Prof. Dr. Alfred Toth

Elements of a Theory of a System Theoretic Contextuated Semiotic Night (Der Theorie der Nacht VI. Teil)

Das Leben gehört brutal gemeistert oder gleich den Gashahn aufgedreht. Herbert Achternbusch, Das Haus am Nil. Frankfurt am Main 1981, S. 297

Like all five previous parts of my formal attempts to a Semiotic Theory of Will (cf. Toth 2008-11), also the present sixth part is self-consistent (cf. Günther 1937, Kaehr 1978). Any scientific introduction to Theoretical Semiotics is sufficient for understanding, e.g. Bense (1981) or Toth (2006), provided, of course, the reader's willingness to leave any biased form of substantial thinking. The additional list of correspondences between semiotic-ontological and system theoretic categories is:

0.1 =	A _{*I(A)}	1.0 =	I(A) _{*A}	Μ	=	(I(A))
0.2 =	A _{*A(I(A))}	2.0 =	A(I(A)) _{*A}	0	=	(A(I(A)))
0.3 =	A*I(A(I(A)))	3.0 =	I(A(I(A))) _{*A}	J	=	(I(A(I(A)))).

I. Action schemata of the 2 · 24 triadic semiotic partial relations

1. Pre-semiotic dual system ((I(A(I(A))) (I(A))_{3,4} (A(I(A))((I(A))_{1,4} (I(A)(I(A)))_{1,3,4} A*I(A)_{1,3}) × (I(A)*A_{3,1} (I(A)(I(A)))_{4,3,1} (I(A) (A(I(A)))_{4,3,1} (I(A))_{4,3,1} (I(A))_{4,3,1

((A(I(A))((I(A)) _{1,4})		((I(A)(I(A))) _{4,3,1})
$\wedge \gg (A*I(A)_{1,3})$	×	$\wedge \gg (I(A)^*A_{3,1})$
((I(A)(I(A))) _{1,3,4})		((I(A) (A(I(A))) _{4,1})
((I(A(I(A))) (I(A)) _{3,4})		((I(A)(I(A))) _{4,3,1})
$\wedge \gg (A*I(A)_{1,3})$	×	$ m A \gg (I(A)^*A_{3,1})$
((I(A)(I(A))) _{1,3,4})		((I(A) (I(A(I(A))))) _{4,3})
((I(A)(I(A))) _{1,3,4})		((I(A) (A(I(A))) _{4,1})
$\wedge \gg (A*I(A)_{1,3})$	×	$ m A \gg (I(A)^*A_{3,1})$
((A(I(A))((I(A)) _{1,4})		((I(A)(I(A))) _{4,3,1})

$\begin{array}{l} ((I(A(I(A))) \ (I(A))_{3,4}) \\ \land \gg (A^*I(A)_{1,3}) \times \\ ((A(I(A))((I(A))_{1,4}) \end{array}$		$((I(A) (A(I(A)))_{4,1})$ $\land \gg (I(A)^*A_{3,1})$ $((I(A) (I(A(I(A)))))_{4,3})$
$egin{array}{llllllllllllllllllllllllllllllllllll$		$\begin{array}{c} ((I(A)\;(I(A(I(A)))))_{4,3})\\ \land \gg (I(A)^*A_{3,1})\\ ((I(A)(I(A)))_{4,3,1})\end{array}$
$egin{array}{llllllllllllllllllllllllllllllllllll$		$\begin{array}{l} ((I(A) \ (I(A(I(A)))))_{4,3}) \\ \land \gg (I(A)^*A_{3,1}) \\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ $
Medial action		
$((A(I(A))((I(A))_{1,4}))$ $\land \gg ((I(A)(I(A)))_{1,3,4})$ $(A^*I(A)_{1,3})$	×	$(I(A)^*A_{3,1})$ $\land \gg ((I(A)(I(A)))_{4,3,1})$ $((I(A) (A(I(A)))_{4,1})$
$\begin{array}{l} ((I(A(I(A))) \; (I(A))_{3,4}) \\ \land \gg ((I(A)(I(A)))_{1,3,4}) \\ (A^*I(A)_{1,3}) \end{array}$	×	(I(A)*A _{3,1})
(A*I(A) _{1,3}) 人 ≫ ((I(A)(I(A))) _{1,3,4}) ((A(I(A))((I(A)) _{1,4})	×	((I(A) (A(I(A))) _{4,1})
$\begin{array}{l} ((I(A(I(A))) \; (I(A))_{3,4}) \\ \land \gg ((I(A)(I(A)))_{1,3,4}) \\ ((A(I(A))((I(A))_{1,4}) \end{array}$	×	$\begin{array}{c} ((I(A)\;(A(I(A)))_{4,1}) \\ \land \gg ((I(A)(I(A)))_{4,3,1}) \\ ((I(A)\;(I(A(I(A)))))_{4,3}) \end{array}$
(A*I(A) _{1,3})	×	$\begin{array}{l} ((I(A) \ (I(A(I(A)))))_{4,3}) \\ \land \gg \ ((I(A)(I(A)))_{4,3,1}) \\ (I(A)^*A_{3,1}) \end{array}$
$\begin{array}{l} ((A(I(A))((I(A))_{1,4}) \\ \land \gg ((I(A)(I(A)))_{1,3,4}) \\ ((I(A(I(A))) \ (I(A))_{3,4}) \end{array}$	×	$\begin{array}{l} ((I(A)\;(I(A(I(A)))))_{4,3}) \\ \land \gg ((I(A)(I(A)))_{4,3,1}) \\ ((I(A)\;(A(I(A)))_{4,1}) \end{array}$

Objectal action

((I(A)(I(A))) _{1,3,4}) 人 ≫ ((A(I(A))((I(A)) _{1,4}) (A*I(A) _{1,3})	×	$\begin{array}{l}(I(A)^*A_{3,1})\\ \land \gg ((I(A)\;(A(I(A)))_{4,1})\\ ((I(A)(I(A)))_{4,3,1})\end{array}$
$((I(A(I(A))) (I(A))_{3,4}))$ $\land \gg ((A(I(A))((I(A))_{1,4})))$ $(A^*I(A)_{1,3})$	×	$\begin{array}{c} ({\rm I}({\rm A})^*{\rm A}_{3,1})\\ \land \gg (({\rm I}({\rm A})\;({\rm A}({\rm I}({\rm A})))_{4,1})\\ (({\rm I}({\rm A})\;({\rm I}({\rm A}({\rm I}({\rm A})))))_{4,3})\end{array}$
(A*I(A) _{1,3})	×	$\begin{array}{l} ((I(A)(I(A)))_{4,3,1}) \\ \land \gg ((I(A)\;(A(I(A)))_{4,1}) \\ (I(A)^*A_{3,1}) \end{array}$
$\begin{array}{l} ((I(A(I(A))) \; (I(A))_{3,4}) \\ \land \gg ((A(I(A)))((I(A))_{1,4}) \\ ((I(A)(I(A)))_{1,3,4}) \end{array}$	×	$((I(A)(I(A)))_{4,3,1})$ $\land \gg ((I(A) (A(I(A)))_{4,1})$ $((I(A) (I(A(I(A)))))_{4,3})$
$((I(A)(I(A)))_{1,3,4})$ $\land \gg ((A(I(A))((I(A))_{1,4}))_{((I(A(I(A))))}(I(A))_{3,4}))_{(I(A))_{3,4}})_{(I(A))_{3,4}}$	×	((I(A) (I(A(I(A))))) _{4,3})
$(A^*I(A)_{1,3})$ $\land \gg ((A(I(A))((I(A))_{1,4})))$ $((I(A(I(A))))(I(A))_{3,4}))$	×	$\begin{array}{l} ((I(A)\;(I(A(I(A)))))_{4,3}) \\ & \wedge \gg (((I(A)\;(A(I(A)))_{4,1}) \\ & (I(A)^*A_{3,1}) \end{array}$
Interpretative action		
$((A(I(A)))((I(A))_{1,4}) \ \land \gg ((I(A(I(A))))(I(A))_{3,4}) \ (A^*I(A)_{1,3})$	×	$\begin{array}{c} ({\sf I}({\sf A})^*{\sf A}_{3,1})\\ \land \gg (({\sf I}({\sf A})\;({\sf I}({\sf A}({\sf I}({\sf A})))))_{4,3})\\ (({\sf I}({\sf A})\;({\sf A}({\sf I}({\sf A})))_{4,1})\end{array}$
((I(A)(I(A))) _{1,3,4}) 人 ≫ ((I(A(I(A))) (I(A)) _{3,4}) (A*I(A) _{1,3})	×	$\begin{array}{c} (I(A)^*A_{3,1}) \\ \land \gg ((I(A) \; (I(A(I(A)))))_{4,3}) \\ ((I(A)(I(A)))_{4,3,1}) \end{array}$
((A(I(A))((I(A)) _{1,4}) 人 ≫ ((I(A(I(A))) (I(A)) _{3,4})	×	((I(A)(I(A))) _{4,3,1}) 人 ≫ ((I(A) (I(A(I(A))))) _{4 3})

 $\land \gg ((I(A) (I(A(I(A)))))_{4,3}) \\ ((I(A) (A(I(A)))_{4,1})$

(A*I(A) _{1,3})		((I(A)(I(A))) _{4,3,1})
$\wedge \gg ((I(A(I(A))) (I(A))_{3,4}) ((I(A)(I(A)))_{1,3,4})$	×	$\wedge \gg ((I(A) (I(A(I(A)))))_{4,3})$ (I(A)*A _{3,1})
$\begin{array}{l} ((I(A)(I(A)))_{1,3,4}) \\ \land \gg ((I(A(I(A))) \; (I(A))_{3,4}) \\ ((A(I(A))((I(A))_{1,4}) \end{array}$	×	$\begin{array}{l} ((I(A)\;(A(I(A)))_{4,1}) \\ \land \gg ((I(A)\;(I(A(I(A)))))_{4,3}) \\ ((I(A)(I(A)))_{4,3,1}) \end{array}$
$(A^*I(A)_{1,3})$ $\land \gg ((I(A(I(A))) (I(A))_{3,4})$ $((A(I(A))((I(A))_{1,4})$	×	$\begin{array}{l} ((I(A)\;(A(I(A)))_{4,1}) \\ \qquad \land \gg ((I(A)\;(I(A(I(A)))))_{4,3}) \\ \qquad (I(A)^*A_{3,1}) \end{array}$

2. Pre-semiotic dual system ((I(A(I(A))) (I(A))_{3,4} (A(I(A))((I(A))_{1,4} (I(A)(I(A)))_{1,3,4} A*A(I(A))_{1,2}) × (A(I(A))*A_{2,1} (I(A)(I(A)))_{4,3,1} (I(A) (A(I(A)))_{4,1} (I(A) (I(A(I(A))))_{4,3}))

$\begin{array}{l} ((A(I(A))((I(A))_{1,4}) \\ \land \gg (A^*A(I(A))_{1,2}) \\ ((I(A)(I(A)))_{1,3,4}) \end{array}$	×	((I(A)(I(A))) _{4,3,1}) 人 ≫ (A(I(A))*A _{2,1}) ((I(A) (A(I(A))) _{4,1})
$\begin{array}{l} ((I(A(I(A))) \ (I(A))_{3,4}) \\ \land \gg (A^*A(I(A))_{1,2}) \\ ((I(A)(I(A)))_{1,3,4}) \end{array}$	×	$((I(A)(I(A)))_{4,3,1})$ $\land \gg (A(I(A))^*A_{2,1})$ $((I(A)(I(A(I(A)))))_{4,3})$
$((I(A)(I(A)))_{1,3,4})$ $\land \gg (A^*A(I(A))_{1,2})$ $((A(I(A))((I(A))_{1,4})$	×	$((I(A) (A(I(A)))_{4,1}))$ $\land \gg (A(I(A))^*A_{2,1})$ $((I(A)(I(A)))_{4,3,1})$
((I(A(I(A))) (I(A)) _{3,4}) 人 ≫ (A*A(I(A)) _{1,2})	×	((I(A) (A(I(A))) _{4,1}) 人 ≫ (A(I(A))*A _{2,1})
((A(I(A))((I(A)) _{1,4})		$((I(A)) (I(A(I(A)))))_{4,3})$
	×	

Medial action

$((A(I(A))((I(A))_{1,4})$		(A(I(A))*A _{2,1})
$\land \gg ((I(A)(I(A)))_{1,3,4})$ (A*A(I(A))_{1,2})	×	$\land \gg ((I(A)(I(A)))_{4,3,1})$ ((I(A) (A(I(A)))_{4,1})
((I(A(I(A))) (I(A)) _{3,4})		(A(I(A))*A _{2,1})
$\land \gg ((I(A)(I(A)))_{1,3,4})$ (A*A(I(A))_{1,2})	×	$\land \gg ((I(A)(I(A)))_{4,3,1})$ ((I(A) (I(A(I(A)))))_{4,3})
(A*A(I(A)) _{1,2})		((I(A) (A(I(A))) _{4,1})
$\land \gg ((I(A)(I(A)))_{1,3,4})$ ((A(I(A))((I(A))_{1,4})	×	$egin{array}{l} & \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ $
((I(A(I(A))) (I(A)) _{3,4})		((I(A) (A(I(A))) _{4,1})
$\land \gg ((I(A)(I(A)))_{1,3,4})$ ((A(I(A))((I(A))_{1,4})	×	$egin{array}{l} {} {} {} {} {} {} {} {} {} {} {} {} {}$
(A*A(I(A)) _{1,2})		((I(A) (I(A(I(A))))) _{4,3})
$\land \gg ((I(A)(I(A)))_{1,3,4})$ ((I(A(I(A))) (I(A))_{3,4})	×	$egin{array}{l} {} {} {} {} {} {} {} {} {} {} {} {} {}$
((A(I(A))((I(A)) _{1,4})		((I(A) (I(A(I(A))))) _{4,3})
$\wedge \gg ((I(A)(I(A)))_{1,3,4})$ ((I(A(I(A))) (I(A))_{3,4})	×	$egin{array}{l} {} {} {} {} {} {} {} {} {} {} {} {} {}$
Objectal action		
((I(A)(I(A))) _{1,3,4})		(A(I(A))*A _{2,1})
$\land \gg ((A(I(A)))((I(A))_{1,4})$ (A*A(I(A))_{1,2}))	$ \ \ \ \ \ \ \ \ \ \ \ \ \ $
((I(A(I(A))) (I(A)) _{3,4})		(A(I(A))*A _{2,1})
$\land \gg ((A(I(A)))((I(A))_{1,4})$ (A*A(I(A))_{1,2}))	× $\land \gg ((I(A) (A(I(A)))_{4,1}))$ $((I(A) (I(A(I(A))))_{4,3}))$
(A*A(I(A)) _{1,2})		((I(A)(I(A))) _{4,3,1})
$ \land \gg ((A(I(A)))((I(A))_{1,4}) \\ ((I(A)(I(A)))_{1,3,4}) $	2	× $\land \gg ((I(A) (A(I(A)))_{4,1}) (A(I(A))^*A_{2,1})$

