

## WHAT MUST WE DO WITH THE OVERWHELMING AMOUNT OF INFORMATION ?

**Antanas VANSEVICIUS**

Lithuanian University of Agriculture,  
Department of Building Constructions  
10 Universiteto Street Kaunas-Akademija, LT-53361 Lithuania  
email: antvans@yahoo.com

**Abstract.** The Information Age has put for us almost unlimited amount of information that it cannot be analyzed rationally. Rising in its place Conceptual Age stands for giving a meaning for it. Anybody can create information but the problem is how to reduce it. Visualization is the best representation method for turning complex data into information. Visual literacy must be positioned in the same way as language or numeric literacy and information literacy. Now we can create visuals faster than ever before but what good is it if we cannot interpret them. In the Conceptual Age we need to see a larger picture, analyze more processes instead of facts.

**Key Words:** Overwhelming amount of information, Conceptual Age, graphical form of information, visual literacy, seeing large picture.

### 1. Introduction

Daniel H. Pink in his book “A Whole New Mind: Moving from the Information Age to the Conceptual Age” argues that “we are moving from an economy and a society built on the logical, linear, computer-like capabilities of the Information Age to an economy and a society built on the inventive, empathic, big picture capabilities of what’s rising in its place, the Conceptual Age” [1]. The Information Age has put for us almost unlimited amount of information.

The past relates to the creation of information; the future stands for making sense out of it and giving it a meaning. This is the greatest challenge of our future behaviour and way of living [2]. Information overload has replaced information scarcity as an important new emotional, social and political problem. Anybody can add information. The difficult question is how to reduce it [3]. Information overload appears when civilization produces more information than necessary for normal functioning, with most information of low quality. This is a kind of a new type of pollution - information smog [4].

What causes information overload?

- Too much information.
- Can’t understand the information.
- Don’t know if the information exists.
- Don’t know where to find the information.
- Can’t access the information.
- Don’t know if the information is accurate [5].

You are trying to feed information through various kinds of processing channels in the brain which have limited capacity and are really only available for one thing at a time [6]. Currently, there is wide agreement that visualization is the best representation method for turning complex data into information [7].

What means can we, as Engineering Graphics educators, offer in such situation? Enhance visual literacy, i.e. ability to communicate and interpret as effectively in graphical environments as in the text-based environment.

## 2. Engineering graphics and info whelm

According to Tom Kelliher, in 2001, the amount of information was doubling every 2.5 years – by 2020 it will double every 73 days [8], i.e. every 2.5 month. The amount of unique new technical information is doubling every two years, expected to be doubling every two weeks by 2006 and every 72 hours by 2010. It's estimated that 93% of this information is stored digitally and then anyone connected to the Internet will be able to gain access to virtually all of it within next two years [9]. It is difficult to say how much such prognoses are accurate, but anyway already now we can find so much information that we cannot analyze it all rationally.

For example, a Google search for Engineering Graphics that turns 106,000,000, Live Search – 3,730,946, Yahoo - about 23,900,000, Ask - 6,192,000 references is data smog.

“To be successful in the Conceptual Age, people need to shift their attention from the analytical to the abstract. What they will have to refocus – from zeroing in on the details to seeing the larger picture” [1]?. So our reasoning must be synthesizing, first of all we must see where our idea fits into the bigger picture and then analyze how it can be realized.

For example, there are different projection methods (Fig.1) used to represent any object. About each of these methods we can talk separately and note their advantages and disadvantages, equally – region of practice. But the preferred way is to say there are 3-D and 2-D representation methods and then analyze when one or another is used in particular case.

