CAIS Paper: Multiple temporalities in personal information management.

Pam McKenzie
Elisabeth Davies
The University of Western Ontario

Abstract: Multiple temporalities are negotiated locally according to socially situated priorities. Classifying, documenting, and coordinating multiple temporalities is an important aspect of personal information management. This paper analyzes temporal aspects of personal information management work.

Résumé:

1. Introduction

Standardized information systems for classifying, allocating, and managing time, such as calendars and schedules, create a common framework for expressing temporality. However, temporal categories such as durations and periods do not form a single coherent system. The embodied time of a person's biological needs may conflict with the "clock time" of her industrial work, particularly if she is working shifts and must rotate her "natural" rhythms of eating and sleeping around the clock as work patterns change. Barbara Adam (1990, 1995) has argued that individuals and organizations are quite skilled at conflating a wide variety of time concepts (e.g., clock time, body time, and individual biography time) and living within them as though they were coherent.

Complex activities, whether in workplace or domestic settings, often involve multiple timelines. The same word may therefore refer to different temporal periods for different people, depending on the person's role or function. For example, a *day* can be 24 hours (beginning at midnight, at noon, on awakening), the period from sunrise to sunset, the period of wakefulness, or some other period; for example a "day" shift of 8 hours as compared to an "afternoon" or "night" shift. These various meanings may have little correspondence to astronomical time. "In-season" means different things to a farmer and a football coach, and holidays are an expression of national identity (Birth 2013). Such indexical categories of time depend on socially and culturally shared meanings for significance (Adam 1995).

In such environments, synchronization or orchestration among different temporal categories is a challenge (Im, Yates, and Orlikowski 2005, Nansen et al 2009). Individuals may work to control, coordinate, or regulate periodicity (the rhythm of an activity); tempo (the rate or speed of an activity); timing (the synchronization or mutual adaptation of activities); duration (the length of an activity); and sequence (the ordering of events) of their activities (Southerton 2006). The work of coordinating multiple temporalities has been called "time work" (Flaherty 2003). Time work embeds considerable information management work: the categorization of temporal units, the development and communication of working taxonomies, and the documentation and management of temporally-related personal information (McCoy 2009).

This paper seeks to "recognize, explore, and question the social and cultural assumptions" of time taken for granted by information science as a discipline by analyzing the forms of temporal categorization used and discussed in Canadian individuals' creation and use of documents such as calendars, planners, and other documents for personal information management (PIM).

2. Literature review

At the 2002 CAIS conference, McKenzie and Davies argued that practice-focused approaches to information issues demand a recognition of what Barbara Adam (1990, 1995) calls *social time*, and requires attending to participants' understandings of time and recognizing the multiplicity of individual, group, and project-level timelines constructed by participants in working groups. Four years later, Reijo Savolainen (2006) noted that "conceptual issues of temporal factors have rarely been discussed in information studies."

A small number of LIS studies have explicitly addressed temporality and its relationship to documentation. Davies and McKenzie (2004) showed how specific documents serve as temporal boundary objects, mediating and attempting to synchronize the multiple timelines of complex work environments. McKenzie and Davies (2010) analyzed the ways that guidebooks for planning weddings represented multiple and often conflicting timelines. Litvak (2013) reported on a framework for considering temporality in the documentation of performance art, for example, how sets of documentary practices generate distinct temporalities and shape the temporal conditions of "presence," and "permanence."

This paper will build on these studies to consider the varied and sometimes incommensurable ways that individuals create and use calendars, planners, and other documents to represent visually the multiple temporalities they must negotiate in their everyday lives. It seeks to make visible the role of temporalities in everyday document work and to show how these are embedded in and reproduce broader norms, standards, and infrastructures (Bowker and Star 1999). By doing so, it will show how information actors are "embedded in complex, multiple, overlapping, and dynamic contexts" (Courtright 2007, p. 291).

3. Methods

Data come from an ongoing study of personal information management. They include transcripts of in-depth interviews with 18 participants, photographs of documents in households, and field notes of observations (Hartel and Thomson 2011). Data collection and analysis conform to ethical guidelines on research on human subjects of the Social Sciences and Humanities Research Council of Canada (Canadian Institutes of Health Research *et al* 2010).

We analyzed the transcripts, field notes, and photographs for mentions of action-oriented tools for personal information management (Whittaker 2011). These include calendars, planners, lists, notes, and logs. We then coded the data axially (Strauss and Corbin 1998) with a view to identifying temporal aspects of participants' personal information management and in their talk about that work.