 $((I(A(I(A))) (I(A))_{3,4}))$ $((I(A)(I(A)))_{4,3,1})$ $\land \gg ((A(I(A)))((I(A))_{1.4}))$ Х $h \gg ((I(A) (A(I(A)))_{4.1}))$ $((I(A)(I(A)))_{1,3,4})$ $((I(A) (I(A(I(A)))))_{4,3})$ $((I(A)(I(A)))_{1,3,4})$ $((I(A) (I(A(I(A)))))_{4,3})$ $\land \gg ((A(I(A)))((I(A))_{1.4}))$ $h \gg ((I(A) (A(I(A)))_{4.1}))$ Х $((I(A(I(A))) (I(A))_{3,4}))$ $((I(A)(I(A)))_{4,3,1})$ $(A^*A(I(A))_{1,2})$ $((I(A) (I(A(I(A)))))_{4,3})$ $h \gg ((A(I(A)))((I(A))_{1.4}))$ $h \gg ((I(A) (A(I(A)))_{4.1}))$ × $((I(A(I(A))) (I(A))_{3,4}))$ $(A(I(A))*A_{2,1})$ Interpretative action $((A(I(A)))((I(A))_{1,4}))$ $(A(I(A))*A_{2,1})$ $\land \gg ((I(A(I(A))) (I(A))_{3,4}))$ Х $\land \gg ((I(A) (I(A(I(A)))))_{4,3})$ $(A^*A(I(A))_{1,2})$ $((I(A) (A(I(A)))_{4,1}))$ $((I(A)(I(A)))_{1.3.4})$ $((I(A)(I(A)))_{4,3,1})$ $\land \gg ((I(A(I(A))) (I(A))_{3,4}))$ $h \gg ((I(A(I(A))) (I(A))_{4,3}))$ Х $(A^*A(I(A))_{1,2})$ $(A^*A(I(A))_{1.2})$ $((A(I(A)))((I(A))_{1,4}))$ $((I(A)(I(A)))_{4,3,1})$ $h \gg ((I(A(I(A))) (I(A))_{3.4}))$ \times $\land \gg ((I(A) (I(A(I(A)))))_{4,3})$ $((I(A) (A(I(A)))_{4,1}))$ $((I(A)(I(A)))_{1,3,4})$ $(A^*A(I(A))_{1,2})$ $((I(A)(I(A)))_{4,3,1})$ $\land \gg ((I(A(I(A))) (I(A))_{3.4}))$ $\land \gg ((I(A) (I(A(I(A)))))_{4,3})$ × $((I(A)(I(A)))_{1,3,4})$ $(A(I(A))^*A_{2,1})$ $((I(A)(I(A)))_{1,3,4})$ $((I(A) (A(I(A)))_{4,1}))$ $\land \gg ((I(A(I(A))) (I(A))_{3.4}))$ $\land \gg ((I(A) (I(A(I(A)))))_{4,3})$ Х $((A(I(A)))((I(A))_{1,4}))$ $((I(A)(I(A)))_{4,3,1})$ $(A^*A(I(A))_{1.2})$ $((I(A) (A(I(A)))_{4.1}))$ $h \gg ((I(A(I(A))) (I(A))_{3,4}))$ \times $\land \gg ((I(A) (I(A(I(A)))))_{4,3})$ $((A(I(A)))((I(A))_{1,4}))$ $(A(I(A))^*A_{2,1})$

 $\begin{array}{l} ((I(A(I(A))) \ (I(A))_{3,4} \ (A(I(A)))((I(A))_{1,4} \ (I(A)(I(A)))_{1,3,4} \ A^*I(A(I(A)))_{2,3}) \times (I(A(I(A)))^*A_{3,2} \ (I(A)(I(A)))_{4,3,1} \ (I(A) \ (A(I(A)))_{4,1} \ (I(A) \ (I(A(I(A))))_{4,3}) \end{array}$

Qualitative Action

$((A(I(A))((I(A))_{1,4}))$ $\land \gg (A^*I(A(I(A)))_{2,3})$ $((I(A)(I(A)))_{1,3,4})$	×	$((I(A)(I(A)))_{4,3,1})$ $\land \gg (I(A(I(A)))^*A_{3,2})$ $((I(A) (A(I(A)))_{4,1})$
$((I(A(I(A))) (I(A))_{3,4}))$ $\land \gg (A^*I(A(I(A)))_{2,3})$ $((I(A)(I(A)))_{1,3,4})$	×	$((I(A)(I(A)))_{4,3,1})$ $\land \gg (I(A(I(A)))^*A_{3,2})$ $((I(A) (I(A(I(A)))))_{4,3})$
((I(A)(I(A))) _{1,3,4}) 人 ≫ (A*I(A(I(A))) _{2,3}) ((A(I(A))((I(A)) _{1,4})	×	$\begin{array}{l} ((I(A)\;(A(I(A)))_{4,1}) \\ \land \gg (I(A(I(A)))^*A_{3,2}) \\ ((I(A)(I(A)))_{4,3,1}) \end{array}$
((I(A(I(A))) (I(A)) _{3,4}) ∧ ≫ (A*I(A(I(A))) _{2,3}) ((A(I(A))((I(A)) _{1,4})	×	$\begin{array}{c} (({\rm I}({\rm A})\;({\rm A}({\rm I}({\rm A})))_{4,1})\\ \land \gg ({\rm I}({\rm A}({\rm I}({\rm A})))^*{\rm A}_{3,2})\\ (({\rm I}({\rm A})\;({\rm I}({\rm A}({\rm I}({\rm A})))))_{4,3})\end{array}$
((I(A)(I(A))) _{1,3,4}) 人 ≫ (A*I(A(I(A))) _{2,3}) ((I(A(I(A))) (I(A)) _{3,4})	×	$\begin{array}{l} ((I(A)\;(I(A(I(A)))))_{4,3}) \\ \land \gg (I(A(I(A)))^*A_{3,2}) \\ ((I(A)(I(A)))_{4,3,1}) \end{array}$
((A(I(A))((I(A)) _{1,4}) 人 ≫ (A*I(A(I(A))) _{2,3}) ((I(A(I(A))) (I(A)) _{3,4})	×	$\begin{array}{l} ((I(A)\;(I(A(I(A)))))_{4,3}) \\ \land \gg (I(A(I(A)))^*A_{3,2}) \\ ((I(A)\;(A(I(A)))_{4,1}) \end{array}$
Medial action		
((A(I(A))((I(A)) _{1,4}) 人 ≫ ((I(A)(I(A))) _{1,3,4}) (A*I(A(I(A))) _{2,3})	×	$(I(A(I(A)))^*A_{3,2})$ $\land \gg ((I(A)(I(A)))_{4,3,1})$ $((I(A) (A(I(A)))_{4,1})$

 $\begin{array}{ll} ((I(A(I(A))) (I(A))_{3,4}) & (I(A(I(A)))^*A_{3,2}) \\ & \wedge \gg ((I(A)(I(A)))_{1,3,4}) & \times & \wedge \gg ((I(A)(I(A)))_{4,3,1}) \\ (A^*I(A(I(A)))_{2,3}) & ((I(A) (I(A(I(A))))_{4,3}) \end{array}$

(A*I(A(I(A))) _{2,3})	×	$\begin{array}{l} ((I(A) \ (A(I(A)))_{4,1}) \\ \land \gg ((I(A)(I(A)))_{4,3,1}) \\ (I(A(I(A)))^*A_{3,2}) \end{array}$
$\begin{array}{l} ((I(A(I(A)))\;(I(A))_{3,4}) \\ \land \gg ((I(A)(I(A)))_{1,3,4}) \\ ((A(I(A))((I(A))_{1,4}) \end{array}$	×	$\begin{array}{c} ((I(A)\;(A(I(A)))_{4,1}) \\ \land \gg ((I(A)(I(A)))_{4,3,1}) \\ ((I(A)\;(I(A(I(A)))))_{4,3}) \end{array}$
(A*I(A(I(A))) _{2,3})	×	$\begin{array}{l} ((I(A)\;(I(A(I(A)))))_{4,3}) \\ \land \gg ((I(A)(I(A)))_{4,3,1}) \\ (I(A(I(A)))^*A_{3,2}) \end{array}$
$\begin{array}{l} ((A(I(A))((I(A))_{1,4}) \\ \land \gg ((I(A)(I(A)))_{1,3,4}) \\ ((I(A(I(A))) \ (I(A))_{3,4}) \end{array}$	×	$\begin{array}{l} ((I(A)\;(I(A(I(A)))))_{4,3}) \\ \land \gg ((I(A)(I(A)))_{4,3,1}) \\ ((I(A)\;(A(I(A)))_{4,1}) \end{array}$
Objectal action		
$((I(\Delta)(I(\Delta)))_{i \in A})$		$(I(\Delta(I(\Delta)))*\Delta_{\alpha,\alpha})$

	(I(A(I(A)))*A _{3,2})
×	
	(I(A(I(A)))*A ₃
×	
	((I(A)(I(A))) _{4,3,1})
×	人 ≫ ((I(A) (A(I((I(A(I(A)))*A _{3,2})
	((I(A)(I(A))) _{4,3}
×	人 ≫ ((I(A) (A(I(((I(A) (I(A(I(A))))))
	((I(A) (I(A(I(A)))))
×	人 ≫ ((I(A) (A(I(((I(A)(I(A))) _{4,3}
	((I(A) (I(A(I(A)))))
×	
	× × ×

((I(A(I(A))) (I(A))_{3,4})

I(A)))_{4,1}) 3,2**)** I(A)))_{4,1})

)_{4,3})

I(A)))_{4,1})

,3,1**)** I(A)))_{4,1}))_{4,3})

)_{3,4}) I(A)))_{4,1}) ,3,1**)**

)_{4,3}) I(A)))_{4,1}) (I(A(I(A)))*A_{3,2})

Interpretative action

$\begin{array}{l} ((A(I(A)))((I(A))_{1,4}) \\ \land \gg ((I(A(I(A))))(I(A))_{3,4}) \\ (A^*I(A(I(A)))_{2,3}) \end{array}$	×	(I(A(I(A)))*A _{3,2})
$\begin{array}{l} ((I(A)(I(A)))_{1,3,4}) \\ \land \gg ((I(A(I(A))) (I(A))_{3,4}) \\ (A^*I(A(I(A)))_{2,3}) \end{array}$	×	$\begin{array}{l} (I(A(I(A)))^*A_{3,2}) \\ \land \gg ((I(A) \; (I(A(I(A)))))_{4,3}) \\ ((I(A)(I(A)))_{4,3,1}) \end{array}$
$\begin{array}{l} ((A(I(A)))((I(A))_{1,4}) \\ \land \gg ((I(A(I(A))) (I(A))_{3,4}) \\ ((I(A)(I(A)))_{1,3,4}) \end{array}$	×	$\begin{array}{l} ((I(A)(I(A)))_{4,3,1}) \\ \land \gg ((I(A) (I(A(I(A)))))_{4,3}) \\ ((I(A) (A(I(A)))_{4,1}) \end{array}$
$(A^*I(A(I(A)))_{2,3})$ $\land \gg ((I(A(I(A))) (I(A))_{3,4})$ $((I(A)(I(A)))_{1,3,4})$	×	$\begin{array}{l} ((I(A)(I(A)))_{4,3,1}) \\ \land \gg ((I(A) (I(A(I(A)))))_{4,3}) \\ (I(A(I(A)))^*A_{3,2}) \end{array}$
$\begin{array}{l} ((I(A)(I(A)))_{1,3,4}) \\ \land \gg ((I(A(I(A))) (I(A))_{3,4}) \\ ((A(I(A))((I(A))_{1,4}) \end{array}$	×	$\begin{array}{l} ((I(A) \ (A(I(A)))_{4,1}) \\ \land \gg ((I(A) \ (I(A(I(A)))))_{4,3}) \\ ((I(A)(I(A)))_{4,3,1}) \end{array}$
(A*I(A(I(A))) _{2,3})	×	$\begin{array}{l} ((I(A)\;(A(I(A)))_{4,1}) \\ \land \gg ((I(A)\;(I(A(I(A)))))_{4,3}) \\ (I(A(I(A)))^*A_{3,2}) \end{array}$

4. Pre-semiotic dual system

 $((I(A(I(A))) (I(A))_{3,4} (A(I(A))((I(A))_{1,4} (I(A) (A(I(A)))_{1,4} A^*A(I(A))_{1,2}) \times (A(I(A))^*A_{2,1} (A(I(A)))((I(A))_{4,1} (I(A) (A(I(A)))_{4,1} (I(A) (I(A(I(A))))_{4,3}) \times (A(I(A))^*A_{2,1} (I(A) (A(I(A)))_{4,1} (I(A) (A(I(A)))_{4,3}) \times (A(I(A))^*A_{2,1} (I(A) (A(I(A))))_{4,3}) \times (A(I(A))^*A_{2,1} (I(A) (A(I(A)))_{4,3}) \times (A(I(A))^*A_{2,1} (I(A) (A(I(A))))_{4,3}) \times (A(I(A))^*A_{2,1} (I(A)))_{4,3}) \times (A(I(A)))_{4,3}) \times (A(I(A)))_{4,3}) \times (A(I(A)))_{4,3}) \times (A(I(A))^*A_{2,1} (I(A)))_{4,3}) \times (A(I(A)))_{4,3}) \times (A(I(A)))) \times (A(I(A))) \times (A(I(A)))) \times (A(I($

