



Chinese Whispers

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In discrete networks, disconnection is often the critical factor that controls system function. The quality of network behaviour may be described by graph-theoretic indices such as the Cheeger constant, or through context-specific models. For water and sediment transport, one primary distinction is between unchannelled and channelled flow: diffusive sediment transport in the former providing poor connectivity and the progressive dominance of advective processes leading to better connected channelization. Within the channel network, Fryir's terminology of buffers, barriers and blankets describe types of disconnection that control water and sediment movement which are crucial to, for example, flood management.

In the long term and at coarse scales, network connectivity is controlled by disconnection across divides and through sea level change. Willett has proposed a network analysis that shows catchments whose headwaters are threatened by capture and distributions of fish have provided evidence of the efficacy and rate of these processes, in Africa and elsewhere.

Is there common ground between these approaches that can be applied to modelling the behaviour of social and other networks? The critical role of poor connections seems to be at least one significant common thread.