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Thoughts on visual grammar, and on graphics for people and the planet

There are two different topics that I will explore in this presentation. Both of these topics are related to graphics, such as diagrams, maps, and charts. First, I will explore the “visual grammar” of such graphic representations. This includes a brief history of linguistically-inspired approaches to graphics, and my claim that the building blocks of graphics come in syntactic categories. The second part of my presentation is devoted to “graphics for people and the planet”. Here I will look at the use of graphics for increasing awareness and understanding of social and environmental issues, including human rights and public health. Among various examples, I will compare recent initiatives of Hans Rosling's Gapminder foundation with Otto Neurath's pioneering Isotype work in the 1930s, and show some of the animated graphics that Neurath created for documentary films.

To start with the notion of “grammar”, we can observe that every known natural language, such as English or Chinese, is based on the possibility of combining language constituents – “building blocks” – of different syntactic categories. Syntactic categories were introduced as “parts of speech” by the Greek philosophers – examples of syntactic categories are “noun”, “verb” and “adjective”. While it may not seem useful to try to find visual analogues of “nouns”, “verbs” and “adjectives” in graphics, various scholars have nevertheless attempted to approach graphics from a linguistic perspective, hoping that this can help us to analyze how we interpret and how we create visual representations. Building on the literature as well as on my own work, I am proposing a set of distinct syntactic categories of building blocks of graphics, each category with its own combination rules. I claim, and will try to show, that this set of building blocks applies to every type of visual representation of information.

Turning from the construction of graphics to the use of graphics, I will focus on initiatives that are driven by a desire to use graphics to do something good for the world. In the first half of the last century for example, philosopher and sociologist Otto Neurath developed a pictorial language (Isotype) that uses simplified pictures and composition rules to convey social and economic statistical data to a general public. Neurath's team did not only produce static images, but also created animated graphics for various documentary films. I will show a number of these film fragments and compare them with recent examples of animated statistical graphics, such as those produced by Hans Rosling's Gapminder foundation. Seventy years after Isotype, Gapminder and other recent projects in data visualization, such as Google Earth Outreach, share the spirit of Neurath's work, with regard to 1) the conscious choice of visuals above words, 2) a passion for making data accessible to 'ordinary people', and 3) the conviction that a better comprehension of statistical data through visuals could lead to desirable social change. Digital media, including the recently developed tools for “social data analysis”, have meanwhile enabled – on a previously unimaginable scale – the fulfillment of Neurath's vision.