((A(I(A))((I(A)) _{1,4})		((A(I(A))((I(A)) _{4,1})
$ m A \gg (A^*A(I(A))_{1,2})$	×	$ m A \gg (A(I(A))^*A_{2,1})$
((I(A) (A(I(A))) _{1,4})		((I(A) (A(I(A))) _{4,1})
((I(A(I(A))) (I(A)) _{3,4})		((A(I(A))((I(A)) _{4,1})
$\wedge \gg (A^*A(I(A))_{1,2})$	×	$\wedge \gg (A(I(A))^*A_{2,1})$
$((I(A) (A(I(A)))_{1,4}))$		((I(A) (I(A(I(A))))) _{4,3})

$\begin{array}{l} (({\rm I}({\rm A})~({\rm A}({\rm I}({\rm A})))_{1,4}) \\ \land \gg ({\rm A}^*{\rm A}({\rm I}({\rm A}))_{1,2}) \\ (({\rm A}({\rm I}({\rm A}))(({\rm I}({\rm A}))_{1,4}) \end{array}$	×	$\begin{array}{c} ((I(A)\;(A(I(A)))_{4,1}) \\ \land \gg (A(I(A))^*A_{2,1}) \\ ((A(I(A))((I(A))_{4,1}) \end{array}$
$\begin{array}{l} ((I(A(I(A))) \ (I(A))_{3,4}) \\ \land \gg (A^*A(I(A))_{1,2}) \\ ((A(I(A))((I(A))_{1,4}) \end{array}$	×	$\begin{array}{c} (({\sf I}({\sf A})\;({\sf A}({\sf I}({\sf A})))_{4,1})\\ \land \gg ({\sf A}({\sf I}({\sf A}))^*{\sf A}_{2,1})\\ (({\sf I}({\sf A})\;({\sf I}({\sf A}({\sf I}({\sf A})))))_{4,3})\end{array}$
$\begin{array}{l} (({\sf I}({\sf A})\;({\sf A}({\sf I}({\sf A})))_{1,4})\\ \land \gg ({\sf A}^*{\sf A}({\sf I}({\sf A}))_{1,2})\\ (({\sf I}({\sf A}({\sf I}({\sf A})))\;({\sf I}({\sf A}))_{3,4})\end{array}$	×	$\begin{array}{c} ((I(A)\;(I(A(I(A)))))_{4,3}) \\ \land \gg (A(I(A))^*A_{2,1}) \\ ((A(I(A))((I(A))_{4,1}) \end{array}$
$\begin{array}{l} ((A(I(A)))((I(A))_{1,4}) \\ \land \gg (A^*A(I(A))_{1,2}) \\ ((I(A(I(A))) (I(A))_{3,4}) \end{array}$	×	$\begin{array}{c} ((I(A)\;(I(A(I(A)))))_{4,3}) \\ \land \gg (A(I(A))^*A_{2,1}) \\ ((I(A)\;(A(I(A)))_{4,1}) \end{array}$

Medial action

((A(I(A))((I(A)) _{1,4})		(A(I(A))*A _{2,1})
$\wedge \gg ((I(A) (A(I(A)))_{1,4})$	×	$\wedge \gg ((A(I(A))((I(A))_{4,1})$
(A*A(I(A)) _{1,2})		((I(A) (A(I(A))) _{4,1})
((I(A(I(A))) (I(A)) _{3,4})		(A(I(A))*A _{2,1})
$ imes \gg$ ((I(A) (A(I(A))) _{1,4})	×	$\wedge \gg ((A(I(A))((I(A))_{4,1})$
(A*A(I(A)) _{1,2})		((I(A) (I(A(I(A))))) _{4,3})
(A*A(I(A)) _{1,2})		((I(A) (A(I(A))) _{4,1})
$\wedge \gg ((I(A) (A(I(A)))_{1,4})$	×	$\wedge \gg ((A(I(A))((I(A))_{4,1})$
((A(I(A))((I(A)) _{1,4})		(A(I(A))*A _{2,1})
((I(A(I(A))) (I(A)) _{3,4})		((I(A) (A(I(A))) _{4,1})
$\wedge \gg ((I(A) (A(I(A)))_{1,4})$	×	$\wedge \gg ((A(I(A))((I(A))_{4,1})$
((A(I(A))((I(A)) _{1,4})		((I(A) (I(A(I(A))))) _{4,3})
(A*A(I(A)) _{1,2})		((I(A) (I(A(I(A))))) _{4,3})
$\wedge \gg ((I(A) (A(I(A)))_{1,4})$	×	$\wedge \gg ((A(I(A))((I(A))_{4,1})$
((I(A(I(A))) (I(A)) _{3,4})		(A(I(A))*A _{2,1})
((A(I(A))((I(A)) _{1,4})		((I(A) (I(A(I(A))))) _{4,3})
$\wedge \gg ((I(A) (A(I(A)))_{1,4})$	×	$\wedge \gg ((A(I(A))((I(A))_{4,1})$
((I(A(I(A))) (I(A)) _{3,4})		((I(A) (A(I(A))) _{4,1})

Objectal action

((I(A) (A(I(A))) _{1,4})		(A(I(A))*A _{2,1})
$\land \gg ((A(I(A))((I(A))_{1,4})$	×	人 ≫ ((I(A) (A(I(A))) _{4.1})
$(A^*A(I(A))_{1,2})$		((A(I(A))((I(A)) _{4,1})
((I(A(I(A))) (I(A)) _{3,4})		(A(I(A))*A _{2.1})
$\land \gg ((A(I(A)))((I(A))_{1,4}))$	×	$\land \gg ((I(A) (A(I(A)))_{4,1})$
$(A^*A(I(A))_{1,2})$	~	((I(A) (I(A))))) _{4,3})
(A*A(I(A)) _{1,2})		((A(I(A))((I(A)) _{4,1})
$\wedge \gg ((A(I(A))((I(A))_{1,4})$	×	$\wedge \gg ((I(A) (A(I(A)))_{4,1})$
((I(A) (A(I(A))) _{1,4})		(A(I(A))*A _{2,1})
((I(A(I(A))) (I(A)) _{3,4})		((A(I(A))((I(A)) _{4,1})
$\wedge \gg ((A(I(A))((I(A))_{1,4})$	×	$\wedge \gg ((I(A) \ (A(I(A)))_{4,1})$
((I(A) (A(I(A))) _{1,4})		((I(A) (I(A(I(A))))) _{4,3})
((I(A) (A(I(A))) _{1,4})		((I(A) (I(A(I(A))))) _{4,3})
$\wedge \gg ((A(I(A))((I(A))_{1,4})$	×	$\wedge \gg ((I(A) (A(I(A)))_{4,1})$
((I(A(I(A))) (I(A)) _{3,4})		((A(I(A))((I(A)) _{4,1})
(A*A(I(A)) _{1,2})		((I(A) (I(A(I(A))))) _{4,3})
$\wedge \gg ((A(I(A))((I(A))_{1,4})$	×	$ m A \gg$ ((I(A) (A(I(A))) _{4,1})
((I(A(I(A))) (I(A)) _{3,4})		(A(I(A))*A _{2,1})
Interpretative action		
((A(I(A))((I(A)) _{1,4})		(A(I(A))*A _{2,1})
$harphi \gg ((I(A(I(A))) (I(A))_{3,4}))$	×	$h \gg ((I(A) (I(A(I(A)))))_{4,3})$
(A*A(I(A)) _{1,2})		((I(A) (A(I(A))) _{4,1})
((I(A) (A(I(A))) _{1,4})		(A(I(A))*A _{2,1})
$\wedge \gg ((I(A(I(A))) (I(A))_{3,4})$	×	$harphi \gg ((I(A) (I(A(I(A)))))_{4,3})$
(A*A(I(A)) _{1,2})		((A(I(A))((I(A)) _{4,1})
((A(I(A))((I(A)) _{1,4})		((A(I(A))((I(A)) _{4,1})
$\wedge \gg ((I(A(I(A))) (I(A))_{3,4})$	×	$harphi \gg ((I(A) (I(A(I(A)))))_{4,3})$
$(1 \Lambda) (\Lambda(1 \Lambda))$		$((1 \land) \land (1 \land))$

((I(A) (A(I(A)))_{1,4})

((I(A) (A(I(A)))_{4,1})

(A*A(I(A)) _{1,2})		$((A(I(A)))((I(A))_{4,1})$
$\wedge \gg ((I(A(I(A))) \ (I(A))_{3,4})$	×	$\wedge \gg ((I(A) (I(A(I(A)))))_{4,3})$
((I(A) (A(I(A))) _{1,4})		(A(I(A))*A _{2,1})
((I(A) (A(I(A))) _{1,4})		((I(A) (A(I(A))) _{4,1})
$\wedge \gg ((I(A(I(A))) (I(A))_{3,4})$	×	$ m ((I(A)~(I(A(I(A)))))_{4,3})$
((A(I(A))((I(A)) _{1,4})		((A(I(A))((I(A)) _{4,1})
(A*A(I(A)) _{1,2})		((I(A) (A(I(A))) _{4,1})
$\wedge \gg$ ((I(A(I(A))) (I(A)) _{3,4})	×	$ m ((I(A) (I(A(I(A)))))_{4,3})$
((A(I(A))((I(A)) _{1,4})		(A(I(A))*A _{2,1})

 $((I(A(I(A))) (I(A))_{3,4} (A(I(A)))((I(A))_{1,4} (I(A) (A(I(A)))_{1,4} A^*I(A(I(A)))_{2,3}) \times (I(A(I(A)))^*A_{3,2} (A(I(A)))((I(A))_{4,1} (I(A) (A(I(A)))_{4,1} (I(A) (I(A(I(A))))_{4,3}) \times (I(A(I(A)))_{4,1} (I(A) (A(I(A)))_{4,1} (I(A) (A(I(A)))_{4,3}) \times (I(A(I(A)))_{4,1} (I(A) (A(I(A)))_{4,3}) \times (I(A(I(A)))_{4,1} (I(A) (A(I(A)))_{4,1} (I(A) (A(I(A)))_{4,3}) \times (I(A) (I(A))_{4,1} (I(A) (A(I(A)))_{4,3}) \times (I(A) (I(A))_{4,1} (I(A) (I(A))_{4,1} (I(A) (I(A))_{4,1} (I(A) (I(A))_{4,1}) \times (I(A) (I(A))_{4,3}) \times (I(A) (I(A))_{4,1} (I(A) (I(A))_{4,1} (I(A) (I(A))_{4,1} (I(A) (I(A))_{4,1}) \times (I(A))_{4,1} \times (I(A))_{4,1} (I(A) (I(A))_{4,1} (I(A) (I(A))_{4,1}) \times (I(A))_{4,1} \times (I(A))_{4$

((A(I(A))((I(A)) _{1,4})		((A(I(A))((I(A)) _{4,1})
$\land \gg (A*I(A(I(A)))_{2.3})$	×	$\land \gg (I(A(I(A)))^*A_{3,2})$
((I(A) (A(I(A))) _{1,4})		((I(A) (A(I(A))) _{4,1})
((I(A(I(A))) (I(A)) _{3,4})		((A(I(A))((I(A)) _{4,1})
$\land \gg (A*I(A(I(A)))_{2,3})$	×	$\wedge \gg (I(A(I(A)))^*A_{3,2})$
((I(A) (A(I(A))) _{1,4})		((I(A) (I(A(I(A))))) _{4,3})
((I(A) (A(I(A))) _{1,4})		((I(A) (A(I(A))) _{4,1})
((A(I(A))((I(A)) _{1,4})		((A(I(A))((I(A)) _{4,1})
((I(A(I(A))) (I(A)) _{3,4})		((I(A) (A(I(A))) _{4,1})
$\land \gg (A*I(A(I(A)))_{2,3})$	×	$\wedge \gg (I(A(I(A)))^*A_{3,2})$
((A(I(A))((I(A)) _{1,4})		((I(A) (I(A(I(A))))) _{4,3})
((I(A) (A(I(A))) _{1,4})		((I(A) (I(A(I(A))))) _{4,3})
人 ≫ (A*I(A(I(A))) _{2,3})	×	$\land \gg (I(A(I(A)))^*A_{3,2})$
((I(A(I(A))) (I(A)) _{3,4})		$((A(I(A)))((I(A))_{4,1})$
((A(I(A))((I(A)) _{1,4})		((I(A) (I(A(I(A))))) _{4,3})
$\wedge \gg (A*I(A(I(A)))_{2,3})$	×	$\land \gg (I(A(I(A)))^*A_{3,2})$
((I(A(I(A))) (I(A)) _{3,4})		$((I(A) (A(I(A)))_{4,1}))$

Medial action

$((A(I(A))((I(A))_{1,4}))$ $\land \gg ((I(A) (A(I(A)))_{1,4}))$ $(A^*I(A(I(A)))_{2,3})$	×	(I(A(I(A)))*A _{3,2})
$\begin{array}{l} ((I(A(I(A))) \ (I(A))_{3,4}) \\ \land \gg ((I(A) \ (A(I(A)))_{1,4}) \\ (A^*I(A(I(A)))_{2,3}) \end{array}$	×	$\begin{array}{l} (I(A(I(A)))^*A_{3,2}) \\ \land \gg ((A(I(A)))((I(A))_{4,1}) \\ ((I(A)\ (I(A(I(A)))))_{4,3}) \end{array}$
(A*I(A(I(A))) _{2,3})	×	((I(A) (A(I(A))) _{4,1})
$\begin{array}{l} ((I(A(I(A))) \ (I(A))_{3,4}) \\ \land \gg ((I(A) \ (A(I(A)))_{1,4}) \\ ((A(I(A))((I(A))_{1,4}) \end{array}$	×	$\begin{array}{l} ((I(A) \ (A(I(A)))_{4,1}) \\ \land \gg ((A(I(A))((I(A))_{4,1}) \\ ((I(A) \ (I(A(I(A)))))_{4,3}) \end{array}$
(A*I(A(I(A))) _{2,3})		$\begin{array}{l} ((I(A) \ (I(A(I(A)))))_{4,3}) \\ \land \gg \ ((A(I(A)))((I(A))_{4,1}) \\ \ (I(A(I(A)))^*A_{3,2}) \end{array}$
$\begin{array}{l} ((A(I(A))((I(A))_{1,4}) \\ \land \gg ((I(A) \ (A(I(A)))_{1,4}) \\ ((I(A(I(A))) \ (I(A))_{3,4}) \end{array}$	×	((I(A) (I(A(I(A))))) _{4,3}) ∧(A(I(A))((I(A)) _{4,1}) ((I(A) (A(I(A))) _{4,1})
Objectal action		
$\begin{array}{l} ((I(A)\;(A(I(A)))_{1,4}) \\ \land \gg ((A(I(A)))((I(A))_{1,4}) \\ (A^*I(A(I(A)))_{2,3}) \end{array}$	×	(I(A(I(A)))*A _{3,2})
$\begin{array}{l} ((I(A(I(A))) \ (I(A))_{3,4}) \\ \land \gg ((A(I(A)))((I(A))_{1,4}) \\ (A^*I(A(I(A)))_{2,3}) \end{array}$	×	$\begin{array}{l} (I(A(I(A)))^*A_{3,2}) \\ \land \gg ((I(A)\;(A(I(A)))_{4,1}) \\ ((I(A)\;(I(A(I(A)))))_{4,3}) \end{array}$
$(A^*I(A(I(A)))_{2,3})$ $\land \gg ((A(I(A)))((I(A))_{1,4})$ $((I(A) (A(I(A)))_{1,4})$	×	((A(I(A))((I(A)) _{4,1})

