auditory cortex remains active, as if the music is still playing. "What you're 'hearing' is not being generated by the outside world," says David Kraemer, who's conducted these types of experiments in his Dartmouth College laboratory. "You're retrieving a memory." Sounds aren't always responsible for sensations—sometimes our subjective sensations are responsible for the illusion of sound.

This is a reminder of the brain's imaginative power: On the blank sensory slate of silence, the mind can conduct its own symphonies. But it's also a reminder that even in the absence of a sensory input like sound, the brain remains active and dynamic.

In 1997, a team of neuroscientists at Washington University was collecting brain scan data from test subjects during various mental tasks, like arithmetic and word games. One of the scientists, Gordon Shulman, noticed that although intense cognition caused spikes in some parts of the brain, as you'd expect, it was also causing declines in the activity of other parts of the brain. There seemed to be a type of background brain activity that was most visible, paradoxically, when the test subject was in a quiet room, doing absolutely nothing.

The team's lead scientist was Marcus Raichle, and he knew there were good reasons to look closer at the data. For decades, scientists had known that the brain's "background" activity consumed the lion's share of its energy. Difficult tasks like pattern recognition or arithmetic, in fact, only increased the brain's energy consumption by a few percent. This suggested that by ignoring the background activity, neurologists might be overlooking something crucial. "When you do that," Raichle explains, "most of the brain's activities end up on the cutting room floor."

In 2001, Raichle and his colleagues published a seminal paper that defined a "default mode" of brain function—situated in the prefrontal cortex, active in cognitive actions—implying a "resting" brain is perpetually active, gathering and evaluating information. Focused attention, in fact, curtails this scanning activity. The default mode, Raichle and company argued, has "rather obvious evolutionary significance." Detecting predators, for example, should happen automatically, and not require additional intention and energy.

Follow-up research has shown the default mode is also enlisted in self-reflection. In 2013, in *Frontiers in Human Neuroscience*, Joseph Moran and colleagues wrote the brain's default mode network "is observed most closely during the psychological task of reflecting on one's personalities and characteristics (self reflection), rather than during self-recognition, thinking of the self-concept, or thinking about self-esteem, for example." During this time when the brain rests quietly, wrote Moran and colleagues, our brains integrate external and internal information into "a conscious workspace."

Freedom from noise and goal-directed tasks, it appears, unites the quiet without and within, allowing our conscious workspace to do its thing, to weave ourselves into the world, to discover where we fit in. That's the power of silence.

Noora Vikman, an ethnomusicologist, and a consultant on silence for Finland's marketers, knows that power well. She lives in the eastern part of Finland, an area blanketed with quiet lakes and