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THE LAWS OF RESEARCH INNOVATION

"HALLER'S LAWS"

First Law: ***The Law of Replicability of Findings***

In well-designed empirical research, almost every unexpected numerical result is an artifact of human error or machine breakdown.

Corollary: Almost all apparently serendipitous innovations are due to the mistakes of the researcher or to equipment failure.

Comment: When you obtain a surprising result, redo the analysis until it disappears—which it almost certainly will.

Second Law: ***The Law of Theoretical Continuity***

In empirical research that is well designed and flawlessly executed, almost every apparently innovative concept is no more than a semantic readjustment of an earlier vocabulary.

Corollary: When based on excellent empirical research, practically all supposed "revolutions" in science are either matters of terminology and not of concepts or they are waves of new research on long dormant concepts.

Comment: Caveat Emptor.

Third Law: ***The Law of Rarity of Conceptual Innovation***

Viewed in the light of the enormous amount of effort put into scientific research, new concepts that add to explanatory comprehensiveness, clarity, parsimony, or predictive efficiency are extremely rare.

Corollary: (From Laws 1, 2, and 3): Almost every newly proposed concept is either factually wrong or a change in vocabulary but not in concept.

Comment: If indeed you make a genuine conceptual innovation treasure and nurture it. But don't be discouraged if you don't. Hardly anyone else does either.

Fourth Law: ***The Law of Disconfirmation of Theory***

When applied to an existing theory, improvements in research methodology and/or procedures almost always yield results that are contrary to all or part of it.

Corollary: Almost all theories are doomed to whole or partial extinction.

Comment: To the extent that theory guides practice, rejection of a theory or its errors is one of the most valuable contributions of excellent empirical research.