 $((I(A(I(A))) (I(A))_{3,4}))$ $((A(I(A)))((I(A))_{4,1}))$ $h \gg ((A(I(A)))((I(A))_{1.4}))$ \times $h \gg ((I(A) (A(I(A)))_{4.1}))$ $((I(A) (A(I(A)))_{1,4}))$ $((I(A) (I(A(I(A)))))_{4,3})$ $((I(A) (A(I(A)))_{1,4}))$ $((I(A) (I(A(I(A)))))_{4,3})$ $\land \gg ((A(I(A)))((I(A))_{1.4}))$ $h \gg ((I(A) (A(I(A)))_{4.1}))$ Х $((I(A(I(A))) (I(A))_{3,4}))$ $((A(I(A)))((I(A))_{4,1}))$ $(A^*I(A(I(A)))_{2,3})$ $((I(A) (I(A(I(A)))))_{4,3})$ $h \gg ((A(I(A)))((I(A))_{1.4}))$ $h \gg ((I(A) (A(I(A)))_{4.1}))$ × $((I(A(I(A))) (I(A))_{3,4}))$ $(I(A(I(A)))*A_{3,2})$ Interpratative action $((A(I(A)))((I(A))_{1,4}))$ $(I(A(I(A)))*A_{3,2})$ $\land \gg ((I(A(I(A))) (I(A))_{3,4}))$ Х $\land \gg ((I(A) (I(A(I(A)))))_{4,3})$ $(A*I(A(I(A)))_{2,3})$ $((I(A) (A(I(A)))_{4,1})$ $((I(A) (A(I(A)))_{1.4}))$ $(I(A(I(A)))*A_{3,2})$ $\land \gg ((I(A(I(A))) (I(A))_{3,4}))$ $\land \gg ((I(A) (I(A(I(A)))))_{4,3})$ Х $(A^*I(A(I(A)))_{2,3})$ $((A(I(A)))((I(A))_{4,1}))$ $((A(I(A)))((I(A))_{1,4}))$ $((A(I(A)))((I(A))_{4,1}))$ $h \gg ((I(A(I(A))) (I(A))_{3.4}))$ $\land \gg ((I(A) (I(A(I(A)))))_{4,3})$ Х $((I(A) (A(I(A)))_{1,4}))$ $((I(A) (A(I(A)))_{4,1}))$ $(A^*I(A(I(A)))_{2,3})$ $((A(I(A)))((I(A))_{4,1}))$ $\land \gg ((I(A) (I(A(I(A)))))_{4,3})$ $\land \gg ((I(A(I(A))) (I(A))_{3,4}))$ Х $((I(A) (A(I(A)))_{1,4}))$ $(I(A(I(A)))*A_{3,2})$ $((I(A) (A(I(A)))_{1,4}))$ $((I(A) (A(I(A)))_{4,1}))$ $\land \gg ((I(A(I(A))) (I(A))_{3,4}))$ $h \gg ((I(A) (I(A(I(A)))))_{4.3})$ Х $((A(I(A)))((I(A))_{1,4}))$ $((A(I(A)))((I(A))_{4,1}))$ $((I(A) (A(I(A)))_{4.1}))$ $(A*I(A(I(A)))_{2,3})$ $h \gg ((I(A(I(A))) (I(A))_{3,4}))$ \times $\land \gg ((I(A) (I(A(I(A)))))_{4,3})$ $((A(I(A)))((I(A))_{1,4}))$ $(I(A(I(A)))*A_{3,2})$

14

 $((I(A(I(A))) (I(A))_{3,4} (A(I(A))((I(A))_{1,4} (I(A) (I(A(I(A))))_{3,4} A^*I(A(I(A)))_{2,3}) \times (I(A(I(A)))^*A_{3,2} (I(A(I(A))) (I(A))_{4,3} (I(A) (A(I(A)))_{4,1} (I(A) (I(A(I(A))))_{4,3}))))$

Qualitative action

((A(I(A))((I(A)) _{1,4})		((I(A(I(A))) (I(A)) _{4,3})
人 ≫ (A*I(A(I(A))) _{2.3})	×	$\land \gg (I(A(I(A)))^*A_{3,2})$
((I(A) (I(A(I(A))))) _{3,4})		$((I(A) (A(I(A)))_{4,1}))$
((I(A(I(A))) (I(A)) _{3,4})		((I(A(I(A))) (I(A)) _{4,3})
人 ≫ (A*I(A(I(A))) _{2,3})	×	$\land \gg (I(A(I(A)))^*A_{3,2})$
((I(A) (I(A(I(A))))) _{3,4})		((I(A) (I(A(I(A))))) _{4,3})
((I(A) (I(A(I(A))))) _{3,4})		((I(A) (A(I(A))) _{4,1})
$\wedge \gg (A*I(A(I(A)))_{2,3})$	×	$\wedge \gg (I(A(I(A)))^*A_{3,2})$
((A(I(A))((I(A)) _{1,4})		((I(A(I(A))) (I(A)) _{4,3})
((I(A(I(A))) (I(A)) _{3,4})		((I(A) (A(I(A))) _{4,1})
$\land \gg (A^*I(A(I(A)))_{2,3})$	X	$\land \gg (I(A(I(A)))^*A_{3,2})$
((A(I(A))((I(A)) _{1.4})	~	$((I(A) (I(A(I(A)))))_{4,3})$
((, (, (, , ,))((, , ,))),4)		(((('))))))))))))))))))))))))))))))))))
((I(A) (I(A(I(A))))) _{3,4})		((I(A) (I(A(I(A))))) _{4,3})
$\wedge \gg (A*I(A(I(A)))_{2,3})$	×	$\wedge \gg (I(A(I(A)))^*A_{3,2})$
((I(A(I(A))) (I(A)) _{3,4})		((I(A(I(A))) (I(A)) _{4,3})
((A(I(A))((I(A)) _{1,4})		((I(A) (I(A(I(A))))) _{4,3})
人 ≫ (A*I(A(I(A))) _{2,3})	×	人》(I(A(I(A)))*A _{3,2})
((I(A(I(A))) (I(A)) _{3,4})	~	$((I(A) (A(I(A)))_{4,1}))$
Medial action		
((A(I(A))((I(A)) _{1,4})		(I(A(I(A)))*A _{3,2})
人 ≫ ((I(A) (I(A(I(A))))) _{3,4}	1) ×	人 ≫ ((I(A(I(A))) (I(A)) _{4,}
	+/ //	((1,1,1),(1,1),(1,

 $\land \gg ((I(A) (I(A(I(A)))))_{3,4}) \times (A^*I(A(I(A)))_{2,3})$

 $\begin{array}{ll} ((I(A(I(A))) (I(A))_{3,4}) & (I(A(I(A)))_{3,4}) \\ & \wedge \gg ((I(A) (I(A(I(A))))_{3,4}) & \times & \wedge \gg ((I(A(I(A)))_{2,3}) \\ & ((I(A) (I(A))_{2,3}) & ((I(A) (I(A(I(A)))_{2,3}))_{3,4}) \\ \end{array}$

 $\wedge \gg ((I(A(I(A))) (I(A))_{4,3}) \\ ((I(A) (A(I(A)))_{4,1}) \\ (I(A(I(A)))^*A_{3,2})$

$$\land \gg ((I(A(I(A))) (I(A))_{4,3}) \\ I(A) (I(A(I(A))))_{4,3})$$

 $(A^*I(A(I(A)))_{2,3})$ $((I(A) (A(I(A)))_{4,1}))$ $\land \gg ((I(A) (I(A(I(A)))))_{3,4})$ \times $h \gg ((I(A(I(A))) (I(A))_{4.3}))$ $(I(A(I(A)))*A_{3,2})$ $((A(I(A)))((I(A))_{1,4}))$ $((I(A(I(A))) (I(A))_{3,4}))$ $((I(A) (A(I(A)))_{4,1})$ $\land \gg ((I(A) (I(A(I(A)))))_{3,4})$ $\land \gg ((I(A(I(A))) (I(A))_{4.3}))$ Х $((A(I(A)))((I(A))_{1,4}))$ $((I(A) (I(A(I(A)))))_{4,3})$ $(A^*I(A(I(A)))_{2,3})$ $((I(A) (I(A(I(A)))))_{4,3})$ $\land \gg ((I(A) (I(A(I(A)))))_{3,4})$ $\land \gg ((I(A(I(A))) (I(A))_{4.3}))$ Х $((I(A(I(A))) (I(A))_{3,4}))$ $(I(A(I(A)))*A_{3,2})$ $((A(I(A)))((I(A))_{1,4}))$ $((I(A) (I(A(I(A)))))_{4,3})$ $h \gg ((I(A) (I(A(I(A)))))_{3,4})$ $\land \gg ((I(A(I(A))) (I(A))_{4,3}))$ Х $((I(A(I(A))) (I(A))_{3,4}))$ $((I(A) (A(I(A)))_{4,1}))$ **Objectal** action $((I(A) (I(A(I(A)))))_{3,4})$ $(I(A(I(A)))*A_{3,2})$ $h \gg ((I(A) (A(I(A)))_{4,1}))$ $\land \gg ((A(I(A)))((I(A))_{1.4}))$ \times $(A^*I(A(I(A)))_{2,3})$ $((I(A(I(A))) (I(A))_{4,3}))$ $((I(A(I(A))) (I(A))_{3,4}))$ $(I(A(I(A)))*A_{3,2})$ $h \gg ((A(I(A)))((I(A))_{1.4}))$ \times $h \gg ((I(A) (A(I(A)))_{4.1}))$ $(A*I(A(I(A)))_{2,3})$ $((I(A) (I(A(I(A)))))_{4,3})$ $(A^*I(A(I(A)))_{2,3})$ $((I(A(I(A))) (I(A))_{4,3}))$ $h \gg ((I(A) (A(I(A)))_{4.1}))$ $\land \gg ((A(I(A)))((I(A))_{1.4}))$ × $((I(A) (I(A(I(A)))))_{3,4})$ $(I(A(I(A)))*A_{3,2})$ $((I(A(I(A))) (I(A))_{3,4}))$ $((I(A(I(A))) (I(A))_{4,3}))$ $\land \gg ((A(I(A)))((I(A))_{1.4}))$ $\land \gg ((I(A) (A(I(A)))_{4,1}))$ Х $((I(A) (I(A(I(A)))))_{3,4})$ $((I(A) (I(A(I(A)))))_{4,3})$ $((I(A) (I(A(I(A)))))_{3,4})$ $((I(A) (I(A(I(A)))))_{4,3})$ $h \gg ((A(I(A)))((I(A))_{1,4}))$ \times $h \gg ((I(A) (A(I(A)))_{4.1}))$ $((I(A(I(A))) (I(A))_{3,4}))$ $((I(A(I(A))) (I(A))_{4,3}))$ $(A*I(A(I(A)))_{2,3})$ $((I(A) (I(A(I(A)))))_{4,3})$ $h \gg ((A(I(A)))((I(A))_{1,4}))$ $h \gg ((I(A) (A(I(A)))_{4,1}))$ Х $((I(A(I(A))) (I(A))_{3,4}))$ $(I(A(I(A)))*A_{3,2})$

Interpretative action

$\begin{array}{l} ((A(I(A)))((I(A))_{1,4}) \\ \land \gg ((I(A(I(A))))(I(A))_{3,4}) \\ (A^*I(A(I(A)))_{2,3}) \end{array}$	×	$\begin{array}{l} (I(A(I(A)))^*A_{3,2}) \\ \land \gg ((I(A)\;(I(A(I(A)))))_{4,3}) \\ ((I(A)\;(A(I(A)))_{4,1}) \end{array}$
$\begin{array}{l} ((I(A) (I(A(I(A)))))_{3,4}) \\ \land \gg ((I(A(I(A))) (I(A))_{3,4}) \\ (A^*I(A(I(A)))_{2,3}) \end{array}$	×	$(I(A(I(A)))^*A_{3,2})$ $\land \gg ((I(A) (I(A(I(A)))))_{4,3})$ $((I(A(I(A))) (I(A))_{4,3})$
$\begin{array}{l} ((A(I(A))((I(A))_{1,4}) \\ \land \gg ((I(A(I(A))))(I(A))_{3,4}) \\ ((I(A)(I(A(I(A)))))_{3,4}) \end{array}$	×	$\begin{array}{l} ((I(A(I(A))) \ (I(A))_{4,3}) \\ \land \gg ((I(A) \ (I(A(I(A)))))_{4,3}) \\ \ ((I(A) \ (A(I(A)))_{4,1}) \end{array}$
(A*I(A(I(A))) _{2,3})	×	$\begin{array}{l} ((I(A(I(A))) \ (I(A))_{4,3}) \\ \land \gg ((I(A) \ (I(A(I(A)))))_{4,3}) \\ (I(A(I(A)))^*A_{3,2}) \end{array}$
$\begin{array}{l} ((I(A) (I(A(I(A)))))_{3,4}) \\ \land \gg ((I(A(I(A))) (I(A))_{3,4}) \\ ((A(I(A)))((I(A))_{1,4}) \end{array}$	×	$\begin{array}{c} ((I(A) \ (A(I(A)))_{4,1}) \\ \land \gg ((I(A) \ (I(A(I(A))))_{4,3}) \\ ((I(A(I(A))) \ (I(A))_{4,3}) \end{array}$
(A*I(A(I(A))) _{2,3})	×	$\begin{array}{l} ((I(A) \; (A(I(A)))_{4,1}) \\ \land \gg ((I(A) \; (I(A(I(A)))))_{4,3}) \\ (I(A(I(A)))^* A_{3,2}) \end{array}$

