# Laws of software evolution

1. Law of Continuing Change (1974)
   - "E-type systems must be continually adapted or they become progressively less satisfactory."
   - Software which is used in a real-world environment must change or become less and less useful in that environment.
2. Law of Increasing Complexity (1974)
   - "As an E-type system evolves its complexity increases unless work is done to maintain or reduce it."
   - As an evolving program changes, its structure becomes more complex, unless active efforts are made to avoid this phenomenon.

# Laws of software evolution …

3. Law of Self Regulation (1978)
   - "E-type system evolution process is self regulating with distribution of product and process measures close to normal."
   - System attributes such as size, time between releases, and the number of reported errors are approximately invariant for each system release.
4. Law of Conservation of Organisational Stability
   - "The average effective global activity rate in an evolving E-type system is invariant over product lifetime."
   - Over a program's lifetime, its rate of development is approximately constant and independent of the resources devoted to system development.

# Laws of software evolution …

5. Law of Conservation of Familiarity (1978)
   - "As an E-type system evolves all associated with it, developers, sales personnel, users, for example, must maintain mastery of its content and behaviour to achieve satisfactory evolution. Excessive growth diminishes that mastery."
   - Over the lifetime of a system, the incremental system change in each release is approximately constant.
   - The average incremental growth of systems tends to remain constant or decline over time.
6. Law of Continuing Growth (1991)
   - "The functional content of E-type systems must be continually increased to maintain user satisfaction over their lifetime."
   - Functional capability must increase over the lifetime of a system to maintain user satisfaction.

# Laws of software evolution …

7. Law Declining Quality (1996)
   - "The quality of E-type systems will appear to be declining unless they are rigorously maintained and adapted to operational environment changes."
   - Unless rigorously adapted, quality will appear to decline over time.

8. Law of Feedback System (1996)
   - "E-type evolution processes constitute multi-level, multi-loop, multi-agent feedback systems and must be treated as such to achieve significant improvement over any reasonable base"
   - Evolution systems are multi-level, multi-agent, multi-loop feedback systems.