Theoretical Context and Conceptual Foundations

2.1 Digital Curation Beyond Technique

In its classical definition, digital curation involves selecting, organizing, preserving, and assigning meaning to data [13]. Higgins [7] systematizes this process in six technical phases, while Conway [3] warns that digitization alone does not guarantee cultural preservation. Paletta [10] reinforces this view by discussing digitization policies and the need for context-sensitive curation strategies. Parry [14] deepens the debate by introducing the concept of *digitality*—a stage where the digital becomes an ontological condition of institutions, reconfiguring narratives and social practices.

2.2 Information as Social and Ethical Object

Hjørland [8] argues that all information is situated and carries values. Floridi [6] extends this perspective, stating that data are ontological entities that deserve moral respect. Thus, the curation of sensitive data requires a robust informational ethics capable of protecting integrity, context, and the agency of the subjects involved.

2.3 Symbolic Construction and Data Visualization

Drucker [4] critiques the assumed neutrality of interfaces, reminding us that all visualization is an interpretive act. This critique is indispensable when dealing with content involving diagnoses and identities. In line with this, Lévy [12] defines cyberspace as an anthropological space of collective intelligence, where signs circulate and are continually re-signified, while classifications shape worldviews and create inclusions and exclusions in information [1].

2.4 Social Participation and Affective Metadata

On the one hand, platforms like TikTok turn users into co-curators of neurodivergent experiences; on the other hand, Yakel and Kim [16] show that metadata are cultural mediations essential for making data intelligible over time. Enriching metadata with affective and contextual dimensions is therefore a condition for humanized curation.

3 Conceptual Proposal and Symbolic-Computational Curation Model

Symbolic-Computational Curation brings together three pillars: technical preservation, symbolic attribution, and informational ethics. Inspired by Freudian-Lacanian psychoanalysis, it conceives digital data as *signifying traces*—condensations of drives and desires. In TG-IIC [2], digital platforms function as devices for listening to the *informational unconscious*.

***Model stages include**:*

1. Production of neurodivergent data (self-reports, clinical scores, interaction logs).
2. Enrichment with affective and clinical metadata [16].
3. Symbolic storage in repositories aligned with the principles of the infosphere [5].
4. Symbolic preservation that maintains cultural and subjective values [13].
5. Interpretive interfaces mediated by AI—such as Bruna AI—that return meaning to the user [4].
6. Symbolic reuse in clinical, educational, or political contexts, fostering collective intelligence [12].

4 Practical Applications and Exemplars

4.1 Aura-T

A screening tool that converts subjective reports and standardized scores into affective-cognitive maps. By applying enriched metadata, it avoids the loss of subjective nuances, aligning with Owens's [13] idea that preserving is also about preserving cultures.

4.2 Care360

An integrated care platform that uses the OAIS cycle as a base, expanded by symbolic layers. It enables clinical data to become living narratives, supporting scientific reuse and policy development.

4.3 BrunaAI

A conversational agent operating as a "digital analyst," offering symbolic listening and responses guided by informational ethics. It avoids pathologizing classifications, reflecting Drucker's [4] critique of "neutral" visualizations.

5 Conclusion and Implications

Symbolic-Computational Curation, anchored in TG-IIC, proposes a paradigm shift: from bits to meanings, from algorithms to ethical care. By recognizing neurodivergent data as symbolic traces, we extend the reach of mental health platforms and promote more inclusive public policies. As Cirino [2] succinctly puts it: *"it is not enough to archive; we must listen to what the data have to say."*

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