On completely scrambled systems

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A dynamical system (X, T) is completely scrambled if all non-diagonal pairs $(x, y) \in X \times X$ are proximal (i.e. $\liminf_{n \to \infty} d(T^n(x), T^n(y)) = 0$) but not asymptotic (i.e. $\limsup_{n \to \infty} d(T^n(x), T^n(y)) > 0$). In this talk we will survey recent progress on characterization of such systems and their additional dynamical properties.