7. Pre-semiotic dual system

 $((I(A(I(A))) (I(A))_{3,4} (A(I(A)) (A(I(A)))_{1,2,4} (I(A) (A(I(A)))_{1,4} A^*A(I(A))_{1,2}) \times (A(I(A))^*A_{2,1} (A(I(A))((I(A))_{4,1} (A(I(A)) (A(I(A)))_{4,2,1} (I(A) (I(A(I(A)))_{4,3}))))))) \\$

((A(I(A)) (A(I(A))) _{1,2,4})		((A(I(A))((I(A)) _{4,1})
$\wedge \gg (A^*A(I(A))_{1,2})$	×	$\wedge \gg (A(I(A))^*A_{2,1})$
((I(A) (A(I(A))) _{1,4})		((A(I(A)) (A(I(A))) _{4,2,1})
((I(A(I(A))) (I(A)) _{3,4})		((A(I(A))((I(A)) _{4,1})
$\wedge \gg (A*A(I(A))_{1,2})$	×	$\wedge \gg (A(I(A))^*A_{2,1})$
		((()) =)=)

$\begin{array}{l} ((I(A) (A(I(A)))_{1,4}) \\ \land \gg (A^*A(I(A))_{1,2}) \\ ((A(I(A)) (A(I(A)))_{1,2,4}) \end{array}$	×	$((A(I(A)) (A(I(A)))_{4,2,1}))$ $\land \gg (A(I(A))^*A_{2,1})$ $((A(I(A)))((I(A))_{4,1}))$
$\begin{array}{l} ((I(A(I(A))) \ (I(A))_{3,4}) \\ \land \gg (A^*A(I(A))_{1,2}) \\ ((A(I(A)) \ (A(I(A)))_{1,2,4}) \end{array}$	×	$\begin{array}{l} ((A(I(A))\ (A(I(A)))_{4,2,1}) \\ \land \gg (A(I(A))^*A_{2,1}) \\ ((I(A)\ (I(A(I(A)))))_{4,3}) \end{array}$
$\begin{array}{l} ((I(A) (A(I(A)))_{1,4}) \\ \land \gg (A^*A(I(A))_{1,2}) \\ ((I(A(I(A))) (I(A))_{3,4}) \end{array}$	×	$((I(A) (I(A(I(A)))))_{4,3})$ $\land \gg (A(I(A))^*A_{2,1})$ $((A(I(A)))((I(A))_{4,1})$
$\begin{array}{l} ((A(I(A)) \ (A(I(A)))_{1,2,4}) \\ \land \gg (A^*A(I(A))_{1,2}) \\ ((I(A(I(A))) \ (I(A))_{3,4}) \end{array}$	×	$\begin{array}{c} ((I(A)\;(I(A(I(A)))))_{4,3})\\ \land \gg (A(I(A))^*A_{2,1})\\ ((A(I(A))\;(A(I(A)))_{4,2,1})\end{array}$

Medial action

((A(I(A)) (A(I(A))) _{1,2,4})		(A(I(A))*A _{2,1})
$\land \gg ((I(A) (A(I(A)))_{1,4}) (A^*A(I(A))_{1,2})$	×	$harphi \gg ((A(I(A)))((I(A))_{4,1}))$ ((A(I(A)) (A(I(A)))_{4,2,1})
((I(A(I(A))) (I(A)) _{3,4})		(A(I(A))*A _{2,1})
$ \land \gg ((I(A) (A(I(A)))_{1,4}) \\ (A^*A(I(A))_{1,2}) $	×	$\begin{array}{c} ((A(I(A)))((I(A))_{4,1}) \\ ((I(A) (I(A(I(A)))))_{4,3}) \end{array}$
(A*A(I(A)) _{1,2})		((A(I(A)) (A(I(A))) _{4,2,1})
$\wedge \gg ((I(A) (A(I(A)))_{1,4})$ ((A(I(A)) (A(I(A)))_{1,2,4})	×	${\scriptstyle (A(I(A))((I(A))_{4,1}))} (A(I(A))^*A_{2,1})$
((I(A(I(A))) (I(A)) _{3,4})		((A(I(A)) (A(I(A))) _{4,2,1})
$ \label{eq:2.1} \begin{split} & \land \gg ((I(A) \ (A(I(A)))_{1,4}) \\ & ((A(I(A)) \ (A(I(A)))_{1,2,4}) \end{split} $	×	$ightarrow >> ((A(I(A)))((I(A))_{4,1}) \ ((I(A) (I(A) (I(A(I(A)))))_{4,3})$
(A*A(I(A)) _{1,2})		((I(A) (I(A(I(A))))) _{4,3})
$\wedge \gg ((I(A) (A(I(A)))_{1,4})$	×	$\wedge \gg ((A(I(A))((I(A))_{4,1})$
((I(A(I(A))) (I(A)) _{3,4})		(A(I(A))*A _{2,1})
((A(I(A)) (A(I(A))) _{1,2,4})		((I(A) (I(A(I(A))))) _{4,3})
$heta \gg ((I(A) (A(I(A)))_{1,4}) (I(A(I(A))) (I(A))_{3,4})$	×	
(('(^()/)/ ('(^)/3,4)		((~('(~)) (~('(~)))4,2,1)

Objectal action

 $((I(A) (A(I(A)))_{1,4}))$ $(A(I(A))^*A_{2,1})$ $h \gg ((A(I(A)) (A(I(A)))_{4,2,1}))$ $h \gg ((A(I(A)) (A(I(A)))_{1,2,4}))$ Х $(A^*A(I(A))_{1,2})$ $((A(I(A)))((I(A))_{4,1}))$ $((I(A(I(A))) (I(A))_{3,4}))$ $(A(I(A))*A_{2,1})$ $\land \gg ((A(I(A)) (A(I(A)))_{4,2,1})$ $\land \gg ((A(I(A)) (A(I(A)))_{1,2,4}))$ Х $(A^*A(I(A))_{1,2})$ $((I(A) (I(A(I(A)))))_{4,3})$ $(A^*A(I(A))_{1,2})$ $((A(I(A)))((I(A))_{4,1}))$ $\land \gg ((A(I(A)) (A(I(A)))_{1.2.4}))$ × $\land \gg ((A(I(A)) (A(I(A)))_{4,2,1}))$ $((I(A) (A(I(A)))_{1,4}))$ $(A(I(A))*A_{2,1})$ $((I(A(I(A))) (I(A))_{3,4}))$ $((A(I(A)))((I(A))_{4,1}))$ $\land \gg ((A(I(A)) (A(I(A)))_{1,2,4}))$ Х $\land \gg ((A(I(A)) (A(I(A)))_{4,2,1}))$ $((I(A) (A(I(A)))_{1,4}))$ $((I(A) (I(A(I(A)))))_{4,3})$ $((I(A) (A(I(A)))_{1.4}))$ $((I(A) (I(A(I(A)))))_{4.3})$ $\land \gg ((A(I(A)) (A(I(A)))_{1,2,4}))$ $h \gg ((A(I(A)) (A(I(A)))_{4,2,1}))$ Х $((I(A(I(A))) (I(A))_{3,4}))$ $((A(I(A)))((I(A))_{4.1}))$ $((I(A) (I(A(I(A)))))_{4,3})$ $(A^*A(I(A))_{1,2})$ $\land \gg ((A(I(A)) (A(I(A)))_{1,2,4}))$ Х $\land \gg ((A(I(A)) (A(I(A)))_{4,2,1}))$ $((I(A(I(A))) (I(A))_{3,4}))$ $(A(I(A))*A_{2,1})$ Interpretative action $((A(I(A)) (A(I(A)))_{1,2,4}))$ $(A(I(A))^*A_{2,1})$ $\land \gg ((I(A(I(A))) (I(A))_{3,4}))$ $h \gg ((I(A) (I(A(I(A)))))_{4.3})$ Х $(A^*A(I(A))_{1,2})$ $((A(I(A)) (A(I(A)))_{4,2,1}))$ $((I(A) (A(I(A)))_{1,4}))$ $(A(I(A))^*A_{2,1})$ $\land \gg ((I(A(I(A))) (I(A))_{3,4}))$ $\land \gg ((I(A) (I(A(I(A)))))_{4,3})$ \times $(A^*A(I(A))_{1.2})$ $((A(I(A)))((I(A))_{4.1}))$ $((A(I(A)) (A(I(A)))_{1,2,4}))$ $((A(I(A)))((I(A))_{4,1}))$ $\land \gg ((I(A(I(A))) (I(A))_{3,4}))$ $\land \gg ((I(A) (I(A(I(A)))))_{4,3})$ Х $((I(A) (A(I(A)))_{1,4}))$ $((A(I(A)) (A(I(A)))_{4,2,1}))$

$\begin{array}{l} (A^*A(I(A))_{1,2}) \\ \land \gg ((I(A(I(A))) \ (I(A))_{3,4}) \\ ((I(A) \ (A(I(A)))_{1,4}) \end{array}$	×	$\begin{array}{l} ((A(I(A))((I(A))_{4,1}) \\ \land \gg ((I(A) (I(A(I(A)))))_{4,3}) \\ (A(I(A))^*A_{2,1}) \end{array}$
$\begin{array}{l} ((I(A) \; (A(I(A)))_{1,4}) \\ \land \gg ((I(A(I(A))) \; (I(A))_{3,4}) \\ ((A(I(A)) \; (A(I(A)))_{1,2,4}) \end{array}$	×	$\begin{array}{l} ((A(I(A)) \; (A(I(A)))_{4,2,1}) \\ \land \gg ((I(A) \; (I(A(I(A)))))_{4,3}) \\ ((A(I(A))((I(A))_{4,1}) \end{array})$
(A*A(I(A)) _{1,2})	×	$\begin{array}{l} ((A(I(A)) \; (A(I(A)))_{4,2,1}) \\ \land \gg ((I(A) \; (I(A(I(A)))))_{4,3}) \\ (A(I(A))^* A_{2,1}) \end{array}$

 $((I(A(I(A))) (I(A))_{3,4} (A(I(A)) (A(I(A)))_{1,2,4} (I(A) (A(I(A)))_{1,4} A^*I(A(I(A)))_{2,3}) \times (I(A(I(A)))^*A_{3,2} (A(I(A))((I(A))_{4,1} (A(I(A)) (A(I(A)))_{4,2,1} (I(A) (I(A(I(A)))_{4,3})) \times (I(A(I(A)))_{4,2,1} (I(A) (I(A)))_{4,3}) \times (I(A(I(A)))_{4,3}) \times (I(A(I(A)))_{4,3})$

((A(I(A)) (A(I(A))) _{1,2,4})		((A(I(A))((I(A)) _{4,1})
$\wedge \gg (A*I(A(I(A)))_{2,3})$	×	$\land \gg (I(A(I(A)))^*A_{3,2})$
((I(A) (A(I(A))) _{1,4})		((A(I(A)) (A(I(A))) _{4,2,1})
((I(A(I(A))) (I(A)) _{3,4})		((A(I(A))((I(A)) _{4,1})
$\wedge \gg (A*I(A(I(A)))_{2,3})$	×	$\wedge \gg (I(A(I(A)))^*A_{3,2})$
((I(A) (A(I(A))) _{1,4})		((I(A) (I(A(I(A))))) _{4,3})
((I(A) (A(I(A))) _{1,4})		((A(I(A)) (A(I(A))) _{4,2,1})
$\wedge \gg (A*I(A(I(A)))_{2,3})$	×	$\land \gg (I(A(I(A)))^*A_{3,2})$
((A(I(A)) (A(I(A))) _{1,2,4})		((A(I(A))((I(A)) _{4,1})
((I(A(I(A))) (I(A)) _{3,4})		((A(I(A)) (A(I(A))) _{4,2,1})
$\wedge \gg (A*I(A(I(A)))_{2,3})$	×	$\wedge \gg (I(A(I(A)))^*A_{3,2})$
((A(I(A)) (A(I(A))) _{1,2,4})		((I(A) (I(A(I(A))))) _{4,3})
((I(A) (A(I(A))) _{1,4})		((I(A) (I(A(I(A))))) _{4,3})
$\land \gg (A^*I(A(I(A)))_{2,3})$	×	$\wedge \gg (I(A(I(A)))^*A_{3,2})$
$((I(A(I(A)))))) (I(A))_{3,4})$	~	$((A(I(A)))((I(A))_{4,1}))$
(((((((((((((((((((((((((((((((((((((((((,,(,,,,))((,,,,),(,,,))))))))))))))))

