

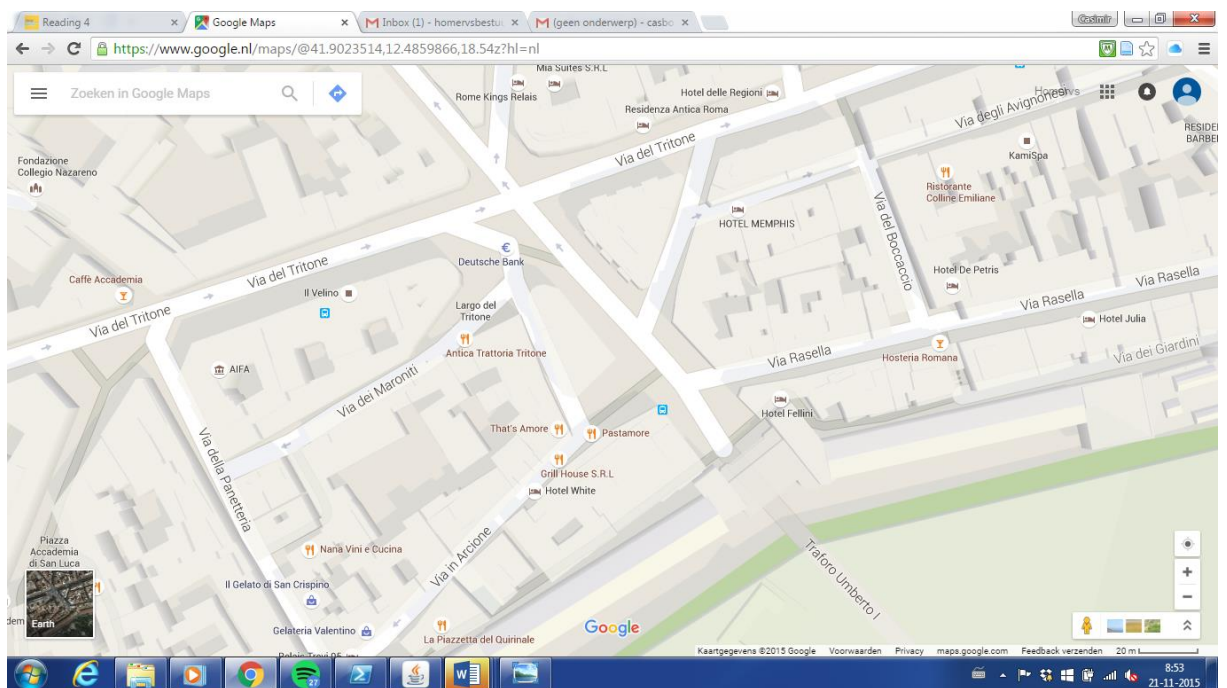
## Cas Boot

1. Patterns and colors are essential to maps. Compare a search for Harvard University on two interactive maps (e.g., Google Maps, Bing Maps, Yahoo! Maps, Apple Maps, map.harvard.edu). Answer the following questions, making references to concepts explained in Ware such as pattern recognition and properties of color. Please include screenshots of the examples you are comparing.