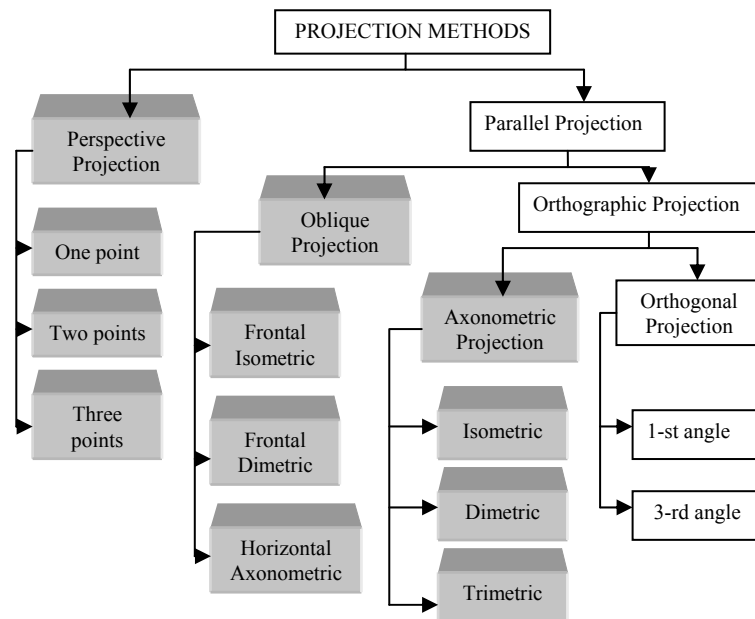


Fig.1. Projection methods

## 3. Visual literacy

Old saying “A picture is worth a thousand words” does not lose its relevance nowadays. The training of visual-spatial abilities is in particular important for the improvement of the whole learning process. “Brain research tells us that the brain learns faster and more efficiently with graphics and a holistic picture. Imagery boosted memory is 3 times higher than repetition. About 80% of brain is involved in visual processing [10]”.

As good example of using such idea, we can see in the two Mind Maps created by Steve Richards [11] based on Daniel Pink’s book “A Whole New Mind”. The author expresses the main ideas of about 260 page book in two pages.

So, the idea to pay more attention to visual literacy enhancement that we have been told for some years is more and more important not only for so called post Soviet system. According to our Japanese colleagues “Technical education to heighten skills graphically express complicated information in an easy-to-understand manner must be positioned as literacy education in the same way as language education and information processing education [12]“. Or another one of the newest minds “We can make drawings faster than ever but what good is it if you cannot read it [13]”.

#### 4. Conclusions

Using the graphical form of information and analyzing larger pictures are only little steps in the direction to facilitate orientation in appearance of information overload.

#### References

- [1] Pink D.: *A Whole New Mind: Moving from the Information Age to the Conceptual Age*, 2005.
- [2] Micallef M.: *The conceptual age*. January 10, 2005 (<http://www.di-ve.com/dive/portal/portal.jhtml?id=214101&pid=75>).
- [3] Shenk D.: *DATA SMOG: Surviving the Information Glut*, 1997.
- [4] *Chronic Overload* (<http://www.softpanorama.org/Social/overload.shtml>).
- [5] *Information Overload*. (<http://www.gdrc.org/icts/i-overload/overload.html>).
- [6] Lewis K.: *Mental Overland*, 2007 ([http://www.softpanorama.org/Social/Overload/mental\\_overload.shtml](http://www.softpanorama.org/Social/Overload/mental_overload.shtml)).
- [7] Agutter J., Bermudez J.: *Information Visualization Design: The Growing Challenges of a Data Saturated World*. AIA Report on University Research, 2005.
- [8] Kelliher T.: *The New Revolution: Information Technology*, 2001 (<http://phoenix.goucher.edu/~kelliher/infotech/talk.shtml>).
- [9] Jukes I.: *From Gutenberg to Gates to Google (and beyond)*. The Info Savvy Group, 2006.
- [10] Wyman P.: *How to Learn Anything Fast*. Instant Learning, 2006 (<http://www.HowToLearn.com>).
- [11] Richards S.: *A whole new mind*, 2006 ([http://steves.blogharbor.com/blog/\\_archivs/2006/2/19/1772216.html](http://steves.blogharbor.com/blog/_archivs/2006/2/19/1772216.html)).
- [12] Suzuki H., Miki N.: *A Graphic Science Education as a Training of Communication*. Journal for Geometry and Graphics, (7)2003, No.2, 253-262.
- [13] *Automated Drawing Creation*. ADDA Technical Training Conference: Illustrating the Future, April 16-19, 2007 ([http://www.adda.org/documents/training/Preliminary\\_Conference\\_Brochure-02-05-07.pdf](http://www.adda.org/documents/training/Preliminary_Conference_Brochure-02-05-07.pdf)).

#### CO PIWINNIŚMY ZROBIĆ Z ZALEWAJĄCĄ NAS ILOŚCIĄ INFORMACJI ?

Era informacyjna dostarcza nam prawie nieograniczoną ilość informacji, której w sposób racjonalny nie da się analizować. Każdy może tworzyć informację ale problemem jest jak ją zmniejszyć czy skompresować. Wizualizacja jest najlepszą metodą przetworzenia złożonych danych w informację. Wizualna umiejętność czytania i pisanie musi być zwerbalizowana podobnie jak język, umiejętność numerycznego czytania i pisanie oraz umiejętność przetwarzania informacji. Obecnie możemy szybciej tworzyć wizualizację niż kiedykolwiek wcześniej, gorzej jest z jej interpretacją. W Erze Koncepcji powinniśmy patrzeć szerzej, umieć analizować więcej procesów zamiast faktów.