

**LESSON 9**  
**RECURRENCE RELATIONS**  
*Self-Referral Dynamics of Creation*

**Wholeness of the Lesson:** Recurrence relations capture the sequential development of a mathematical process from an initial value, just as the Vedic literature displays the sequential development of the universe from the field of pure consciousness.

**MAIN POINTS**

1. The Towers of Hanoi is a puzzle whose solution is most easily understood by seeing how one step follows from the previous step. Maharishi's Apaurusheya Bhashya explains how the entire Vedic literature unfolds from the first syllable of Rik Veda.
2. A formula that gives terms in a sequence as a function of earlier terms is called a recurrence relation. Many situations involving sequential discrete stages of change can be modeled with a recurrence relation. The diversity of relative creation emerges in a sequential way from the self-referral field of pure consciousness.
3. Many recurrence relations have an explicit formula for the  $n$ th term that does not require us to calculate every previous term. The method of iteration is one way to find such a formula, if one exists. To find an explicit formula for a recurrence relation is to capture infinitely many formulas in one formula. Every finite expression in nature has the infinite field of pure intelligence as its core.

**CONNECTING THE PARTS OF KNOWLEDGE  
WITH THE WHOLENESS OF KNOWLEDGE  
RECURRENCE RELATIONS**

1. A recurrence relation describes the  $n$ th stage of a sequential process of change in terms of the previous stages.
  2. Some recurrence relations can be expressed in closed form as an explicit formula.
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3. Transcendental Consciousness is the state of complete self-referral, where the Self knows only itself.
  4. Impulses within the transcendental field: Since the Self is consciousness, it becomes aware of itself. This is the first impulse of creation.
  5. Wholeness moving within itself: In Unity Consciousness, everything is known in terms of the Self; the entire sequential unfolding of creation takes place within the Self, the field of absolute bliss.

