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Column: Ask Marta



Dear Marta,

With each passing year, my collection of papers and notes grows increasingly beyond my ability to organize them. Do you know of any good techniques for keeping track of the papers you've read, your notes on those papers, and your notes from talks and conferences you've attended?

Sincerely,
Information Overloaded

Dear *Information Overloaded*,

There's probably a good (cognitive science) dissertation topic or two to be fou in this question or perhaps in why there's no good (single) answer to this question. But, then you probably don't need another dissertation topic, right? And, I suspect that there are different suggestions depending on how it is you read papers or take notes: some people are religious about entering everythi into a computer whereas others still prefer to write on the paper itself, and/o do not wish to be a slave to a PC or keyboard.

- o *1st rule of keeping track*: It's impossible to do it well.
- o *2nd rule of keeping track*: There's no one perfect system for everyone and perhaps for anyone.
- o *3rd rule of keeping track*: Just because it's impossible and there's no perfect system, doesn't mean that you shouldn't try. Things are definit worse if you don't, and it gets worse nonlinearly.
- o *4th rule of keeping track*: What's good for the goose is not necessarily good for the gander.
- o *5th rule of keeping track*: Let the materials and your needs determine your organizational scheme, and if multiple schemes are called for ther use multiple schemes.
- o *6th rule of keeping track*: Organization takes time and thus sufficient t must be devoted to it.

As with so many other procedures, it's good to ask around and see what others do, what has worked and what hasn't. For example, one friend of mine said "bite my lip when I come across something important, in the hope that I will remember it. It doesn't help!" Who would have guessed? I assume that this is because he reads too many papers relative to the size of his lips. Likewise, a number of my colleagues railed against the use of stacks (organized or disorganized) strewn across tabletops, floors, etc.; they fall, intermingle and require people to have a better memory than most do - and in any case both memory capacity and speed and amount of time available for search diminish over the years necessitating new organizational procedures. Indeed, this worked well for me when I was younger and had fewer stacks, a better memory, and more time to sort through the stacks on occasion, but is not a system I would now recommend.

Many years ago now I started taking all notes, making lists, writing reminders etc. about the various and sundry aspects of my life in a composition/lab notebook. When one notebook is filled up, I start a new one. The notebooks are chronological - they are labeled by starting and ending month-year (I tried multiple notebooks but that was a disaster). Sometimes I go through it with a highlighter to make certain headings pop-up but not always. The pluses of the system are that everything is together in one place so I don't have to think about what notebook to take for what purpose (and I KNOW that it is there, even if I can't find it... fast) and chronological cues abound, and I find I can usually use them to triangulate; there also are visual and spatial cues for searching through these notebooks. The minuses are that everything is together in one place, without headings or obvious searchable structure (just have to flip through those pages) and search cues are primarily chronological.

Several of my respondents likewise take conference notes by hand and also take advantage of chronological organization to some extent: two, for example, say that they take notes at conferences and seminars by hand, and then stack/file them. One stacks them in a large chronological pile and accesses them by approximate remembered date. Another, files them in three ring binders (one for conferences, one for seminars) alphabetically by speaker and then by date. As binders accumulate, these are organized by year/place. Her plan however was to move to taking notes on a tablet PC and having a database of talks, with filename containing speaker and date (maybe topic). Another who routinely takes meeting notes on a PC, has a subdirectory for meetings and within that subdirectory for each different meeting type; he then files electronic notes under speaker's name and sometimes date. This procedure works reasonably well to the extent that you can remember when and at what type of meeting you have heard a particular talk or idea. The extreme opposite approach is to have one mega computer file that includes all notes about all talks and to use searches to find whatever tidbit you so desperately seek. Others have simply given up saving the notes taken at meetings or taking them altogether.

More people seem to have at least some scheme for journal articles and/or notes related to them. In the pre-electronic era, I accumulated many paper articles and struggled with how to file them. For papers in my field (cognitive electrophysiology) I have a big filing cabinet with papers in files by researcher names in alphabetical order; note that some papers were filed under the name of the head of a research group even if they were not first author (at least until that member of the lab had enough papers to be distinguishable). For papers outside my field, I file papers in a different filing cabinet using a topic based filing system. And, finally, I have a separate set of files with related papers for each grant and manuscript that I write; for very large topic-files, the papers are placed in alphabetical order according to the first author's name with a typed list of all the papers in the folder/drawer placed at the front of the drawer. Sometimes this means there are duplicates of papers or that I know where a specific paper is with less than 100% certainty though I can usually narrow down the potential storage places relatively quickly. Of course, this procedure

has mixed success when pitted against the scavenging, searching, and return storing by originally unintended users (such other members of my lab and co authors).

These days more and more people are reading and storing e-papers. One approach for those who read most of their articles electronically: save a copy the pdf in a papers subdirectory (scan it yourself if not originally available as pdf), name the file with the authors' names/journal/date, and create subdirectories for larger topics that form the basis of important papers (journal article, preparation for a talk, grant submission, etc.). I've not checked it out but I've been told that Adobe Acrobat has a nice "comment" feature that allows notes to be added throughout a pdf file (and these can be saved with the pdf). In combination (or not) with this a number of my respondents indicated that they use EndNote to do bibliographic searches with on-line databases and supplement the Keywords with additional ones of their own.

For those who like to write notes on paper (after having printed out an e-paper file them by subject or author or both (depending on how your mind works); you also log it into an EndNote database then you can search for it a number ways. And, of course, if you feel like also writing notes into an EndNote library that would be even more efficient, though constraining if you wish to read at beach or coffee shop sans computer. Those who don't use EndNote indicated that they too had a file of references (e.g., a .bib file) in which they entered all references read along with annotations, which they then searched with some editor (e.g., vi, emacs) or a large text file (e.g., .doc) that includes notes on papers read.

A few notes of caution: making notes in the margins of papers is generally an aid to memory, but it can become problematic if you want to access those notes later given the relative ease of accessing the paper on the web these days. Can you find the paper version? Just print it out from the web, but with the potential consequence of spreading the notes across several copies of the same (important!) paper. And, likewise, if you work on several computers, then your electronic notes too may get scattered across multiple machines.

Sort, organize, store -- what a bore!
But sort or organize not
And you will be knee-deep in a lot.

I respectfully ask you readers to send in your method(s) for sorting, searching and storing information, and I promise to continue sharing them with others. Thank you.

Many thanks to Professors Ginny de Sa, Jeff Elman, Gary Cottrell, Kara Federmeier, Seana Coulson, Phil Holcomb, Allen Osman, Yaacov Schul, and Marty Sereno for sharing their thoughts.

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In this section of *Cognitive Science Online*, UCSD Professor Marta Kutas answers questions from our readers. If you have any questions you'd like to ask Marta, please **contact the editors**. While personal questions relating to life in academia or graduate school may be appropriate, please keep in mind that this column mainly serves to provide advice and guidance on professional matters such as teaching and academic issues. Also keep in mind that this is an *advice* column and neither Dr. Kutas nor the journal will assume any responsibility regarding the consequences of following or disregarding the advice provided. Take advice responsibly!