On Note Taking

Few days back, my friend Anil Tulsiram tweeted about the importance of having a proper system in place while reading. I couldn't agree more with what he stated. Reading more is useless if you can't recall what you read.

While reading the fantastic book *Where Good Ideas Come From*, I came across the method of note taking practiced by great minds like Charles Darwin and John Locke. Given below are some excerpts from the book which explains the system followed by these luminaries.

Charles Darwin is superior to the common run of men in noticing things which easily escape attention, and in observing them in great detail. He adhered to a rigorous practice of maintaining notebooks where he quoted other sources, improvised new ideas, interrogated and dismissed false leads, drew diagrams, and generally let his mind roam on the page.

We can see Darwin’s ideas evolve because on some basic level the notebook platform creates a cultivating space for his hunches; it is not that the notebook is a mere transcription of the ideas, which are happening offstage somewhere in Darwin’s mind. **Darwin was constantly rereading his notes, discovering new implications. His ideas emerge as a kind of duet between the present-tense thinking brain and all those past observations recorded on paper.** Somewhere in the middle of the Indian Ocean, a train of association compels him to revisit his notes on the fauna of the Galápagos archipelago from five months before. As he reads through his observations, a new thought begins to take shape in his mind, whichprovokes a whole new set of notes that will only make complete sense to Darwin two years later, after the Malthus episode.

The image shown below is a page from Darwin's notebooks around July 1837 showing his first sketch of an evolutionary tree. Did Darwin come up with idea of notetaking all by himself? Of course not. Darwin’s notebooks are a refinement of a long and fruitful tradition that was
practiced in Europe since the 17th century — the practice of maintaining a “commonplace” book. John Locke first began maintaining a commonplace book in 1652, during his first year at Oxford. What is a commonplace book?

In its most customary form, “commonplacing,” as it was called, involved transcribing interesting or inspirational passages from one’s reading, assembling a personalized encyclopedia of quotations. There is a distinct self-help quality to the early descriptions of commonplace’s virtues: maintaining the books enabled one to “lay up a fund of knowledge, from which we may at all times select what is useful in the several pursuits of life.”

Locke’s approach seems almost comical in its intricacy, but it was a response to a specific set of design constraints: creating a functional index in only two pages that could be expanded as the commonplace book accumulated more quotes and observations: When I meet with any thing, that I think fit to put into my common-place-book, I first find a proper head. Suppose for example that the head be EPISTOLA, I look unto the index for the first letter and the following vowel which in this instance are E. i. if in the space marked E. i. there is any number that directs me to the page designed for words that begin with an E and whose first vowel after the initial letter is I, I must then write under the word Epistola in that page what I have to remark.
The image given below shows John Locke’s index for a commonplace book. Unlike modern readers, who follow the flow of a narrative from beginning to end, early modern Englishmen read in fits and starts and jumped from book to book.

They broke texts into fragments and assembled them into new patterns by transcribing them in different sections of their notebooks. Then they reread the copies and rearranged the patterns while adding more excerpts. Reading and writing were therefore inseparable activities. They belonged to a continuous effort to make sense of things, for the world was full of signs: you could read your way through it; and by keeping an account of your readings, you made a book of your own, one stamped with your personality. Each rereading of the commonplace book becomes a new kind of revelation.

You see the evolutionary paths of all your past hunches: the ones that turned out to be red herrings; the ones that turned out to be too obvious to write; even the ones that turned into entire books. But each encounter holds the promise that some long-forgotten hunch will connect in a new way with some emerging obsession. The beauty of Locke’s scheme was that it provided just enough order to find snippets when you were looking for them, but at the same time it allowed the main body of the commonplace book to have its own unruly, unplanned meanderings. Imposing too much order runs the risk of orphaning a promising hunch in a larger project that has died, and it makes it difficult for those ideas to mingle and breed when you revisit them.

Reread the above lines marked in bold. Pause for a moment. Go and pick up the book *The Essays of Warren Buffett* authored by Lawrence Cunningham. This book is a rearrangement of Warren Buffett’s letter to shareholders, organized into different themes like owner earnings, stock options, arbitrage, etc. Why did Cunningham organize his book into themes?

