

Best of Last Week—Reading Maxwell Demon's mind, a battery free cellphone and menstruation doesn't change thinking

July 10 2017, by Bob Yirka

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(ScienceX)—It was another good week for physics as a pair of researchers offered arguments that provided [support for retrocausal quantum theory](#)—an idea in which the future influences the past.

Matthew Leifer and Matthew Pusey suggest their ideas might help explain such things as entanglement. Also, there were more details about the [record-breaking 45-qubit quantum computing simulation run at NERSC](#). And an international team used superconducting circuits to [read Maxwell's Demon's mind](#)—this refers to a famous thought experiment regarding the second law of thermodynamics. Also, a team working on the LHCb experiment announced [the observation of a new particle with two heavy quarks](#).

In space news, a pair of researchers at the University of Edinburgh's School of Physics and Astronomy reported that they had found evidence suggesting that [Mars' surface is 'more uninhabitable' than thought](#). Jennifer Wadsworth and Charles Cockell found that salt minerals on the surface of the planet kill bacteria. And a team at the University of Cambridge studying data from the Sloan Digital Sky Survey found that [the fastest stars in the Milky Way are 'runaways' from another galaxy](#).

In other news, a team at the University of Washington announced that they had developed [a battery-free cellphone that makes calls by harvesting ambient power](#)—it gets its power from ambient radio signals or light. Also, a team at the Washington University School of Medicine found that [popular heartburn drugs can be linked to a higher death risk](#). The researchers found that long-term use of over-the-counter drugs such as Nexium, Prevacid and Prilosec can lead to bone damage, increased risk of developing dementia and serious kidney damage. And Tesla CEO Elon Musk announced that [the first Model 3 was built last Friday and that sales would begin July 28](#). The news marks the beginning of sales of the unique cars designed for regular consumers, rather than just the very rich.

And finally, if you happen to be among those who believe that women think differently during their time of the month, it appears you may be wrong. A team with members from across Europe conducted a study on the

matter with volunteers and found that [menstruation doesn't change how your brain works—period.](#)

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