((A(I(A)) (A(I(A))) _{1,2,4})	×	$\begin{array}{l} ((I(A)\;(I(A(I(A)))))_{4,3})\\ \land \gg (I(A(I(A)))^*A_{3,2})\\ ((A(I(A))\;(A(I(A)))_{4,2,1})\end{array}$
Medial action		
((A(I(A)) (A(I(A))) _{1,2,4})	×	$(I(A(I(A)))^*A_{3,2}) \\ \land \gg ((A(I(A)))((I(A))_{4,1}) \\ ((A(I(A)) (A(I(A)))_{4,2,1})$
((I(A(I(A))) (I(A)) _{3,4})	×	$\begin{array}{l} (I(A(I(A)))^*A_{3,2}) \\ \land \gg ((A(I(A))((I(A))_{4,1}) \\ ((I(A) \ (I(A(I(A)))))_{4,3}) \end{array}$
(A*I(A(I(A))) _{2,3})	×	$\begin{array}{l} ((A(I(A)) \ (A(I(A)))_{4,2,1}) \\ \land \gg ((A(I(A))((I(A))_{4,1}) \\ (I(A(I(A)))^*A_{3,2}) \end{array}$
((I(A(I(A))) (I(A)) _{3,4})	×	$\begin{array}{l} ((A(I(A)) \ (A(I(A)))_{4,2,1}) \\ \land \gg ((A(I(A))((I(A))_{4,1}) \\ ((I(A) \ (I(A(I(A)))))_{4,3}) \end{array}$
(A*I(A(I(A))) _{2,3}) 人 ≫ ((I(A) (A(I(A))) _{1,4}) ((I(A(I(A))) (I(A)) _{3,4})	×	$\begin{array}{l} ((I(A) (I(A(I(A)))))_{4,3}) \\ \land \gg ((A(I(A)))((I(A))_{4,1}) \\ (I(A(I(A)))^*A_{3,2}) \end{array}$
$\begin{array}{l} ((A(I(A))\ (A(I(A)))_{1,2,4}) \\ \land \gg ((I(A)\ (A(I(A)))_{1,4}) \\ ((I(A(I(A)))\ (I(A))_{3,4}) \end{array}$	×	$\begin{array}{l} ((I(A) (I(A(I(A)))))_{4,3}) \\ \land \gg ((A(I(A))((I(A))_{4,1}) \\ ((A(I(A)) (A(I(A)))_{4,2,1}) \end{array}$
Objectal action		
((I(A) (A(I(A))) _{1,4})	4)	$\begin{array}{l} (I(A(I(A)))^*A_{3,2}) \\ \times \qquad \land \gg ((A(I(A)) \ (A(I(A)))_{4,2,1}) \\ ((A(I(A))((I(A))_{4,1}) \end{array}$
((I(A(I(A))) (I(A)) _{3,4}) 人 ≫ ((A(I(A)) (A(I(A))) _{1,2,4} (A*I(A(I(A))) _{2,3})	4)	$\begin{array}{c} (I(A(I(A)))^*A_{3,2}) \\ \times \qquad \land \gg ((A(I(A)) (A(I(A)))_{4,2,1}) \\ ((I(A) (I(A(I(A)))))_{4,3}) \end{array}$

 $(A^*I(A(I(A)))_{2,3})$ $h \gg ((A(I(A)) (A(I(A)))_{1,2,4}))$ \times $((I(A) (A(I(A)))_{1,4}))$ $((I(A(I(A))) (I(A))_{3,4}))$ $\land \gg ((A(I(A)) (A(I(A)))_{1,2,4}))$ Х $((I(A) (A(I(A)))_{1,4}))$ $((I(A) (A(I(A)))_{1.4}))$ $\land \gg ((A(I(A)) (A(I(A)))_{1.2.4}))$ Х $((I(A(I(A))) (I(A))_{3,4}))$ $(A^*I(A(I(A)))_{2,3})$ $h \gg ((A(I(A)) (A(I(A)))_{1,2,4}))$ \times $((I(A(I(A))) (I(A))_{3,4}))$ Interpretative action $((A(I(A)) (A(I(A)))_{1,2,4}))$ $\land \gg ((I(A(I(A))) (I(A))_{3,4}))$ Х $(A^*I(A(I(A)))_{2,3})$

 $\begin{array}{l} ((I(A)\;(A(I(A)))_{1,4}) \\ \land \gg ((I(A(I(A)))\;(I(A))_{3,4}) \quad \times \\ (A^*I(A(I(A)))_{2,3}) \end{array}$

 $\begin{array}{l} ((A(I(A)) \ (A(I(A)))_{1,2,4}) \\ & \land \gg ((I(A(I(A))) \ (I(A))_{3,4}) \\ & ((I(A) \ (A(I(A)))_{1,4}) \end{array} \times \end{array}$

(A*I(A(I(A)))_{2,3})

 $\land \gg ((I(A(I(A))) (I(A))_{3,4}) \times ((I(A) (A(I(A)))_{1,4}))$

 $\begin{array}{l} ((I(A) (A(I(A)))_{1,4}) \\ & \land \gg ((I(A(I(A))) (I(A))_{3,4}) \\ & \times \\ ((A(I(A)) (A(I(A)))_{1,2,4}) \end{array} \times \end{array}$

 $\begin{array}{ll} (A^*I(A(I(A)))_{2,3}) \\ & \wedge \gg ((I(A(I(A))) (I(A))_{3,4}) & \times \\ ((A(I(A)) (A(I(A)))_{1,2,4}) \end{array}$

 $\begin{array}{l} ((A(I(A))((I(A))_{4,1}) \\ & \land \gg ((A(I(A)) (A(I(A)))_{4,2,1}) \\ (I(A(I(A)))^*A_{3,2}) \end{array}$

 $\begin{array}{l} ((A(I(A)))((I(A))_{4,1}) \\ \land \gg ((A(I(A)))(A(I(A)))_{4,2,1}) \\ ((I(A)(I(A(I(A)))))_{4,3}) \end{array}$

 $\begin{array}{l} ((I(A) (I(A(I(A)))))_{4,3}) \\ & \land \gg ((A(I(A)) (A(I(A)))_{4,2,1}) \\ & ((A(I(A)))((I(A))_{4,1}) \end{array}$

 $\begin{array}{l} ((I(A) (I(A(I(A)))))_{4,3}) \\ & \land \gg ((A(I(A)) (A(I(A)))_{4,2,1}) \\ & (I(A(I(A)))^*A_{3,2}) \end{array}$

 $\begin{array}{l} (I(A(I(A)))^*A_{3,2}) \\ \land \gg ((I(A) (I(A(I(A)))))_{4,3}) \\ ((A(I(A)) (A(I(A)))_{4,2,1}) \end{array}$

$$\begin{split} (I(A(I(A)))^*A_{3,2}) \\ & \land \gg ((I(A) \ (I(A(I(A)))))_{4,3}) \\ ((A(I(A))((I(A))_{4,1}) \end{split}$$

 $\begin{array}{l} ((A(I(A)))((I(A))_{4,1}) \\ & \land \gg ((I(A) \ (I(A(I(A)))))_{4,3}) \\ ((A(I(A)) \ (A(I(A)))_{4,2,1}) \end{array}$

$$\begin{split} &((A(I(A))((I(A))_{4,1}) \\ & \land \gg ((I(A) (I(A(I(A))))_{4,3}) \\ &(I(A(I(A)))^*A_{3,2}) \end{split}$$

 $\begin{array}{l} ((A(I(A)) \ (A(I(A)))_{4,2,1}) \\ & \land \gg ((I(A) \ (I(A(I(A)))))_{4,3}) \\ & ((A(I(A))((I(A))_{4,1}) \end{array}$

 $\begin{array}{l} ((A(I(A)) \ (A(I(A)))_{4,2,1}) \\ \land \gg ((I(A) \ (I(A(I(A))))_{4,3}) \\ (I(A(I(A)))^* A_{3,2}) \end{array}$

 $((I(A(I(A))) (I(A))_{3,4} (A(I(A)) (A(I(A)))_{1,2,4} (I(A) (I(A(I(A))))_{4,3} A^*I(A(I(A)))_{2,3}) \times (I(A(I(A)))^*A_{3,2} (I(A(I(A))) (I(A))_{4,3} (A(I(A)) (A(I(A)))_{4,2,1} (I(A) (I(A(I(A))))_{4,3}))))$

Qualitative action

((A(I(A)) (A(I(A))) _{1,2,4})	×	$\begin{array}{c} ((I(A(I(A)))\;(I(A))_{4,3}) \\ \land \gg (I(A(I(A)))^*A_{3,2}) \\ ((A(I(A))\;(A(I(A)))_{4,2,1}) \end{array}$
((I(A(I(A))) (I(A)) _{3,4})	×	$\begin{array}{l} ((I(A(I(A)))\;(I(A))_{4,3})\\ \land \gg (I(A(I(A)))^*A_{3,2})\\ ((I(A)\;(I(A(I(A)))))_{4,3})\end{array}$
((I(A) (I(A(I(A))))) _{3,4})	×	$\begin{array}{c} ((A(I(A))\ (A(I(A)))_{4,2,1}) \\ \land \gg (I(A(I(A)))^*A_{3,2}) \\ ((I(A(I(A)))\ (I(A))_{4,3}) \end{array}$
((I(A(I(A))) (I(A)) _{3,4})	×	$\begin{array}{c} ((A(I(A))\ (A(I(A)))_{4,2,1}) \\ \land \gg (I(A(I(A)))^*A_{3,2}) \\ ((I(A)\ (I(A(I(A)))))_{4,3}) \end{array}$
((I(A) (I(A(I(A))))) _{3,4})	×	$\begin{array}{l} ((I(A)\;(I(A(I(A)))))_{4,3})\\ \land \gg (I(A(I(A)))^*A_{3,2})\\ ((I(A(I(A)))\;(I(A))_{4,3})\end{array}$
$\begin{array}{l} ((A(I(A)) (A(I(A)))_{1,2,4}) \\ \land \gg (A^*I(A(I(A)))_{2,3}) \\ ((I(A(I(A))) (I(A))_{3,4}) \end{array}$ Medial action	×	$\begin{array}{c} ((I(A) \ (I(A(I(A)))))_{4,3}) \\ \land \gg (I(A(I(A)))^*A_{3,2}) \\ ((A(I(A)) \ (A(I(A)))_{4,2,1}) \end{array}$

$\begin{array}{l} ((A(I(A)) \ (A(I(A)))_{1,2,4}) \\ \\ \land \gg ((I(A) \ (I(A(I(A))))_{3,4}) \end{array}$	×	(I(A(I(A)))*A _{3,2}) 人 ≫ ((I(A(I(A))) (I(A)) _{4,3})
(A*I(A(I(A))) _{2,3}) ((I(A(I(A))) (I(A)) _{3,4})		((A(I(A)) (A(I(A))) _{4,2,1}) (I(A(I(A)))*A _{3,2})
$((I(A(I(A)))(I(A))_{3,4})))) (I(A)(I(A(I(A)))))_{3,4})$	×	(I(A(I(A))) A _{3,2})

((I(A) (I(A(I(A)))))_{4,3})

(A*I(A(I(A)))_{2,3})

23

 $(A^*I(A(I(A)))_{2,3})$ $((A(I(A)) (A(I(A)))_{4,2,1}))$ $\land \gg ((I(A) (I(A(I(A)))))_{3,4})$ $\land \gg ((I(A(I(A))) (I(A))_{4.3}))$ Х $((A(I(A)) (A(I(A)))_{1,2,4}))$ $(I(A(I(A)))*A_{3,2})$ $((I(A(I(A))) (I(A))_{3,4}))$ $((A(I(A)) (A(I(A)))_{4,2,1}))$ $\land \gg ((I(A) (I(A(I(A)))))_{3,4})$ Х $h \gg ((I(A(I(A))) (I(A))_{4,3}))$ $((A(I(A)) (A(I(A)))_{1,2,4}))$ $((I(A) (I(A(I(A)))))_{4,3})$ $(A^*I(A(I(A)))_{2,3})$ $((I(A) (I(A(I(A)))))_{4,3})$ $\land \gg ((I(A) (I(A(I(A)))))_{3,4})$ $\land \gg ((I(A(I(A))) (I(A))_{4.3}))$ Х $((I(A(I(A))) (I(A))_{3,4}))$ $(I(A(I(A)))*A_{3,2})$ $((A(I(A)) (A(I(A)))_{1,2,4}))$ $((I(A) (I(A(I(A)))))_{4,3})$ $h \gg ((I(A) (I(A(I(A)))))_{3,4})$ $\land \gg ((I(A(I(A))) (I(A))_{4,3}))$ Х $((I(A(I(A))) (I(A))_{3,4}))$ $((A(I(A)) (A(I(A)))_{4,2,1}))$ **Objectal action** $((I(A) (I(A(I(A)))))_{3,4})$ $(I(A(I(A)))*A_{3,2})$ $\land \gg ((A(I(A)) (A(I(A)))_{1,2,4}))$ $\land \gg ((A(I(A)) (A(I(A)))_{4,2,1}))$ Х $(A^*I(A(I(A)))_{2,3})$ $((I(A(I(A))) (I(A))_{4,3}))$ $((I(A(I(A))) (I(A))_{3,4}))$ $(I(A(I(A)))*A_{3,2})$ $\land \gg ((A(I(A)) (A(I(A)))_{1,2,4}))$ $h \gg ((A(I(A)) (A(I(A)))_{4,2,1}))$ \times $(A*I(A(I(A)))_{2,3})$ $((I(A) (I(A(I(A)))))_{4,3})$

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 $(A^*I(A(I(A)))_{2,3})$

 $((I(A) (I(A(I(A)))))_{3,4})$

 $((I(A(I(A))) (I(A))_{3,4}))$

 $((I(A) (I(A(I(A)))))_{3,4})$

 $((I(A) (I(A(I(A)))))_{3,4})$

 $((I(A(I(A))) (I(A))_{3,4}))$

 $((I(A(I(A))) (I(A))_{3,4}))$

 $(A*I(A(I(A)))_{2,3})$

 $\land \gg ((A(I(A)) (A(I(A)))_{1.2.4}))$

 $\land \gg ((A(I(A)) (A(I(A)))_{1.2.4}))$

 $h \gg ((A(I(A)) (A(I(A)))_{1,2,4}))$

 $\land \gg ((A(I(A)) (A(I(A)))_{1,2,4}))$

 $\begin{array}{l} ((I(A(I(A))) \ (I(A))_{4,3}) \\ & \land \gg ((A(I(A)) \ (A(I(A)))_{4,2,1}) \\ & (I(A(I(A)))^*A_{3,2}) \end{array}$

$$\begin{split} &((I(A(I(A))) \ (I(A))_{4,3}) \\ &\wedge \gg ((A(I(A)) \ (A(I(A)))_{4,2,1}) \\ &((I(A) \ (I(A(I(A)))))_{4,3}) \end{split}$$

 $\begin{array}{l} ((I(A) (I(A(I(A)))))_{4,3}) \\ \land \gg ((A(I(A)) (A(I(A)))_{4,2,1}) \\ ((I(A(I(A))) (I(A))_{4,3}) \end{array}$

