

Koop,P. 2023: Algorithmic Recursive Sequence Analysis  
Algorithmic Structuralism: Formalizing Genetic  
Structuralism: An attempt to help make genetic  
structuralism falsifiable

Author:

The author obtained his general university entrance qualification at a Franciscan high school and holds a diploma in social work from a state-recognized Catholic technical college and a master's degree (education, social sciences, psychology) from a state university. Until he retired, his professional career spanned from public service in youth welfare to publicly funded vocational training (training, advanced training, retraining). Since 1994, the author has advocated a Darwinian, naturalistic and falsificationist approach to sociology. He rejects deep hermeneutics, constructivism and postmodernism as social-philosophical.

Summary and evaluation:

Paul Koop presents a sophisticated approach to the analysis of social actions in his article "Algorithmic Recursive Sequence Analysis Algorithmic Structuralism: Formalizing Genetic Structuralism". This approach is based on formal languages and grammar induction. The article rejects postmodern social philosophy and instead relies on a naturalistic, empirical approach with falsifiable models for action systems.

## 1. Definition of Algorithmic Structuralism:

Algorithmic structuralism, as stated by Koop, is a formalization of genetic structuralism. This assumes an intention-free, apsychic space of possibilities of algorithmic rules that structure the pragmatics of well-formed chains of events. The goal is to make genetic structuralism falsifiable and to enable empirically proven control systems.

## 2. Definition of K-systems:

K-systems are defined as formal languages consisting of an alphabet (A), production rules (P), an appearance measure (H), and an axiomatic first string ( $k_0$ ). These systems form a recursive transition network of discrete non-metric event sets over which an algorithmic control system operates.

## 3. Algorithmic Recursive Sequence Analysis:

Algorithmic Recursive Sequence Analysis is a method for analyzing finite discrete character strings. It includes a grammar inducer (Scheme), a parser (Pascal) and a grammar transducer (Lisp). The method aims to approximate the structure of social reality through formal languages.

## 4. Results and evaluation:

Koop emphasizes the consistency and empirical proof of algorithmic structuralism. This approach has been described as Galilean, naturalistic and Darwinian. In comparison to deep hermeneutic, constructivist, postmodernist and (post)structuralist approaches, Koop represents algorithmic structuralism.

## 5. Comparison to constructivism and postmodernism:

In contrast to constructivist and postmodernist movements, which are described as anti-scientific and anti-rational, Koop presents algorithmic structuralism as a search for empirical truths about the world. He criticizes the check-free interpretation in constructivism and postmodernism, comparable to astrology, and calls for a sociology, which is oriented towards naturalism and develops empirically testable models.

## Evaluation:

The article presents an innovative approach to the analysis of social actions, in which formal languages and grammar induction play a central role. The emphasis on falsifiability strengthens the scientific foundation of the approach. However, the technical complexity of the text could pose a challenge even for a technically educated audience. The criticism of constructivism and postmodernism is clear.