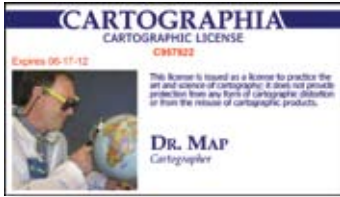


Ask Dr. Map!



Dear Dr. Map,

Q: I know that globes are the only distortion-free Earth representation, but when you view a globe, isn't it distorted by perspective because some parts are closer to your eyes than others?

A: Yes indeed. On a very small globe, the distortion due to visual perspective and "barrel distortion" of the human visual system would be almost nothing, but as a globe gets bigger and bigger, for example the display globes for NOAA's "Science on a Sphere" (See picture) are large enough to introduce perspective distortion, and of course unlike on a map projection, only one side of the Earth is visible at a time! An obvious solution is to draw the Earth on the inside of the sphere and put the viewer inside. Dr. Map has covered the Mapparium at the Mary Baker Eddy Museum for the Betterment of Humanity in Boston in a prior column. Dr. Map visited the Mapparium recently and found that except for the bridge on which you must stand, it indeed does allow distortion free viewing, since every point is equidistant from the eye (at least in the sphere's center). Curiously, sound is reflected back to the center spot too, sounding very eerie. Of course you still cannot see the whole Earth, unless you have eyes in the back of your head.



com). This is a site south of Ankara, that was occupied in the Neolithic period, a network of houses built right against one another, that were probably accessed from above since they had no doors. Houses were lived in for many years, then filled with mud and a new house built on top, preserving the walls for 8500 years. The early part of the settlement dates to 3000 years before writing, but vases and wall paintings show advanced artistry. One wall painting in particular, now in three sections and on display at the Museum of Anatolian Antiquities in Istanbul, is obviously a map of the town. The central panel shows the town with the volcano Hasan Dagi in the background, showing two peaks and painted an ominous red. The mural containing the map must have extended over all four walls of the room that contained it, and most of it is lost. It does prove, however, that cartography preceded writing by at least 3000 years, and that one of the world's earliest maps showed a volcano.

Q: What is the logic of the Interstate numbering system?

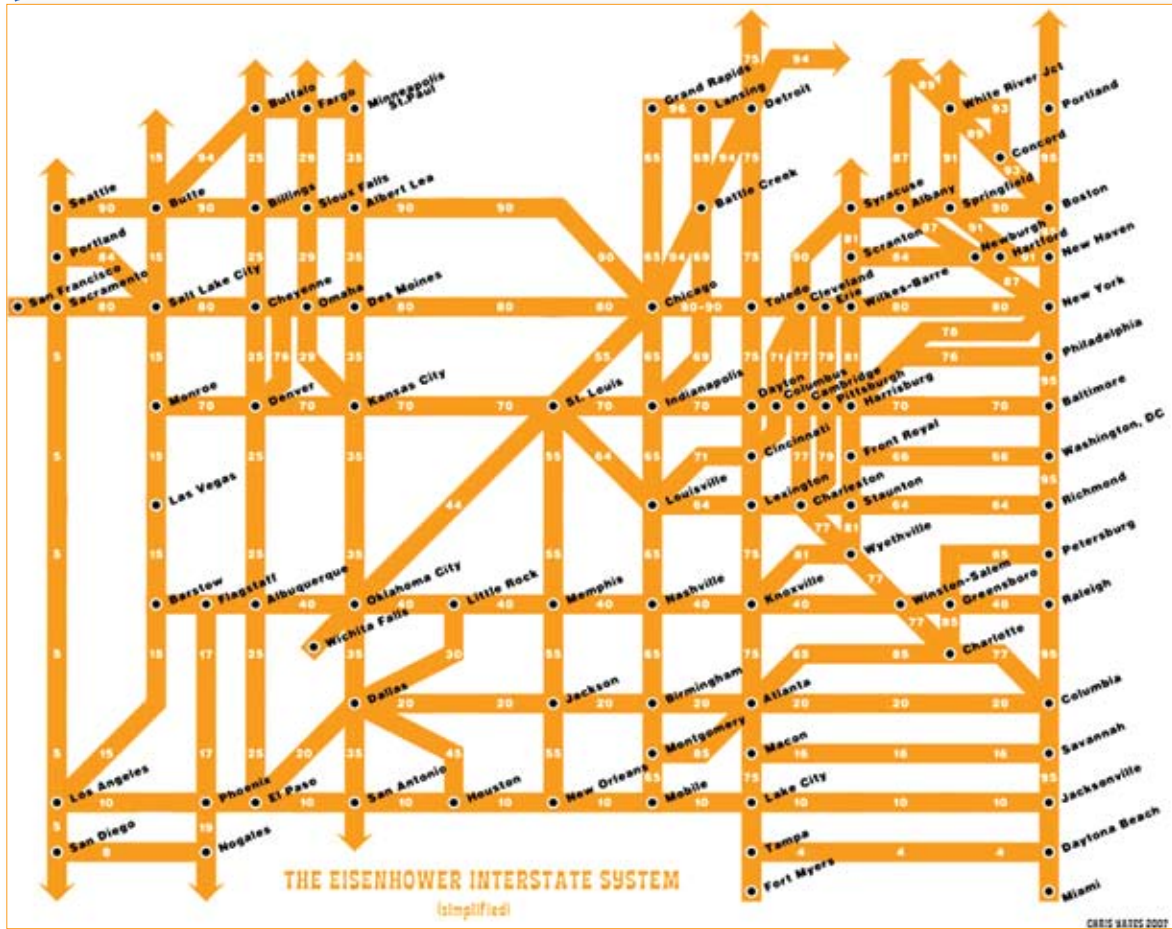
A: The Dwight D. Eisenhower National System of Interstate and Defense Highways was created by the Federal-Aid Highway Act of 1956. Construction is continuous, of course, but official completion of the system was signaled by the removal of the last traffic light on Interstate 90 in Wallace, Idaho, in September 1991. Initially thought to cost \$25 billion over 12 years, it ended up costing \$114 billion (\$425 billion in 2006) and took 35 years to complete. The entire system, as of 2004, had a total length of 46,837 miles (75,376 km), making it the largest public works project in history. Its highway numbering system starts numbering in the west and south, with increasing numbers in fives for high-



Q: What is the oldest map that shows a volcano?

A: Dr. Map was recently made aware of the extraordinary archaeological excavations at Catalhoyuk in Turkey (See: <http://www.catalhoyuk.com>).

Ask Dr. Map!



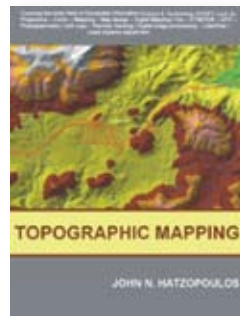
ways extending across the country north-south and in tens for east-west. So in California, Interstate 5 runs from Seattle to San Diego, while on the east coast I-95 runs from Portland, Maine, to Miami. Notable east-west roads are I-10 (Jacksonville to Los Angeles) and I-80 (New York to San Francisco). Infill roads use odd numbers for north-south, and even for east-west (e.g. I-84 from Portland to Salt

Lake City). Loops around cities and beltways get numbers in the hundreds, with the same two digits as the road being by-passed (e.g. I-495 and I-95). For a highly informative numbering logic map, see: <http://strangemaps.files.wordpress.com/2007/02/fullinterstatemap-web.jpg>. Now that's something to contemplate next time you spend an hour burning 4-dollar-a-gallon gas in a traffic jam. ■

NEW TITLES



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