 $\begin{array}{l} ((\mathsf{I}(\mathsf{A})\;(\mathsf{I}(\mathsf{A}(\mathsf{I}(\mathsf{A})))))_{4,3}) \\ & \land \gg ((\mathsf{A}(\mathsf{I}(\mathsf{A}))\;(\mathsf{A}(\mathsf{I}(\mathsf{A})))_{4,2,1}) \\ & (\mathsf{I}(\mathsf{A}(\mathsf{I}(\mathsf{A})))^*\mathsf{A}_{3,2}) \end{array}$

Interpretative action

$\begin{array}{l} ((A(I(A)) \ (A(I(A)))_{1,2,4}) \\ \land \gg ((I(A(I(A))) \ (I(A))_{3,4}) \\ (A^*I(A(I(A)))_{2,3}) \end{array}$	×	$\begin{array}{l} (I(A(I(A)))^*A_{3,2}) \\ \land \gg ((I(A) \; (I(A(I(A)))))_{4,3}) \\ ((A(I(A)) \; (A(I(A)))_{4,2,1}) \end{array}$
((I(A) (I(A(I(A))))) _{3,4})	×	$(I(A(I(A)))^*A_{3,2})$ $\land \gg ((I(A) (I(A(I(A)))))_{4,3})$ $((I(A(I(A))) (I(A))_{4,3})$
$\begin{array}{l} ((A(I(A)) \ (A(I(A)))_{1,2,4}) \\ \land \gg ((I(A(I(A))) \ (I(A))_{3,4}) \\ ((I(A) \ (I(A(I(A)))))_{3,4}) \end{array}$	×	$\begin{array}{l} ((I(A(I(A))) \ (I(A))_{4,3}) \\ \land \gg ((I(A) \ (I(A(I(A)))))_{4,3}) \\ ((A(I(A)) \ (A(I(A)))_{4,2,1}) \end{array}$
(A*I(A(I(A))) _{2,3})	×	$\begin{array}{l} ((I(A(I(A))) \ (I(A))_{4,3}) \\ \land \gg ((I(A) \ (I(A(I(A)))))_{4,3}) \\ (I(A(I(A)))^*A_{3,2}) \end{array}$
$\begin{array}{l} ((I(A) (I(A(I(A)))))_{3,4}) \\ \land \gg ((I(A(I(A))) (I(A))_{3,4}) \\ ((A(I(A)) (A(I(A)))_{4,2,1}) \end{array}$	×	$\begin{array}{l} ((A(I(A)) \ (A(I(A)))_{1,2,4}) \\ \land \gg ((I(A(I(A))) \ (I(A))_{4,3}) \\ (A^*I(A(I(A)))_{2,3}) \end{array}$
(A*I(A(I(A))) _{2,3})	×	((A(I(A)) (A(I(A))) _{4,2,1})

10. Pre-semiotic dual system

 $((I(A(I(A))) (I(A))_{3,4} (A(I(A)) (I(A(I(A))))_{2,4} (I(A) (I(A(I(A))))_{3,4} A^*I(A(I(A)))_{2,3}) \times (I(A(I(A)))^*A_{3,2} (I(A(I(A))) (I(A))_{4,3} (I(A(I(A))) (A(I(A)))_{4,2} (I(A) (I(A(I(A))))_{4,3}))))$

$\begin{array}{l} ((A(I(A)) \ (I(A(I(A))))_{2,4}) \\ \land \gg (A^*I(A(I(A)))_{2,3}) \\ ((I(A) \ (I(A(I(A)))))_{3,4}) \end{array}$	×	$\begin{array}{l} ((I(A(I(A)))\;(I(A))_{4,3})\\ \land \gg (I(A(I(A)))^*A_{3,2})\\ ((I(A(I(A)))\;(A(I(A)))_{4,2})\end{array}$
$\begin{array}{l} ((I(A(I(A))) \ (I(A))_{3,4}) \\ \land \gg (A^*I(A(I(A)))_{2,3}) \\ ((I(A) \ (I(A(I(A))))_{3,4}) \end{array}$	×	$\begin{array}{l} ((I(A(I(A)))\;(I(A))_{4,3}) \\ \land \gg (I(A(I(A)))^*A_{3,2}) \\ ((I(A)\;(I(A(I(A)))))_{4,3}) \end{array}$

((I(A) (I(A(I(A))))) _{3,4})		((I(A(I(A))) (A(I(A))) _{4,2})
$\land \gg (A^*I(A(I(A)))_{2,3})$ ((A(I(A)) (I(A(I(A))))_{2,4})	X	$egin{array}{llllllllllllllllllllllllllllllllllll$
$\begin{array}{l} ((I(A(I(A))) \ (I(A))_{3,4}) \\ \land \gg (A^*I(A(I(A)))_{2,3}) \\ ((A(I(A)) \ (I(A(I(A))))_{2,4}) \end{array}$	×	$\begin{array}{l} ((I(A(I(A))) \ (A(I(A)))_{4,2}) \\ \land \gg (I(A(I(A)))^*A_{3,2}) \\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ $
$(I(\Lambda) (I(\Lambda)(I(\Lambda))))_{i=1}$		$((1 \land A) (1 \land (1 \land A))))$

((I(A) (I(A(I(A))))) _{3,4})		((I(A) (I(A(I(A))))) _{4,3})
$\wedge \gg (A*I(A(I(A)))_{2,3})$	×	人 ≫ (I(A(I(A)))*A _{3,2})
((I(A(I(A))) (I(A)) _{3,4})		((I(A(I(A))) (I(A)) _{4,3})
((A(I(A)) (I(A(I(A)))) _{2,4})		((I(A) (I(A(I(A))))) _{4,3})
$\wedge \gg (A*I(A(I(A)))_{2,3})$	×	$\wedge \gg (I(A(I(A)))^*A_{3,2})$

Medial action

 $\begin{array}{ll} ((A(I(A)) \ (I(A(I(A))))_{2,4}) & (I(A(I(A)))^*A_{3,2}) \\ & \wedge \gg ((I(A) \ (I(A(I(A))))_{3,4}) & \times & \wedge \gg ((I(A(I(A))) \ (I(A))_{4,3}) \\ & (A^*I(A(I(A)))_{2,3}) & ((I(A(I(A))) \ (A(I(A)))_{4,2}) \end{array}$

((I(A(I(A))) (I(A))_{3,4})

 $((I(A(I(A))) (I(A))_{3,4}))$

 $\wedge \gg ((I(A) (I(A(I(A)))))_{3,4}) \times (A^*I(A(I(A)))_{2,3})$

(A*I(A(I(A)))_{2,3})

 $\wedge \gg ((I(A) (I(A(I(A)))))_{3,4}) \times ((A(I(A)) (I(A(I(A))))_{2,4})$

 $\begin{array}{l} ((I(A(I(A))) \ (I(A))_{3,4}) \\ \land \gg ((I(A) \ (I(A(I(A)))))_{3,4}) \quad \times \\ ((A(I(A)) \ (I(A(I(A))))_{2,4}) \end{array}$

 $\begin{array}{ll} (A^*I(A(I(A)))_{2,3}) \\ & \land \gg ((I(A) (I(A(I(A)))))_{3,4}) & \times \\ ((I(A(I(A))) (I(A))_{3,4}) \end{array}$

 $\begin{array}{l} (I(A(I(A)))^*A_{3,2}) \\ \land \gg ((I(A(I(A))) \ (I(A))_{4,3}) \\ ((I(A) \ (I(A(I(A)))))_{4,3}) \end{array}$

 $((I(A(I(A))) (A(I(A)))_{4,2}))$

 $\begin{array}{l} ((I(A(I(A))) \ (A(I(A)))_{4,2}) \\ \land \gg ((I(A(I(A))) \ (I(A))_{4,3}) \\ (I(A(I(A)))^*A_{3,2}) \end{array}$

 $\begin{array}{l} ((I(A(I(A))) \ (A(I(A)))_{4,2}) \\ \land \gg ((I(A(I(A))) \ (I(A))_{4,3}) \\ \ ((I(A) \ (I(A(I(A)))))_{4,3}) \end{array}$

 $\begin{array}{l} ((I(A) \ (I(A(I(A)))))_{4,3}) \\ \land \gg ((I(A(I(A))) \ (I(A))_{4,3}) \\ (I(A(I(A)))^*A_{3,2}) \end{array}$

 $\begin{array}{l} ((A(I(A)) \ (I(A(I(A))))_{2,4}) \\ \land \gg ((I(A) \ (I(A(I(A)))))_{3,4}) \quad \times \\ ((I(A(I(A))) \ (I(A))_{3,4}) \end{array}$

Objectal action

 $\begin{array}{l} ((I(A) (I(A(I(A)))))_{3,4}) \\ \land \gg ((A(I(A)) (I(A(I(A))))_{2,4}) \\ (A^*I(A(I(A)))_{2,3}) \end{array} \times$

 $\begin{array}{l} ((I(A(I(A))) \ (I(A))_{3,4}) \\ & \land \gg ((A(I(A)) \ (I(A(I(A))))_{2,4}) \\ & \times \\ (A^*I(A(I(A)))_{2,3}) \end{array} \\ \end{array}$

(A*I(A(I(A)))_{2,3})

$$\label{eq:2.1} \begin{split} & \wedge \gg ((A(I(A)) \; (I(A(I(A))))_{2,4}) \quad \times \\ & ((I(A) \; (I(A(I(A)))))_{3,4}) \end{split}$$

 $((I(A(I(A))) (I(A))_{3,4})$

$$\label{eq:2.1} \begin{split} & \wedge \gg ((A(I(A)) \ (I(A(I(A))))_{2,4}) \ \times \\ & ((I(A) \ (I(A(I(A)))))_{3,4}) \end{split}$$

 $\begin{array}{l} ((I(A) (I(A(I(A)))))_{3,4}) \\ \land \gg ((A(I(A)) (I(A(I(A))))_{2,4}) & \times \\ ((I(A(I(A))) (I(A))_{3,4}) \end{array}$

 $\begin{array}{ll} (A^*I(A(I(A)))_{2,3}) \\ & \wedge \gg ((A(I(A)) \ (I(A(I(A))))_{2,4}) & \times \\ ((I(A(I(A))) \ (I(A))_{3,4}) \end{array}$

Interpretative action

 $\begin{array}{l} ((A(I(A)) \ (I(A(I(A))))_{2,4}) \\ \land \gg ((I(A(I(A))) \ (I(A))_{3,4}) \\ (A^*I(A(I(A)))_{2,3}) \end{array} \times$

 $\begin{array}{l} ((I(A) (I(A(I(A)))))_{3,4}) \\ \land \gg ((I(A(I(A))) (I(A))_{3,4}) \\ (A^*I(A(I(A)))_{2,3}) \end{array} \times$

$$\begin{split} &((\mathsf{I}(\mathsf{A})\;(\mathsf{I}(\mathsf{A}(\mathsf{I}(\mathsf{A})))))_{4,3})\\ &\wedge \gg (((\mathsf{I}(\mathsf{A}(\mathsf{I}(\mathsf{A})))\;(\mathsf{I}(\mathsf{A}))_{4,3})\\ &((\mathsf{I}(\mathsf{A}(\mathsf{I}(\mathsf{A})))\;(\mathsf{A}(\mathsf{I}(\mathsf{A})))_{4,2}) \end{split}$$

 $\begin{array}{l} (\mathsf{I}(\mathsf{A}(\mathsf{I}(\mathsf{A})))^*\mathsf{A}_{3,2}) \\ & \land \gg ((\mathsf{I}(\mathsf{A}(\mathsf{I}(\mathsf{A}))) \ (\mathsf{A}(\mathsf{I}(\mathsf{A})))_{4,2}) \\ ((\mathsf{I}(\mathsf{A}(\mathsf{I}(\mathsf{A}))) \ (\mathsf{I}(\mathsf{A}))_{4,3}) \end{array}$

 $\begin{array}{l} (\mathsf{I}(\mathsf{A}(\mathsf{I}(\mathsf{A})))^*\mathsf{A}_{3,2}) \\ & \land \gg ((\mathsf{I}(\mathsf{A}(\mathsf{I}(\mathsf{A}))) \ (\mathsf{A}(\mathsf{I}(\mathsf{A})))_{4,2}) \\ ((\mathsf{I}(\mathsf{A}) \ (\mathsf{I}(\mathsf{A}(\mathsf{I}(\mathsf{A})))))_{4,3}) \end{array}$

$$\begin{split} ((I(A(I(A))) \ (I(A))_{4,3}) \\ & \land \gg ((I(A(I(A))) \ (A(I(A)))_{4,2}) \\ & (I(A(I(A)))^*A_{3,2}) \end{split}$$

 $\begin{array}{l} ((I(A(I(A))) \ (I(A))_{4,3}) \\ & \land \gg ((I(A(I(A))) \ (A(I(A)))_{4,2}) \\ ((I(A) \ (I(A(I(A))))_{4,3}) \end{array}$

 $\begin{array}{l} ((I(A) (I(A(I(A)))))_{4,3}) \\ \land \gg ((I(A(I(A))) (A(I(A)))_{4,2}) \\ ((I(A(I(A))) (I(A))_{4,3}) \end{array}$

 $\begin{array}{l} ((I(A) \ (I(A(I(A)))))_{4,3}) \\ & \land \gg ((I(A(I(A))) \ (A(I(A)))_{4,2}) \\ & (I(A(I(A)))^*A_{3,2}) \end{array}$

 $\begin{array}{l} (I(A(I(A)))^*A_{3,2}) \\ & \land \gg ((I(A) (I(A(I(A)))))_{4,3}) \\ ((I(A(I(A))) (A(I(A)))_{4,2}) \end{array}$

 $\begin{array}{l} (I(A(I(A)))^*A_{3,2}) \\ \land \gg ((I(A) (I(A(I(A)))))_{4,3}) \\ ((I(A(I(A))) (I(A))_{4,3}) \end{array}$

