Structural System Property: \textit{atis Fromputness}

(Structural system properties are those properties that are part of the theory and describe patterns of system and negasystem connectedness or partitions.)

\textbf{Fromputness}, \(F_p(S)\), \(=_{df}\) Partition of system components for which negasystem fromput control qualifiers are “true.”

\[ F_p(S) =_{df} \{x | x \in S_0 \land \exists P(x) \in \mathcal{L}_C \left[ f(x)(F_p \times F_p \mathcal{L}_C) = \tau \right] \}. \]

\textbf{Fromputness} is defined as the set of system components for which there exist negasystem control-qualifiers such that there is a function from the product of the fromput components and the negasystem control qualifiers that are “true.”

\textbf{M: Fromputness measure}, \(M(F_p(S))\), \(=_{df}\) a measure of fromput components.

\[ M(F_p(S)) =_{df} |F_p(S)| \quad (1) \]

\[ M(F_p(S)) =_{df} \log_2(|F_p(S)|) \div \log_2(|S_0|) \quad (2) \]

The choice of measure will depend on the application. Measure (1) is of value where the size of the fromput set is required for comparison, say, to the output set; that is, a comparison of actual feedout is desired. Measure (2) is of value where a comparison to the system or between systems is desired that relates the amount of fromput as a fraction or percentage of the total system.