Title:	Care For Some Anyons, Anyone?
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Abstract:	Based on the nature of the quantum statistics they follow, the quantum particles in the universe can be divided into two broad categories, the bosons, and the fermions. Indistinguishability leads to the invariance of the wave functions of the bosons and the fermions, up to a sign, under pairwise exchange. For fermions, Pauli's exclusion principle makes it impossible to put more than one identical particle in the same state. One consequence of this is the existence of different elements in the periodic table. On the other hand, many identical bosons can occupy a single state leading to exotic phases of matter like the Bose—Einstein condensates. In two dimensions, it is also possible to realize special quantum particles called the 'anyons', the particles that are neither bosons nor fermions! The world-lines1 representing the exchange of anyons appear to be different from those of the bosons and the fermions and they show 'braiding' (like braiding hairs) leading to more sophisticated quantum statistics. Though the space around us is three-dimensional (at least), we can create special artificial two-dimensional spaces in the form of surfaces and interfaces where anyons can exist, and cleverly designed experiments can even detect them. In this article, we attempt to understand the fundamentals of anyons and find out how anyons can emerge in a two-dimensional fractional quantum Hall system.
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