AN APPLICATION OF POINCARE'S RECURRENCE THEOREM TO ACADEMIC ADMINISTRATION

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The present trend in science is to apply classical mathematics to nontraditional areas. This note gives an application of a classical theorem of dynamical systems to a long neglected area of study, academic administration, and thus proves that scientific research and academic administration are not mutually disjoint. It is the author's hope that other administrations will apply their early training in scientific research to study the quagmire into which they have slipped and thus carry forth this work.

A recurrent orbit in a system is one that returns infinitely often arbitrarily close to its initial position. Poincare's recurrence theorem [11 states: *In a compact conservative system almost all orbits are recurrent.* Poincare discovered this theorem in his investigations into the motion of celestial bodies, and until now it has not had applications to such terrestrial matters as academic administrative structures. However, we shall show that this theorem can easily be applied to explain an often observed phenomena.

LEMMA 1. *An academic administrative system is conservative.*

Proof. All decisions are made by applying the principle of least action and therefore the system is conservative by a classical theorem of Maupertuis [2].

LEMMA 2. *An academic administrative system is compact.*

Proof. The system is governed by a finite number of arbitrarily short-sighted deans and is compact by definition.

Lemmas I and 2 verify the hypothesis of Poincare's recurrence theorem and therefore the conclusions hold for all academic administrations. An immediate consequence of this result is:

THEOREM 1. *Almost all administrators vacillate.*

Finally, since many conservative systems are reversible, an administrator will not only return infinitely often to the same position but must have been there infinitely often in the past.

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References
1. H. Poincare, Les Methodes Nouvelles de la Mecanique Celeste, Gauthier-Villars, Paris, 1892.
2. E. T. Whittaker, A Treatise on the Analytic Dynamics of Particles and Rigid Bodies, Cambridge University Press, 1904.