Unpopular Essays of Juergen Kurths: Practicalities and Predictability

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Prediction is difficult, and predicting the predictability of imperfectly known nonlinear systems triply so. Early work on the predictability of predictability is reexamined in light of recent developments; kernels of today's advances are found in early papers of Juergen Kurths. Insights from two of these papers, neither among his most popular, are reflected upon along with their predictably unpopular attributes. In 1950, Bertrand Russell published a book entitled "Unpopular Essays." After suggesting in the preface of another book that the material was of interest to the general public, Russell had been taken to task by reviewers who found the material difficult; the title of his new book effectively avoided the charge that he considered those essays "popular." Indexes to judge whether or not a modern scientific article is popular abound; in terms of such indexes the two articles considered do not rank that highly amongst their brethren; nevertheless they are shown to be interesting in a number of ways. Framing predictability through the decay of information clarifies variability in forecast skill and can aid in the design of a probabilistic forecast system. An information theoretic context may provide a popular handle on predictability, clarifying and reducing the challenges of using forecasts in risk management, challenges considered explicitly over a decade ago.