

How to tell the history about the strangest volcano ever – when the volcano is not there anymore?

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The theory of volcanoes producing carbonate rich lavas was published in 1921. This publication by W.C. Brøgger caused a huge scientific debate. Most geologists argued that magmatic limestones is impossible, however the rocks described from the Fen Volcanic Complex were later proven to be of magmatic origin. Brøgger described a suite of magmatic carbonate rich rocks, named after local places. Some rock names and the process fenitization are still officially recognized names, from Fen in Gea Norvegica Global Geopark.

The theory of formation of the carbonatites was not proven until early 1960s, when the African volcano Oldoinyo Lengai erupted. The lava was a carbonate rich volcanic rock – soevite, named after the farm Søve.

The geology at Fen is complex with a variety of deep magmatic rocks. 580 million years of erosion has left only a deep transect of the main vent. The *results* of the volcanism still have a great impact on the local society: limestones suitable for building material since medieval times, iron ores brought wealth and work, and today prospecting for thorium and rare earth elements is ongoing.

The once so great Fen volcano itself is not visible anymore. So how can a geopark use a unique locality with high scientific value as an attractive place to visit? The answer is about storytelling on unique development history of the area regarding rich soils, medieval churches, iron works, mines, wealth, wars, workers and rich landowners, and how this history is related to the strange volcano and its unique rocks resulting from geological processes deep beneath the Earth crust.