

GEO-A-CC-1-02-TH – Cartographic Techniques

Topic- Maps: Components and classification

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MAP

The International Cartographic Association (ICA) describes a map as ‘a symbolized image of geographical reality, representing selected features or characteristics’ (ICA, 1995: 1). Maps have been representing ‘selected features or characteristics of geographical reality’ for millennia and considerably longer than the discipline called ‘geography’ has been recognized and taught. But being useful, effective and well-established tools in representing the world around us, maps were readily adopted by geography as an infant discipline. Although the phrase ‘geography is about maps, history is about maps’ may no longer hold true, maps still have a central role in geographical thinking. Maps could provide a unique insight into the patterns, processes and relationships of spatial phenomena.

Visualization, or more precisely, scientific visualization is a much more recent concept than maps. The rationale behind scientific visualization is to ‘see the unseen’ in increasingly large and complex digital datasets by drawing pictures of the data using computer technology. Geographers and cartographers have adopted this rationale and are applying it to the very large and complex digital spatial datasets that are now available to geographers. The result is that the traditional concept of maps and cartography – that of drawing a graphical representation of the world by hand on to a piece of paper – is slowly being replaced by computational cartography with more and more maps being created and stored electronically.

During a major cholera epidemic in 1854, the programme described how Dr John Snow, an eminent London physician, had isolated the real source of the epidemic. He did this by drawing a map of deaths from cholera that had occurred in a small number of streets in the vicinity of Golden Square in Soho and saw that they centred upon a particular water pump in Broad Street.

So what does the story of Dr Snow’s map tell us, apart from not believing everything we are told? First, it demonstrates the different uses that maps can have. From Dr Snow’s point of

view, the map was used purely as an illustrative device. The second thing the story tells us is something about the power of maps. The main role of the map had been switched from a communicatory to an exploratory device. A visual aid was needed to coerce others into accepting his argument. And this visual aid was so powerful that over one hundred years later it is the map that people remember and not the real chain of events.

In order to formalize multiple uses, DiBiase (1990) conceptualized map use as a continuum from maps that are used to explore geographic information to maps that are used to present or communicate geographic information. Maps along this continuum fall into a typology of four main uses: (1) exploration (2) confirmation; (3) synthesis; and (4) presentation. Naturally, these four categories do not have well defined boundaries along the continuum and it can be argued that any particular map can fall into more than one category. Maps that are used to explore geographic information are used in a research capacity. They help investigators to search for properties in the data such as geographic patterns and relationships. Maps associated with presenting geographic information are used to communicate facts to a general audience. This may be to illustrate a point, to present ideas or to demonstrate relationships. So an important distinction between these different map uses is whether they are used in a public or private domain. It is known that Dr Snow drafted and re-drafted his map several times but only one appeared in the report to the parish committee. This distinction between the public and private uses of maps – what is originally mapped and what the public eventually sees – is an issue.