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report.

The theory of vineyards attempts to describe how persistence diagrams change over time. A vineyard is a continuous map from $[0,1]$ into the space of persistence diagrams; it can be represented by a 3D image which looks like twisted vines. It is tempting to interpret each of these vines as a specific feature: perhaps as a connected component which is moving or a hole which is stretching. We give examples that show this cannot always be done. We also look at the theory of vineyards from a sheaf theoretic perspective, which sheds new light on the situation. For example, it does make sense to decompose a vineyard when the associated sheaf is a direct sum of smaller sheaves. This work is in collaboration with Justin Curry. (Received February 28, 2017)