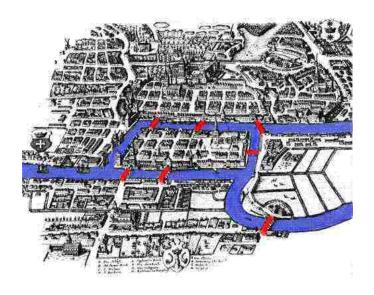
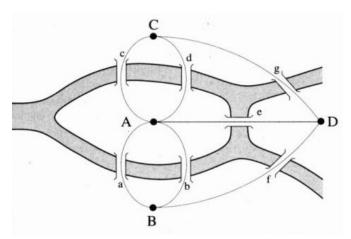
Graph theory started with Euler who was asked to find a nice path across the seven Köningsberg bridges



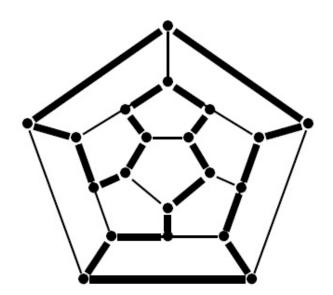
The (Eulerian) path should cross over each of the seven bridges exactly once



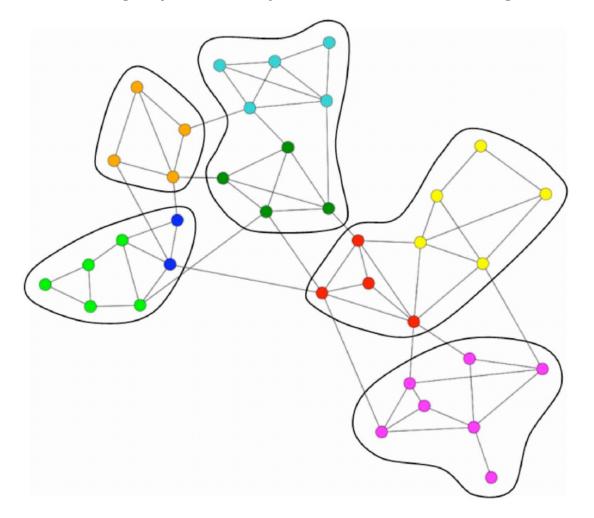
Another early bird was Sir William Rowan Hamilton (1805-1865)



In 1859 he developed a toy based on finding a path visiting all cities in a graph exactly once and sold it to a toy maker in Dublin. It never was a big success.

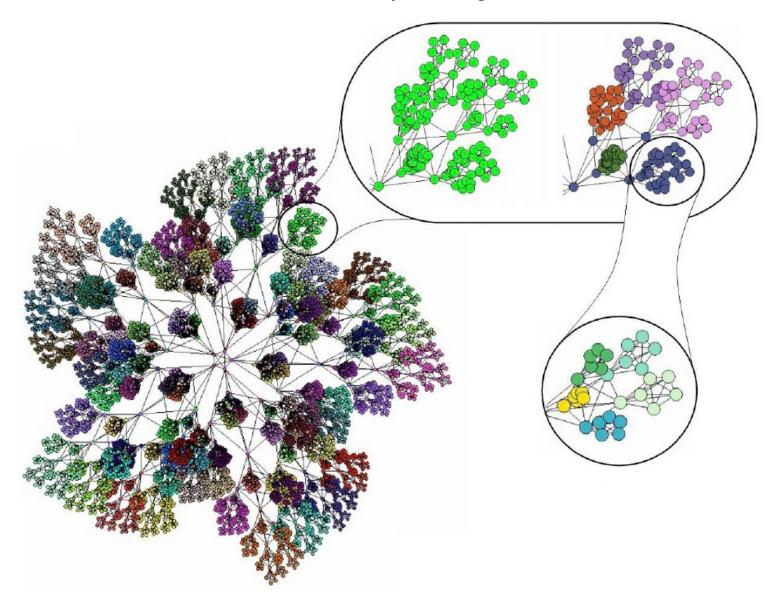


But now graph theory is used for finding communities in networks



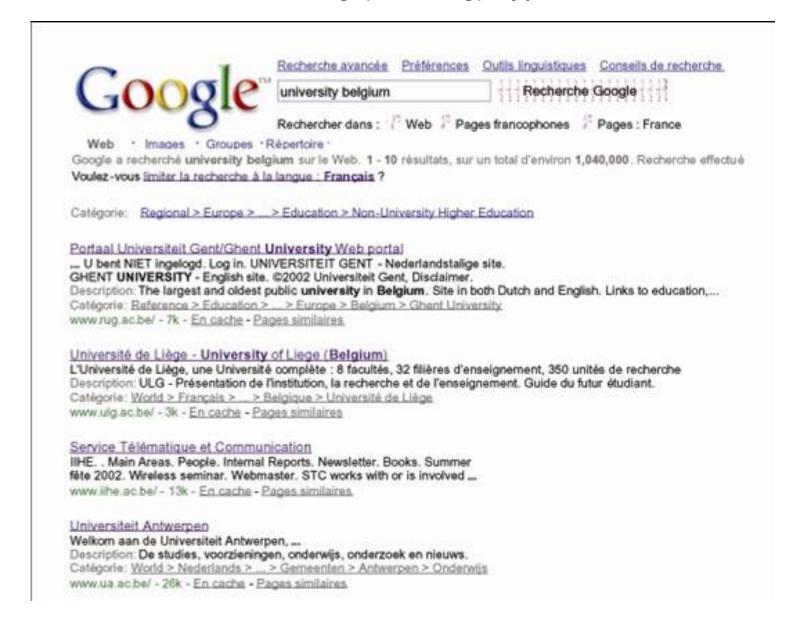
where we want to detect hierarchies of substructures

and their sizes can become quite big ...



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It is also used for ranking (ordering) hyperlinks



or by your GPS to find the shortest path home ...



or by your GPS to find the shortest path home ...