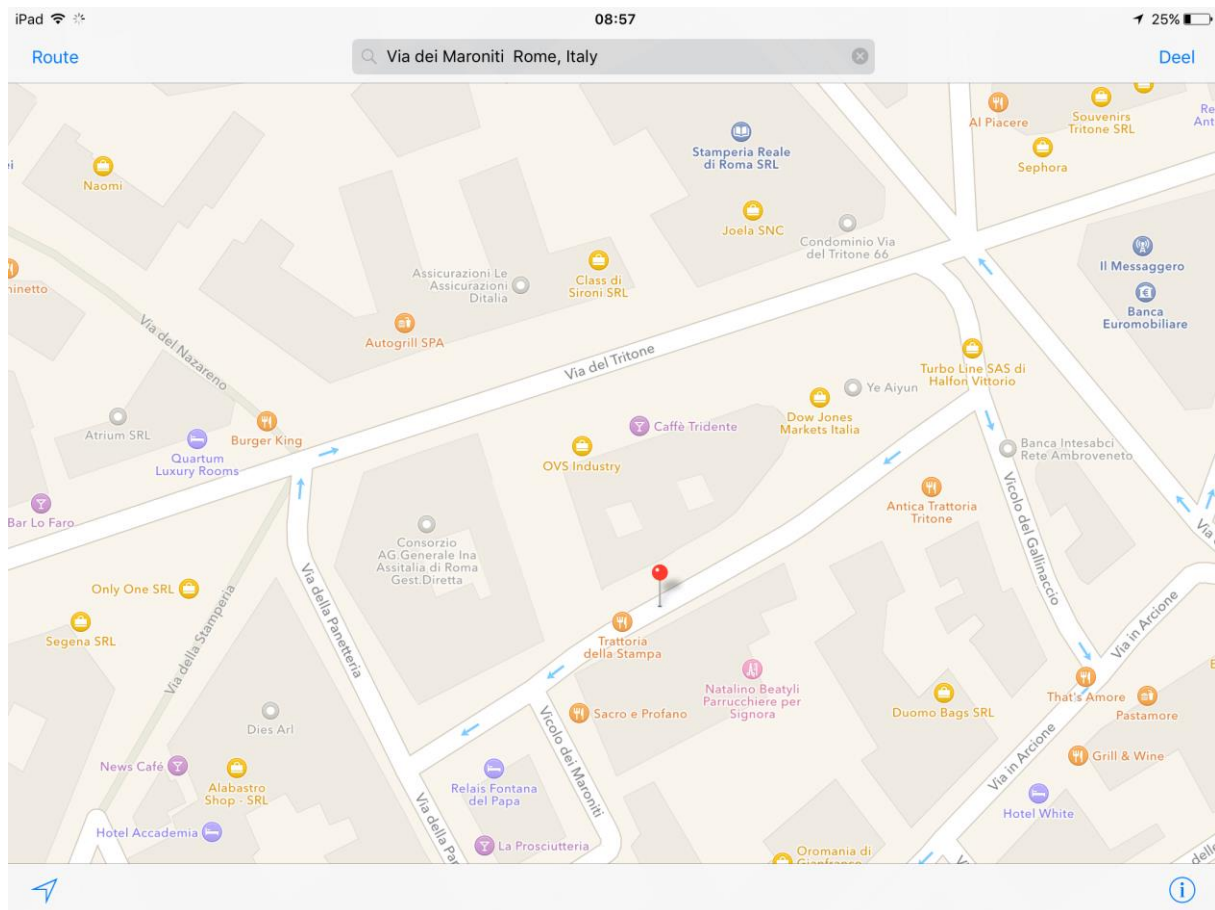
1. Which map promotes an easier visual search for buildings?

Google maps does. This is so because there is more luminance contrast. It is not clear at first, but the darker shade of grey is visually clearer than the lighter shade of grey that the apple map uses. Also the google map used the shape-from-shading in an excellent way. By using several tints of grey, we get a 3-d visualization of the building.

