

inuitive writing – a suggestion...

Source: <http://sci.tech–archive.net/Archive/sci.lang/2005–01/1157.html>

From: moshe (*moblid_at_yahoo.com*)

Date: 01/09/05

Date: 9 Jan 2005 14:51:06 -0800

Hello – I put down my thoughts on the subject of the present method of writing and its problems. I would be very happy if you would take the time to read it, and if it interests you enough and you have any suggestions or further ideas, to send them to me at moblid@yahoo.com. Even if it doesn't interest you, but you know someone that it might – please send it on to him! Thank you.

Note – Many of the point below were made by earlier writers, and I could footnote them to different sources, but I chose not to.

Nevertheless, I would appreciate if the readers will tell me if there are writers that talk directly about these subjects, especially about answers to the problems.

Moshe Blidstein

I have been reading academic writing for quite a number of years, and have come to the conclusion that the present way that we manipulate and pass information – namely, writing and reading as we know it today – is most problematic itself, and causes many secondary problems. Most of these problems are taken for granted, and though there are many ways for allegedly solving these problems, they don't get to the root of the matter and are usually superficial. I will give my tentative ideas for helping to solve these problems, ideas that I acknowledge need much more thinking about and elaborating.

The problems

Text is highly inefficient from the eye–brain aspect. We read (usually) much slower than we think. That is, our mind is idle most of the time we read, waiting for us to get to the end of the paragraph so that it can at last phrase the idea at hand to itself. This causes our mind to wander, and we get diverted from what we are reading while we wait for our eyes. A word doesn't convey much information, much less than a picture for example. Yet the amount of time that it takes for the eye to process both isn't very different. When we walk out of the door of our houses in the morning we are confronted with a large amount of information, and we manage to internalize it very fast. This is evident in driving, or any other task in which we need to intake large amounts of visual information in a short amount of time. But if the picture that we are seeing was described to us in writing, we would need to read many pages till we would get the full picture.

People try to get around this problem by "scanning" – reading just

part of the words, and so more rapidly. Scanning sometimes works, but you always lose some of the information and you never come out understanding too well what you're reading.

I will start with the first, more technical, aspect of the problem.

Letters and words in all the languages I know are very uniform. They are always the same color, on the same background; are of a similar shape, stay in one line, and are usually the same font and style.

Writing is always in two dimensions, to suit paper, and because it works in lines it could actually be called one-dimensional. None of these things are self-evident, and could be done otherwise. The way they are now, letters and words convey a small amount of information, and as we already said, our brain can handle a much larger amount than is given to us in writing. Actually, present day writing is a remnant of a culture based on parchment and manuscripts. The invention of print changed almost only the technical aspects, but hardly the medium itself. There is no logical reason to stay bounded to this form of passing of information. The exact sciences have understood this point to a certain extent. They use graphs, maps, logical symbol, etc. for the main part of the discussion, and I think this is the step in the right direction. In the humanities and social sciences graphs and maps are used only to illustrate certain points, and are never the discussion itself, because graphs are number-oriented. Trying to use graphs in the social sciences and the humanities usually leads to confusion, because there is no agreement on what the axes are, and so the axes chosen are usually arbitrary or misleading, and the graph is many times quite un-understandable. Charts of different kinds suffer from the same problems, though they are usually clearer. But they always accompany the discussion; never constitute a part of it.

Writing is, of course, talk-based. Even in languages that have different systems for writing and talking (such as Arabic) the written version can be vocalized, and the letters represent sounds. This may seem to make sense, because we think in vocal language (some people are far gone enough to think in writing, too). But if you try to conjure your deeper or more significant, or logical, thoughts, you will see that you usually state them to yourself in graphic form, and sometimes in no form at all. Profound ideas are many times just suddenly known, without a long tail of reasoning stretching out in back of them.

Thinking is organic as opposed to linear – that is, we understand the whole idea at once and not point by point. I believe, that the reason that we do think some thoughts vocally is just the product of our use of language, and that changing the way we represent ideas can also change the way we think, perhaps shifting our thought from the present linear kind of reasoning that we usually attempt to a more organic way of thinking.

