

Rattlebacks

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Rattlebacks, also known as a *celts* or *wobblestones*, are ordinary-looking water-worn stones with peculiar properties, found occasionally on beaches and in streams worldwide.



Fig 1 – stones on Blaketown Beach, Greymouth, New Zealand



Fig 2 – selected stones from Blaketown beach (natural rattlebacks).

The five stones in figure 2 were collected by the writer over half an hour on one section beach, suggesting that they are relatively common, at least in this location.

If set to spin in one direction on a hard surface, the stones in figure 2 start to rattle, come to a stop, and reverse their direction of spin. The motion is complex and difficult to analyze but their curious behavior has been known for thousands of years. They have been found in Egyptian tombs and the Aztecs and the Inca believed them to be imbued with special supernatural powers. That is not surprising. Watching a stone in action gives an odd feeling of unreality.



Fig 3 – click the link [\[Fig 3\]](#) to play in Flash.

Natural rattlebacks are not common in central Thailand. The KVIS collection came from a single location beach in New Zealand. We know of one other similar collection, from the Black Sea, made by Sergey Varlemov, a visiting Russian teacher at KVIS. Plastic models are sold in toy shops and the Russian version is a toy turtle that spins on its back. Moving the feet changes the properties. Models can be made with the bowls of plastic spoons and weights, typically paper-clips.



Fig 4 – a spoon and paper-clip model.
Click the link [\[Fig 4\]](#) to play in Flash

The spoon and paper-clip model spins either way and reverses several times. Multiple reversals do sometimes occur with natural stones but are less common.