**Quantifying Images**

We will extract features from each input image with the quantify\_image  function.

HOG is a structural descriptor that will capture and quantify changes in local gradient in the input image. HOG will naturally be able to quantify how the directions of a both spirals and waves change.

It will be able to capture if these drawings have more of a “shake” to them, as we expect from a Parkinson’s patient.

The most important parameters for the HOG descriptor are the **orientations**,  **pixels\_per\_cell,** and the  **cells\_per\_block**. These three parameters (along with the size of the input image) effectively control the dimensionality of the resulting feature vector.

The resulting features are a 12,996-dim feature vector (list of numbers) quantifying the wave or spiral. We’ll train a Random Forest classifier on top of the features from all images in the dataset.

