# Microtasking in Humanities Research: The Scholarly Primitives And Renewed Knowledge-Led Exchanges Project

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## Abstract

Scholarly activity in the arts and humanities is a complex operational space, combining information retrieval functions with analysis, reflection and generative/communicative functions. Understanding what these intertwined activities are and how they interact toward the creation of knowledge in different disciplines is a critical prerequisite for interdisciplinary knowledge exchange. Too often, however, the complexity of these processes is glossed over because scholarly practice is analysed primarily as an externalised process only, rather than as deeply entwined with cognitive processes and mental preparation. The SPARKLE (Scholarly Primitives And Renewed Knowledge-Led Exchanges) project is addressing this gap through findings based on a close observation of the knowledge creation process of humanist, mapping and documenting their cognitive journey from source to understanding.

The project emerged from the following basic research challenge: Scholarly activity, as a creative task, depends on numerous individual steps. Often, these are characterised as following a neat waterfall flow, when in fact they form a complex, implicit and deeply-entwined network of mutually supportive microtasks. Moreover, it

is often not enough to ask how a scholar 'should' work, or indeed to ask them how they perceive their work: direct observation is needed. Even at the macro level of categories of activity to track, approaches to this challenge [for example Unsworth and his many followers] have to date remained very much at the social level (how a scholar interacts with her environment, eg. information seeking, communication) rather than trying to express how knowledge creation works at a cognitive level (discovering intertextual connections, identifying patterns, amassing evidence toward a conclusion). But it is in this second level of microtask, and in the complex manner in which tasks are sequenced, iterated, adapted and deemed 'complete' that the epistemology at the heart of a scholarly practice is grounded. Misunderstanding these processes bears a high price, as it is the epistemological differences between the disciplines that generally hinder their more effective collaboration, and collaborative knowledge creation is widely recognized as the key enabler of solutions to the so-called 'grand challenges' of science, culture and society. Activities to support humanities scholarship to take advantage of paradigm shifts toward collaborative knowledge creation will rely, therefore, on developing a better understanding of the humanistic 'scientific method.'

To support progress in this domain, the SPARKLE project team carried out a cross- disciplinary literature review, then conducted a series of in depth interviews with active humanities researchers, seeking to uncover their 'scientific method' of their 'work,' following Suchman's insights about this latter forum of human activity. In the process we made a number of discoveries about this method, which seem validated even by our small subject pool, along the following themes:

1. Formulating Research Questions – in particular we are able now to describe the habits of 'seeing' in scholarship, where the peripheral is often as important as the centre field of vision, and are mining a very rich seam of insight into the nature and place of serendipity in scholarship
2. Writing as Knowledge Creation – that the humanist creates knowledge in the process of writing is a common conception we feel we have largely disproven, opening up the space for a much more holistic understanding of the iterative process of humanities research
3. Space and Time – a particularly interesting set of strategies we noted involved the methods by which humanists capitalised on their physical unboundedness (ie as compared to a lab scientist with a very fixed place of work) to constantly refresh their surroundings. They also develop complex strategies to manage time limitations, be that the limited time they may have in an archive, or the long time step over which a project develops, which can cause key connections and ideas to be lost or obscured if not properly 'fixed' and contextualised/organised.
4. Humanistic 'Instrumentation' – drawing on Knorr-Cetina's seminal ethnography of high energy physics and microbiology, we have co-opted the term 'instrumentation' to represent the multilayered knowledge matrix that scholars develop over the course of their career, combining personal factors with

knowledge of primary, secondary and theoretical or methodological material to create a unique filter for their professional observations. This instrumentation is a key facilitator for the microtasking in this cohort, providing the fertile ground that organizes and triggers start and stop modes for more granular components of work.

5. Collaboration and Networks – anecdote would have it that humanists do not collaborate, but this is clearly not true. The modalities by which they collaborate in the development of their work are highly varied, however, including conferences, individual networks, mentors and senior colleagues, teaching and even on-line chat rooms.
6. Scholarly 'Quarks' -- a particularly relevant finding for the field of microtask analysis, many of the habits of scholarship we identified indicated that one of the problems with the scholarly primitives approach was of granularity, and that the model broke down when tested against the heterogeneity of the practices its elements brought together.
7. Scholarly Identities – finally, we recognised that there is significant further work to be done into how these scholarly practices shape scholarly identities.


## Author Keywords

Digital Humanities, scholarly primitives, writing as creation, digital scholarship

## ACM Classification Keywords

H.1.2 User/Machine Systems (Human Information Processing); H.3.7 Digital Libraries; J.5 ARTS AND HUMANITIES

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