When we read, we understand the text in jumps. We can't stop in the middle of the paragraph – we have to get the whole idea before we can understand it. But the present method of reading is step by step, in a linear fashion, not representing at all the way that the thought or idea itself is structured.

One of the results of this is that there is a big difference between what the writer meant to say and what the reader reads (this may be

very well in a work of fiction, meant to be a work of art, but it won't do at all in academic writing). The method of writing causes the idea to get lost in translation, because the thought of the writer does not proceed in the same orderly fashion that the text does (even if he is thinking vocally), but rather "jumps". The text does not parallel the readers thought either, for the same reason; so now there are three divergent versions – the writer, the text, and the reader, the reader being twice removed.

We can contrast the thinking represented by writing to the thinking that is represented in a map of any kind. When you look at a map, you first see the whole picture at once. The eyes first go the main contours, the thick lines and the big letters. After that, you start looking in to the part of the map that interests you, going deeper and deeper into it. The thinking that the map portrays is non-linear – it lets the eye jump about at will, in a many-dimensional matrix. There are many colors, lines, letters, but this plethora isn't chaotic to the eye because the map uses a language that people have learnt to use. The amount and depth of information that a geographical map conveys is unparalleled by any text. A map can be looked at from many angles, different people can take from it what they need, and yet the information will be exact for every one of them (incidentally, that is why a map costs so much more than the same amount of paper covered by text).

Text, on the other hand, looks at a first glance like a block of black squiggly lines and at second glance it looks that way too. The only way to get at the information is to read it, word by word. There are no intermediate levels, no dimensions.

A different problem, that many artificial logical languages (such as lojban) have tried to fix, is the indeterminacy of words, that is, there are many ways to say the same things and there are many words that mean a lot of things. This becomes more pronounced as we rise from words to sentences to paragraphs – even if we know exactly what a word means, it is much harder to say the same about a paragraph. This is also a technical problem (whether in talking to computers or to humans), but it is more than that – I can read two authors that say the same thing, and I won't know it, because they said it in very different words. Even two people talking to each other can pass a good hours' worth of conversation before they understand that they agree. Or, I may be reading two authors saying opposite things, and I won't know that either.

Present methods don't show you the logical steps inside the text. The idea that is portrayed always has a certain hierarchy of meaning comprising it. In any argument, there is the logical core, the examples, assumptions, problem and criticism, etc. But all of these look in the text exactly the same, and actually the only way that a reader can know what is probably most important, or where the core of the matter is, is by the volume of writing – whatever the author says again and again is probably the most important. The logical core is sometimes hidden from the reader by the other parts, leading him to evaluate wrongly the text he is reading. Sometimes there is no logic at all behind the argument, or the logic is faulty, but since the logic is

never stressed anyway, we aren't expecting it to, and content ourselves with the fun of the reading. Readers are persuaded much more by the artistry of the writing than by the ideas themselves, because the writing isn't suited to show the ideas as they are, but rather the writers are usually showing how well they write. Writing should be an instrument of thought, not a way of obscuring it. There is some kind of logical division inside the text – punctuation marks. But these usually follow speech, and they just serve to show the need for this kind of logical division. We never went further than this, because we were afraid to change the main graphic configuration of the text, other than inserting little marks.

Different writers never use the same language, even when they all write in English. Each one uses his own private one. The result is that when I want to compare the ideas of two authors to each other, I have to translate both of them into a third language, my own (this is a further duplication of the reader–twice–removed problem that we saw before). Usually, if nobody points it out to me I will never even have noticed that the two authors are related to each other or disagree, because their language is so different, because they use different terms, or come from different topics. In the last decades this problem is becoming more acute, because the scientific universe has expanded so much that it is much harder to talk from one side of it to the other – say, from psychology to international relations. This is a well recognized problem, but there aren't any forthcoming solutions, because nobody can learn every topic, and so each one is left to his own language.