The following questions informed the analysis:

1) What indexical terms, categories, or periods of time are significant to participants? How do they define these? What are the essential properties of each element and period? What temporalities, and what priorities, do they reflect?

2) How are multiple temporalities orchestrated? Do, and when and how do, participants' temporal classifications, orchestrations, and representations break down? What are the material consequences of breakdowns?

4. Conclusion

The analysis shows how personal information management tools represent multiple and often conflicting temporalities. It demonstrates the ways that activities, even those that take place in purely domestic settings, are aligned with institutional timelines. Family holidays, for example, are often structured around the school year. It shows how commercially available documentary tools such as calendars and planners value certain temporalities, e.g., the 9-to-5 work day and Monday-to-Friday work week over others, and how the users of such tools work around these constraints.

The paper will contribute to the literature of knowledge organization and personal information management. It shows how calendars and planners function as systems of temporal classification that reflect and attempt to reconcile multiple and sometimes incommensurable temporalities. It sheds light onto both institutional and everyday categorizations and onto the invisible work of time work and personal information management. Finally, it reveals some of the "pragmatics and invisible forces of [temporal] standards and categories in the modern built world" (Bowker and Star 1999, 3) and therefore sheds light on the contexts (Courtright 2007) within which personal information management takes place.

References

Adam, Barbara. 1995. *Timewatch: the social analysis of time*. Cambridge: Polity Press.

Birth, Kevin (2013). Calendars: Representational homogeneity and heterogeneous time. *Time & Society* 22(2): 216-236

Bowker, Geoffrey and Susan Leigh Star. 1999. *Sorting things out: classification and its consequences.* Cambridge MA: MIT Press.

Canadian Institutes of Health Research, Natural Sciences and Engineering Research Council of Canada, and Social Sciences and Humanities Research Council of Canada (2010) Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans. http://www.pre.ethics.gc.ca/pdf/eng/tcps2/TCPS_2_FINAL_Web.pdf

Courtright, Christina. 2007. Context in information behavior research. *Annual Review of Information Science and Technology, 41*, 273–306

Davies, Elisabeth and Pamela J. McKenzie, P. J. 2004. Preparing for opening night: temporal boundary objects in textually-mediated professional practice. *Information Research*, 10(1) paper 211 [Available at http://InformationR.net/ir/10-1/paper211.html]

Flaherty, Michael G. 2003. Time work: Customizing temporal experience. *Social Psychology Quarterly*. 66(1): 17-33.

Hartel, Jenna and Leslie Thomson. 2011. Visual approaches and photography for the study of immediate information space. *Journal of the American Society for Information Science & Technology* 62(11): 2214-2224

Im, Hyun-Gyung, JoAnne Yates JA, and Wanda Orlikowski. 2005. Temporal coordination through communication: using genres in a virtual start-up organization. *Information Technology and People* 18: 89-119.

Litvak, Chaya, 2013. The temporalities of performance art documentation. Proceedings of the annual conference of the annual conference of the Canadian Association for Information Science. http://www.cais-acsi.ca/ojs/index.php/cais/article/view/840/762

McKenzie, Pamela J. and **Elisabeth Davies**. 2002. Time is of the essence: Social theory of time and its implications for LIS research. Proceedings of the annual conference of the annual conference of the Canadian Association for Information Science. http://www.cais-acsi.ca/ojs/index.php/cais/article/view/552

McKenzie, Pamela J. and Elisabeth Davies. 2010. Documentary tools in everyday life: the wedding planner. *Journal of Documentation*, 66(6), 788-806.

Nansen, Bjorn, Michael Arnold, Martin R. Gibbs, and Hilary Davis. 2009. Domestic orchestration: rhythms in the mediated home. *Time & Society* 18(2/3): 181-207.

Savolainen, Reijo. 2006. Time as a context of information seeking. *Library & Information Science Research*. 28(1): 110-127.

Southerton, Dale. 2006. Analysing the temporal organization of daily life: social constraints, practices and their allocation. *Sociology* Volume 40(3): 435–454.

Strauss, Anselm and Juliet Corbin. 1998. Basics of qualitative research techniques and procedures for developing grounded theory. Thousand Oaks, California: Sage.

Whittaker Steve. 2011. Personal information management: from information consumption to curation. *Annual Review of Information Science and Technology*. 45: 1-42.