### *Google map of Rome*



### *Apple map of Rome*



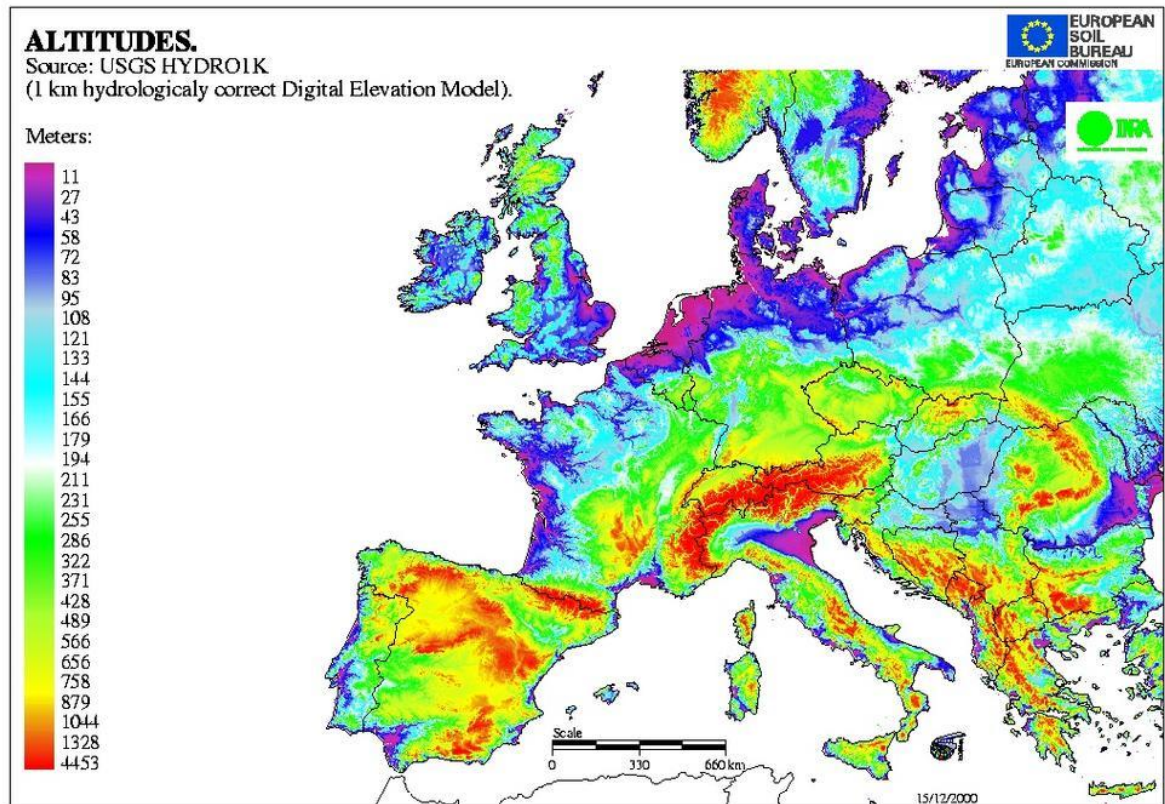
2. Which map more effectively visualizes routes from a random point A to point B?

That is also the google map. The visual text labels of for example the buildings are much clearer. This is due to saturation. The orange that it used to label buildings has an extremely high saturation, whereas the street and buildings itself have low saturation. Another reason why the google map is better is because it is much easier to trace the streets. This is because of contrast and because they just seem to be bigger in the google map.

3. Which map is an overall better visualization, and why?

Definitely the Google map. It is easier to see buildings and find your way from point a to point b as mentioned before. Also it contains more details. There are more little parks and small squares in the Google map, which can be handy in such an old city of Rome. They only aspect that the apple map does better it that it uses more unique hues. The google map basically only contains shades of grey, white and orange.

2. Find a rainbow color map visualization on the web. Please include a screenshot and link of the visualization.



<https://www.safaribooksonline.com/library/view/designing-data-visualizations/9781449314774/cho4.html>

1. Briefly summarize its intended objective and audience. Does it fail to successfully convey information? If so, why? Is there a good reason for this specific visualization to use a rainbow color scheme?

The audience here are people who are interested in the altitude of Europe. Examples are pilots, mountain climbers or skiers. The map tries to convey the altitude of Europe. It does not do a good job. The colours that are used are associated with temperature, not altitude. You really have to keep in mind that the Pyrenees are very high, not very hot.

2. Propose an alternative color scheme to replace the rainbow color map

I would use different shades of grey. This is done in the google map of Rome above. As you can see, it is easy to understand that a darker shade of grey means that the building is higher.