Some of the advantages of theme based organization are (1) easy lookup (2) easy recall (3) helps our associative brain as themes act as the central node on which we can hang other ideas and experiences [latticework-of-mental-models]. Now you know why Peter Bevelin organized his book *A Few Lessons from Sherlock Holmes* based on themes.
There were no computers when Locke and Darwin operated. They had no choice except to painstakingly take copious notes. But the world we live today is dominated by technology. And it would be a shame if we don’t use technology for taking and organizing our notes. Steven Johnson author of the book Where Good Ideas Come From uses technology extensively for organizing his notes. Read, reread, and reflect on what Johnson wrote.

Private serendipity can be cultivated by technology as well. For more than a decade now, I have been curating a private digital archive of quotes that I’ve found intriguing, my twenty-first-century version of the commonplace book. Some of these passages involve very focused research on a specific project; others are more random discoveries, hunches waiting to make a connection. Some of them are passages that I’ve transcribed from books or articles; others were clipped directly from Web pages. (In the past few years, thanks to Google Books and the Kindle, copying and storing interesting quotes from a book has grown far simpler.) I keep all these quotes in a database using a program called DEVONthink, where I also store my own writing: chapters, essays, blog posts, notes. By combining my own words with passages from other sources, the collection becomes something more than just a file storage system. It becomes a digital extension of my imperfect memory, an archive of all my old ideas, and the ideas that have influenced me. There are now more than five thousand distinct entries in that database, and more than 3 million words— sixty books’ worth of quotes, fragments, and hunches, all individually captured by me, stored in a single database.

Having all that information available at my fingertips is not just a quantitative matter of finding my notes faster. Yes, when I’m trying to track down an article I wrote many years ago, it’s now much easier to retrieve. But the qualitative change lies elsewhere: in finding documents that I’ve forgotten about altogether, finding documents that I didn’t know I was looking for. What makes the system truly powerful is the way that it fosters private serendipity.

DEVONthink features a clever algorithm that detects subtle semantic connections between distinct passages of text. These tools are smart enough to get around the classic search-engine failing of excessive specificity: searching for “dog” and missing all the articles that only have the word “canine” in them. Modern indexing software like DEVONthink’s learns associations between individual words by tracking the frequency with which words appear near each other. This can create almost lyrical connections between ideas. Several years ago, I was working on a book about cholera in London and queried DEVONthink for information about Victorian sewage systems. Because the software had detected that the word “waste” is often used alongside “sewage,” it directed me to a quote that explained the way bones evolved in vertebrate bodies: namely, by repurposing the calcium waste products created by the metabolism of cells. At first glance that might seem like an errant result, but it sent me off on a long and fruitful tangent into the way complex systems— whether cities or bodies— find productive uses for the waste they create. That idea became a central organizing theme for one of the chapters in the cholera book. (It will, in fact, reappear in this book in a different guise.)

Now, strictly speaking, who was responsible for that initial idea? Was it me, or the software? It sounds like a facetious question, but I mean it seriously. Obviously, the computer wasn’t conscious
of the idea taking shape, and I supplied the conceptual glue that linked the London sewers to cell metabolism. But I’m not at all confident that I would have made the initial connection without the help of the software. The idea was a true collaboration, two very different kinds of intelligence playing off one another, one carbon-based, the other silicon. When I’d first captured that quote about calcium and bone structure, I’d had no idea that it would ultimately connect to the history of London’s sewage system (or to a book about innovation). But there was something about that concept that intrigued me enough to store it in the database. It lingered there for years in the software’s primordial soup, a slow hunch waiting for its connection.

I use DEVONthink as an improvisational tool as well. I write a paragraph about something—let’s say it’s about the human brain’s remarkable facility for interpreting facial expressions. I then plug that paragraph into the software, and ask DEVONthink to find other passages in my archive that are similar. Instantly, a list of quotes appears on my screen: some delving into the neural architecture that triggers facial expressions, others exploring the evolutionary history of the smile, others dealing with the expressiveness of our near-relatives, the chimpanzees. Invariably, one or two of these triggers a new association in my head—perhaps I’ve forgotten about the chimpanzee connection—and so I select that quote, and ask the software to find a new batch of passages similar to it. Before long, a larger idea takes shape in my head, built upon the trail of associations the machine has assembled for me.

Like Steven Johnson, Prof. Sanjay Bakshi uses a similar idea to organize his notes. He wrote about it in detail here. In a recent interview, Shane Parrish, founder of the Farnam Street blog, explains how he uses Evernote to take notes. You can find his interview here. Reading without having a proper system is useless. The key is to take proper notes. You can incorporate all the note taking ideas from Locke, Darwin, Cunningham, Bevelin, and Johnson and customize it according to your needs.

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