

Structural System Property: *atis* **Outputness**

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

Outputness, $\mathbf{O}_p(\mathfrak{S})$, =_{df} Partition obtained from the resulting transmission of *fromput* components; that is, negasystem components for which *negasystem output-control qualifiers* of *fromput* components are “true.”

$$\mathbf{O}_p(\mathfrak{S}) =_{df} \{ \mathbf{x} \mid \mathbf{x} \in \mathfrak{S}'_o \wedge \exists \sigma (\sigma(\mathbf{x}_{F_p} \in F_p) = \mathbf{x}_{O_p}) \}.$$

Outputness is defined as the set of *negasystem* components for which there exists a system-transmission function that results in the transmission of the *fromput* components to output components.

M: **Outputness measure**, $\mathcal{M}(\mathbf{O}_p(\mathfrak{S}))$, =_{Df} a measure of output components.

$$\mathcal{M}(\mathbf{O}_p(\mathfrak{S})) =_{df} |\mathbf{O}_p(\mathfrak{S})| \tag{1}$$

$$\mathcal{M}(\mathbf{O}_p(\mathfrak{S})) =_{df} \log_2(|\mathbf{O}_p(\mathfrak{S})|) \div \log_2(|\mathfrak{S}'_o|) \tag{2}$$

The choice of measure will depend on the application. Measure (1) is of value where the size of the output set is required for comparison, say, to the *fromput* 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 output as a fraction or percentage of the total system.