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Gravity Virgins RICHARD BENISH — As an exercise in imagining a first encounter with gravity, let's begin with the barest gravitational circumstance. On a planet-sized spherical mass we find rigid poles extending to astronomical distances. At regular intervals along each pole there are Instrument Stations containing a clock, an accelerometer and light senders and receivers. Now imagine a civilization (the RC's) that has evolved in a huge self-sustaining Rotating Cylinder far removed from the sphere or any other astronomical body. The RC's are totally ignorant of gravity but understand well light propagation and the effect of motion on clocks, lengths, etc. Motion is sacred to the RC's because they know they'd die if their cylinder stopped rotating. Their clocks are synchronized so as to reflect the anisotropy of light sent in opposite directions along the cylinder's wall. When they set out to explore the Universe, they come upon the top of one of our tall poles. The RC's inspect the instruments, take data and leave their rocket off except when, in the nick of time, they turn it back on to navigate a soft landing. In their attempt to make sense of their experience, will they prefer a hypothesis resembling General Relativity or a hypothesis more like the one found at GravitationLab.com?

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