Science & Technology

What Fish Can Teach Us About Our Powers of Perception

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Scientists have long wondered how our brains tune out the myriad sounds produced inside our own bodies — such as the creaking of bones, the pumping of blood, and the intake of breath — and focus instead on the sounds of the outside world. Nathaniel Sawtell and Larry Abbott, neuroscientists at Columbia's Zuckerman Institute, have been making strides in solving this mystery. They have identified a section of the brain of the African elephant-nose fish (pictured above) that recognizes unimportant internal stimuli and summarily blocks them out. Now, in a new study in the journal *Neuron*, they show that when this "noise-cancellation

mechanism” is shut off, the fish become hopelessly disoriented. Sawtell and Abbott suspect that a similar mechanism is operating in the human brain and that their research could inform studies of sensory disorders such as tinnitus.

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