This brings us to a further problem. The number of texts is so great, that even if you talk the language of the topic you won't be able to know which text you should read to retrieve the information you are interested in, unless you have already read all the books in the topic and have photographic memory. Indexing and library methods aren't anywhere near giving enough information, and even so the indexes themselves are getting much too big to handle, leading to bibliographies of bibliographies of subjects. Each book is put into some very wide category, leaving no way for the reader to find what he is looking for. This is understandable – no librarian can read all the books he gets every day, let alone understand them. For example, I was looking on the internet for the problem I am writing about now, but I had no idea how it is called, so I couldn't look for it. There are certain categories that it may fall into, but they are much too wide to be any help. The internet search engines can only look for key–words, maybe the more complicated algorithms that are starting to be used can do a bit more, but to really know what's written and if it's worth anything, you have to read it. The result of all this is that we are swimming an ocean of information, and aren't able to find what we need. Academic writing has to be made self–indexing in some way, because no one else can contrive effective indexing other than the writer itself.

A further problem is that since the main language in academia is English, everybody has to learn it before they can become something. But it isn't enough to learn just normal talking English – they have

to learn sophisticated, complex academic English, because that is how the academia writes. People that are less proficient in learning languages – and they are many bright people that aren't – have a very hard time because of this.

In short, there should be a way of representing ideas in a much more true, exact, efficient, rational, multi-dimensional way. I want to accentuate that I am not referring to talking language, or to fiction or even some non-fiction writing, such as newspapers, fact-books, etc. I am referring mainly to more professional books which convey abstract ideas and put forward arguments that are supposed to be logical.

Another point. When we throw a ball, run, or talk, we are doing a very complex action, usually putting to use many different muscles in a very exact and complex way. This is true in anything we do without thinking about it. Contrasted to these actions, things we do consciously and not out of intuition are very poorly done, and many times don't work either. The short amount of evolutionary time that our conscious and logical part of the brain had didn't serve it too well, as opposed to the many millions of years that our intuitions and instincts had.

We're very new at using this part of the brain, and don't do it so well. All big discoveries and ideas seem to be made mostly by the intuitional part of the brain, and less by the logical part. I certainly don't mean to say that the logical part of the brain should be shut down. What I do mean is that logical thinking should be made as close as possible to the other parts, so that we would be able to understand an idea as adeptly as we catch a ball, with all the minute and complex computation that this requires. This can be helped by changing the method of representation of thoughts, making them more graphic – more like maps, for example.

Before I try to give the beginning of what may be an answer to these problems, I want to point out one attribute of our writing method that is positive – its great flexibility and subtlety. Because words are so uniform and unstructured, you can put them together in myriad ways and forms, to produce whatever kind of text you want. Exactly because the form of the writing is always similar, and there aren't any rules pertaining to how to write logically (except for syntax), the sky is the limit, and almost any information can be passed in this way. But this is a mixed blessing. The great freedom of the writer has become excessive. It is suited well for the fiction author, the political or religious persuader. But it is not suited for the academic writer, who tries to make a logical, understandable point, because this freedom results in too much text, un-indexable, in which the logic isn't apparent to the reader.

A possible approach to an answer

As the reader who got up to here may have understood, I think that the answer lies in substituting the present text for a more complicated one. This text will not be a whole new language – it will use heavily the usual written language. But:

1. It will use many more marks, such as color, font, letter size, modes etc. But you won't be able to just stick them in wherever you want (present-day texts with a lot of marks are very confusing because each writer uses them however he wants. If they will always signify the same

idea, they shouldn't be any more confusing than a topographical map after you know how to read it).

2. Instituting about a hundred (if possible, less) marks, that will represent words or ideas. The kind of words I have in mind are most of the logical symbols: "bigger" – "smaller" – "equals", "inside" (a group) or "outside", "causing" – "caused", "leading to", "if and only if", "objective" – "subjective", "opposed to" – "agreeing to" "parallel", etc. etc. The idea is to have symbols for the logical aspects of the discussion, not so as to make them shorter, but so that they will stand out.

