Cartographer vs Architecture

My friend who is an architect has recently challenged me with a (tricky) cartographic question. She spent her holiday in Norway where she climbed the highest peak of not only Norway, but entire Scandinavia, called Galdhøpiggen which is 2469m tall.

She asked me about map distortion, especially she wanted to know about distance distortion. My answer was immediate: “Of course, various distance distortion exists due to used cartographic projection while mapping Earth’s surface to 2D plane!”.

But her question was more tricky than that. “The distance on the map from the starting point to the top of Galdhøpiggen must be shorter than actually the distance I walked/climbed. The map must be depicted like “pudorys”, right?”, she asked. Without thinking more about the meaning of “architecture-word pudorys” which I am not used to, I started explaining her that the distortion that originates due to used map projection can be negligible when using maps with such a large scale like hiking maps. And that the distance on the map always more or less corresponds to the reality. She (fortunately) disagreed and we postponed the conversation.

Later, I was thinking more about it. And I, a cartographer, embarrassingly realized that she, an architect, was right the whole time, about this basic cartographic question!

I went to <https://extract.bbbike.org/> which I use to download OSM data, there are million other ways how to do it, but I am used to this one.