Weibull Form in Memory, Reaction Time, and Social Behavior: Asymptotic Distribution of Minima from Heterogeneous Population

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Retention curves, retrieving sequences of words from long-term memory, and some social behavior are well described by the Weibull distribution on time, FW(t). This fact can be accounted for if each of events in a sequence is assumed to occur as soon as a condition, out of many, is fulfilled, and the conditions are assumed to be i.i.d. random variables from a population. Series of events were generated under two violations of the assumption; events come from two groups and conditions for each event from two groups. It was shown under what heterogeneities FW(t) still holds, and when deviations from FW(t) in mixed and composite forms come to the surface. Fits of these forms to distributions of reaction time and divorce statistics were also discussed.