3. Place on the page – the idea is that someone looking at the page will understand immediately where the main argument is, where the auxiliary arguments are, in social sciences – theory as opposed to empirical data, implications and elaborations, sources and bibliography, etc. This idea is already present in footnotes – we know that the lesser arguments and the sources will come at the end of the book or on the bottom of the page. But why should sources and lesser arguments be put together? They have nothing in common. Each component will have its special place; also inside the different components, the argument itself, for example, can be arranged graphically, color coded, or something similar, to show its further components

This kind of writing will draw the reader straight one to the main argument if he wishes, or to the former theories that he has to take for granted, or to the empirical evidence. Furthermore (and maybe more important), it will force the writer to include all of these elements. A writer won't be able to put in an argument without real support, because it will be evident right away that that is what he did. Or, it will force him to show what the main argument is – he can't just write up a jumble of examples without any clear outcome, and so on. This will clarify thought considerably, raise the standards of ideas and writing, and will make the idea much more understandable. Even when you don't understand, it will be much easier to know what exactly you don't understand.

A good version of page–placement will enable you to look at the page in at least two different ways – from afar, in which you will be able to see the general lay of the argument, and from close up, where you will be able to see the more exact ideas.

4. These techniques may be used to solve the indexing problem as well. The page placement, colors etc. will be used to show the importance of different parts of the idea. A computer will be able to read these codes, and so it will know the level of importance. When you go searching in your computer, you won't be searching for the title or for the small number of subjects the text is usually indexed under; you will be looking for the whole text, but in different levels, which the writer himself instituted. Thus, the computer will be able to read the text itself, even though it doesn't understand it, and give you a good approximation of what's written there.

5. A very important point is that all these symbols and signs will be the same for all writers, and so it will be much easier to compare and decide between different opinions. It will also enable better

communication between different disciplines and fields, because they will be talking a similar language, if not exactly the same one. To give an example from history – Roman cities were always built on the same patten – the bathhouse was always in the same approximate place, and so was the courthouse, the agora, and so on. This may pose aesthetic problems, but a roman would have felt at home in any city, and would know right away where to go to...

6. I believe that there are further hierarchies of meaning, apart from importance, which can be shown in graphics, if we only decide on it – of subject (going deeper or drawing out of a subject), empirical/theoretical, and others.

The main idea is that that there will be some kind of correlation between the form of the writing and what it actually says. We can do this by using many dimensions – in color and placement, and that way you also use your brain–time more efficiently, and make text closer to the physical world, which is what our minds are best at doing. Style will not persuade the reader, but the content itself.

The basic unit of thought is larger than a word, it is an idea; thinking that x is similar or not to y; that x leads to y, in different kinds of ways; that x should be y; etc. The way we convey these ideas should also be larger than the word, showing the relationships inside the idea in a graphic form. The symbol should correlate to the symbolized.

I think that these suggestions are less utopian than other language suggestions, which usually turn the whole language over. These ideas can be used at first alongside the usual text, and if they really will be better and easier to use – they will eventually substitute them.

The humanities and social sciences seem to be in a near stand–still as compared to the exact sciences. We know much more, but it doesn't seem as if we understand much more than 30 years ago. This may seem like a short period to be talking about, but other sciences have gotten so far in this amount of time! I believe that one of the reasons is, that the methods we use are exactly the same – thinking and writing. We can't use computers (almost), we can't use graphs and charts. They all need exact information to work. The breakthrough has to come in the methodological side of things – like methods of writing that will enable to us use a different kind of a graphic system.

P.S.

I was reminded of an alleged syndrome that has come up in the last few years, called the power–point syndrome. As a result of using power–point slide shows to organize and discuss their ideas, corporate workers have become more stupid (or so they say), because they have to show all their thoughts in short points and in flowcharts. They can't think more elaborate or complicated thoughts, just point by point ideas. This may be true, but doesn't have much to do with the thoughts detailed above. I think that you can show very elaborate ideas in these techniques. Just because you can write easily that "This caused that" (with no further complications) doesn't mean that anybody will agree with you. On the contrary, it will much easier to see that you are wrong. The difference between power–point and this (I

need a name for it...), is that here the "flowcharts" don't have arrows that can mean anything, but rather each "arrow" will have a different logical meaning, leading to a richer and more exact logical apparatus. There is no reason the sophistication of the idea will be any less, it will just be much more evident what the sophistication is. In the same way, graphs and equations didn't make mathematicians more stupid than they were before – they gave them better tools to understand each other than they would have had if they had just talked. Flowcharts show the need of graphic, intuitional representation, but they are so arbitrary in their design, that they can only be useful for shallow and un-exact thought.