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Real beards and real networks: a spin-glass model for interacting individuals DION O'NEALE, University of Auckland — "I want to be different, just like all the other different people" sang the band King Missile. Whether they are the Beatniks of the 1950s, the punks of the 1970s, or the hipsters of today, non-conformists often tend to look the same, seemingly at odds with their goal of non-conformity. The spin-glass model, originally developed to describe the interaction of magnetic spins, and since applied to situations as diverse as the electrical activity of networks of neurons, to trades on a financial market, has recently been used in social science to study populations of interacting individuals comprised of a mix of both conformists and anti-conformists - or hipsters. Including delay effects for the interactions between individuals has been shown to give a system with non-trivial dynamics with a phase transition from stable behaviour to periodic switching between two states (let's call them bushy bearded and clean shaven). Analytic solutions to such a model are possible, but only for particular assumptions about the interaction and delay matrices. In this work we will show what happens when the interactions in the model are based on real-world networks with "small-world" effects and clustering.

Dion O'Neale
University of Auckland

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