$\begin{array}{l} ((A(I(A)) \ (I(A(I(A))))_{2,4}) \\ \land \gg ((I(A(I(A))) \ (I(A))_{3,4}) \\ ((I(A) \ (I(A(I(A)))))_{3,4}) \end{array}$	×	$\begin{array}{l} ((I(A(I(A))) \ (I(A))_{4,3}) \\ \land \gg ((I(A) \ (I(A(I(A)))))_{4,3}) \\ ((I(A(I(A))) \ (A(I(A)))_{4,2}) \end{array}$
(A*I(A(I(A))) _{2,3})	×	$\begin{array}{l} ((I(A(I(A))) \ (I(A))_{4,3}) \\ \land \gg ((I(A) \ (I(A(I(A)))))_{4,3}) \\ (I(A(I(A)))^*A_{3,2}) \end{array}$
$\begin{array}{l} ((I(A) \ (I(A(I(A)))))_{3,4}) \\ \land \gg ((I(A(I(A))) \ (I(A))_{3,4}) \\ ((A(I(A)) \ (I(A(I(A))))_{2,4}) \end{array}$	×	$\begin{array}{l} ((I(A(I(A))) \ (A(I(A)))_{4,2}) \\ \land \gg ((I(A) \ (I(A(I(A))))_{4,3}) \\ ((I(A(I(A))) \ (I(A))_{4,3}) \end{array}$
(A*I(A(I(A))) _{2,3})	×	$\begin{array}{l} ((I(A(I(A))) \ (A(I(A)))_{4,2}) \\ \land \gg ((I(A) \ (I(A(I(A))))_{4,3}) \\ (I(A(I(A)))^*A_{3,2}) \end{array}$

 $\begin{array}{l} ((I(A(I(A))) \ (A(I(A)))_{2,4} \ (A(I(A)) \ (A(I(A)))_{1,2,4} \ (I(A) \ (A(I(A)))_{1,4} \ A^*A(I(A))_{1,2}) \times (A(I(A))^*A_{2,1} \ (A(I(A))((I(A)))_{4,1} \ (A(I(A)) \ (A(I(A)))_{4,2,1} \ (A(I(A)) \ (I(A(I(A))))_{4,2}) \end{array}$

$\begin{array}{l} ((A(I(A)) \ (A(I(A)))_{1,2,4}) \\ \land \gg (A^*A(I(A))_{1,2}) \\ ((I(A) \ (A(I(A)))_{1,4}) \end{array}$	×	$\begin{array}{c} ((A(I(A))((I(A))_{4,1})\\ \land \gg (A(I(A))^*A_{2,1})\\ ((A(I(A))\ (A(I(A)))_{4,2,1})\end{array}$
$\begin{array}{l} ((I(A(I(A))) \ (A(I(A)))_{2,4}) \\ \land \gg (A^*A(I(A))_{1,2}) \\ ((I(A) \ (A(I(A)))_{1,4}) \end{array}$	×	$((A(I(A))((I(A))_{4,1}))$ $\land \gg (A(I(A))^*A_{2,1})$ $((A(I(A)) (I(A(I(A))))_{4,2})$
$\begin{array}{l} ((I(A) \ (A(I(A)))_{1,4}) \\ \land \gg (A^*A(I(A))_{1,2}) \\ ((A(I(A)) \ (A(I(A)))_{1,2,4}) \end{array}$	×	$((A(I(A)) (A(I(A)))_{4,2,1}))$ $\land \gg (A(I(A))^*A_{2,1})$ $((A(I(A))((I(A))_{4,1}))$
$\begin{array}{l} ((I(A(I(A))) \ (A(I(A)))_{2,4}) \\ \land \gg (A^*A(I(A))_{1,2}) \\ ((A(I(A)) \ (A(I(A)))_{1,2,4}) \end{array}$	×	$\begin{array}{c} ((A(I(A))\ (A(I(A)))_{4,2,1})\\ \land \gg (A(I(A))^*A_{2,1})\\ ((A(I(A))\ (I(A(I(A))))_{4,2})\end{array}$
$\begin{array}{l} ((I(A) \ (A(I(A)))_{1,4}) \\ \land \gg (A^*A(I(A))_{1,2}) \\ ((I(A(I(A))) \ (A(I(A)))_{2,4}) \end{array}$	×	$((A(I(A)) (I(A(I(A))))_{4,2}))$ $\land \gg (A(I(A))^*A_{2,1})$ $((A(I(A))((I(A))_{4,1}))$

$\begin{array}{l} ((A(I(A)) \ (A(I(A)))_{1,2,4}) \\ \land \gg (A^*A(I(A))_{1,2}) \\ ((I(A(I(A))) \ (A(I(A)))_{2,4}) \end{array} \times$		$\begin{array}{c} ((A(I(A)) \ (I(A(I(A))))_{4,2}) \\ \land \gg (A(I(A))^*A_{2,1}) \\ ((A(I(A)) \ (A(I(A)))_{4,2,1}) \end{array}$
Medial action		
$\begin{array}{l} ((I(A(I(A))) \ (A(I(A)))_{2,4}) \\ \land \gg ((I(A) \ (A(I(A)))_{1,4}) \\ (A^*A(I(A))_{1,2}) \end{array}$	×	$\begin{array}{c} (A(I(A))^*A_{2,1}) \\ \land \qquad \land \gg ((A(I(A))((I(A))_{4,1}) \\ ((A(I(A))(I(A(I(A))))_{4,2}) \end{array}$
$\begin{array}{l} ((I(A(I(A))) \ (A(I(A)))_{2,4}) \\ \land \gg ((I(A) \ (A(I(A)))_{1,4}) \\ (A^*A(I(A))_{1,2}) \end{array}$	×	$\begin{array}{c} (A(I(A))^*A_{2,1}) \\ \land \qquad \land \gg ((A(I(A))((I(A))_{4,1}) \\ ((A(I(A)) \ (I(A(I(A))))_{4,2}) \end{array}$
$(A^*A(I(A))_{1,2})$ $\land \gg ((I(A) (A(I(A)))_{1,4}))$ $((A(I(A)) (A(I(A)))_{1,2,4}))$	×	$\begin{array}{l} ((A(I(A)) \ (A(I(A)))_{4,2,1}) \\ \land \qquad \land \gg ((A(I(A))((I(A))_{4,1}) \\ (A(I(A))^*A_{2,1}) \end{array}$
$\begin{array}{l} ((I(A(I(A))) (A(I(A)))_{2,4}) \\ \land \gg ((I(A) (A(I(A)))_{1,4}) \\ ((A(I(A)) (A(I(A)))_{1,2,4}) \end{array}$	×	$((A(I(A)) (A(I(A)))_{4,2,1}) \\ \land \gg ((A(I(A))((I(A))_{4,1}) \\ ((A(I(A)) (I(A(I(A))))_{4,2})$
$(A^*A(I(A))_{1,2})$ $\land \gg ((I(A) (A(I(A)))_{1,4})$ $((I(A(I(A))) (A(I(A)))_{2,4})$	×	((A(I(A)) (I(A(I(A)))) _{4,2})
$\begin{array}{l} ((A(I(A)) \ (A(I(A)))_{1,2,4}) \\ \land \gg ((I(A) \ (A(I(A)))_{1,4}) \\ ((I(A(I(A))) \ (A(I(A)))_{2,4}) \end{array}$	×	$\begin{array}{l} ((A(I(A)) \ (I(A(I(A))))_{4,2}) \\ \land \gg ((A(I(A)))((I(A))_{4,1}) \\ ((A(I(A)) \ (A(I(A)))_{4,2,1}) \end{array}$
Objectal action		
$\begin{array}{l} ((I(A) \ (A(I(A)))_{1,4}) \\ \land \gg ((A(I(A)) \ (A(I(A)))_{1,2,4}) \\ (A^*A(I(A))_{1,2}) \end{array}$		$\begin{array}{c} (A(I(A))^*A_{2,1}) \\ \times \qquad \land \gg ((A(I(A)) \ (A(I(A)))_{4,2,1}) \\ ((A(I(A))((I(A))_{4,1}) \end{array}$
$\begin{array}{l} ((I(A(I(A))) \ (A(I(A)))_{2,4}) \\ \land \gg ((A(I(A)) \ (A(I(A)))_{1,2,4}) \\ (A^*A(I(A))_{1,2}) \end{array}$		$\begin{array}{c} (A(I(A))^*A_{2,1}) \\ \times \qquad \land \gg ((A(I(A)) \ (A(I(A)))_{4,2,1}) \\ ((A(I(A)) \ (I(A(I(A))))_{4,2}) \end{array}$

$(A^*A(I(A))_{1,2})$ $\land \gg ((A(I(A)) (A(I(A)))_{1,2,4})$	×	$\begin{array}{l} ((A(I(A))((I(A))_{1,4}) \\ & \land \gg ((A(I(A)) \ (A(I(A)))_{4,2,1}) \end{array}$
((I(A) (A(I(A))) _{1,4})		$(A(I(A))^*A_{2,1})$
$\begin{array}{l} ((I(A(I(A))) \ (A(I(A)))_{2,4}) \\ \land \gg ((A(I(A)) \ (A(I(A)))_{1,2,4}) \\ ((I(A) \ (A(I(A)))_{1,4}) \end{array}$	×	$\begin{array}{l} ((A(I(A))((I(A))_{4,1}) \\ \land \gg ((A(I(A)) \ (A(I(A)))_{4,2,1}) \\ ((A(I(A)) \ (I(A(I(A))))_{4,2}) \end{array}$
$\begin{array}{l} ((I(A) (A(I(A)))_{1,4}) \\ \land \gg ((A(I(A)) (A(I(A)))_{1,2,4}) \\ ((I(A(I(A))) (A(I(A)))_{2,4}) \end{array}$	×	$\begin{array}{l} ((A(I(A)) \ (I(A(I(A))))_{4,2}) \\ & \land \gg ((A(I(A)) \ (A(I(A)))_{4,2,1}) \\ ((A(I(A))((I(A))_{4,1}) \end{array}$
(A*A(I(A)) _{1,2})		((A(I(A)) (I(A(I(A)))) _{4,2})
$\land \gg ((A(I(A)) (A(I(A)))_{1,2,4})$ ((I(A(I(A))) (A(I(A)))_{2,4})	×	$\land \gg ((A(I(A)) (A(I(A)))_{4,2,1})$ (A(I(A))*A _{2,1})
Interpretative action		
$\begin{array}{l} ((A(I(A)) \; (A(I(A)))_{1,2,4}) \\ \land \gg ((I(A(I(A))) \; (A(I(A)))_{2,4}) \\ (A^*A(I(A))_{1,2}) \end{array}$	×	$\begin{array}{l} (A(I(A))^*A_{2,1}) \\ & \land \gg ((A(I(A)) \ (I(A(I(A))))_{4,2}) \\ ((A(I(A)) \ (A(I(A)))_{4,2,1}) \end{array}$

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 $\begin{array}{l} ((I(A) (A(I(A)))_{1,4}) \\ \land \gg ((I(A(I(A))) (A(I(A)))_{2,4}) \\ (A^*A(I(A))_{1,2}) \end{array}$

 $\begin{array}{l} ((A(I(A)) \ (A(I(A)))_{1,2,4}) \\ & \land \gg ((I(A(I(A))) \ (A(I(A)))_{2,4}) \\ ((I(A) \ (A(I(A)))_{1,4}) \end{array}$

 $\begin{array}{l} (\mathsf{A}^*\mathsf{A}(\mathsf{I}(\mathsf{A}))_{1,2}) \\ & \land \gg ((\mathsf{I}(\mathsf{A}(\mathsf{I}(\mathsf{A}))) \ (\mathsf{A}(\mathsf{I}(\mathsf{A})))_{2,4}) \\ ((\mathsf{I}(\mathsf{A}) \ (\mathsf{A}(\mathsf{I}(\mathsf{A})))_{1,4}) \end{array}$

 $\begin{array}{l} ((I(A) (A(I(A)))_{1,4}) \\ & \land \gg ((I(A(I(A))) (A(I(A)))_{2,4}) \\ ((A(I(A)) (A(I(A)))_{1,2,4}) \end{array}$

 $\begin{array}{l} (\mathsf{A}^*\mathsf{A}(\mathsf{I}(\mathsf{A}))_{1,2}) \\ & \land \gg ((\mathsf{I}(\mathsf{A}(\mathsf{I}(\mathsf{A}))) \ (\mathsf{A}(\mathsf{I}(\mathsf{A})))_{2,4}) \\ & ((\mathsf{A}(\mathsf{I}(\mathsf{A})) \ (\mathsf{A}(\mathsf{I}(\mathsf{A})))_{1,2,4}) \end{array}$

 $\begin{array}{l} (\mathsf{A}(\mathsf{I}(\mathsf{A}))^*\mathsf{A}_{2,1}) \\ & \wedge \gg ((\mathsf{A}(\mathsf{I}(\mathsf{A})) \ (\mathsf{I}(\mathsf{A}(\mathsf{I}(\mathsf{A}))))_{4,2}) \\ ((\mathsf{A}(\mathsf{I}(\mathsf{A}))((\mathsf{I}(\mathsf{A}))_{4,1}) \end{array}$

 $\begin{array}{l} ((A(I(A))((I(A))_{4,1}) \\ & \land \gg ((A(I(A)) \ (I(A(I(A))))_{4,2}) \\ ((A(I(A)) \ (A(I(A)))_{4,2,1}) \end{array}$

 $\begin{array}{l} ((A(I(A))((I(A))_{4,1}) \\ & \land \gg ((A(I(A)) (I(A(I(A))))_{4,2}) \\ & (A(I(A))^*A_{2,1}) \end{array}$

 $\begin{array}{l} ((A(I(A)) \ (A(I(A)))_{4,2,1}) \\ & \land \gg ((A(I(A)) \ (I(A(I(A))))_{4,2}) \\ & ((A(I(A))((I(A))_{4,1}) \end{array} \end{array}$

 $\begin{array}{l} ((A(I(A)) \ (A(I(A)))_{1,2,4}) \\ \land \gg ((A(I(A)) \ (I(A(I(A))))_{4,2}) \\ (A(I(A))^*A_{2,1}) \end{array}$

 $((I(A(I(A))) (A(I(A)))_{2,4} (A(I(A)) (A(I(A)))_{1,2,4} (I(A) (A(I(A)))_{1,4} A*I(A(I(A)))_{2,3}) \times (I(A(I(A)))*A_{3,2} (A(I(A)))((I(A)))_{4,1} (A(I(A)) (A(I(A)))_{4,2,1} (A(I(A)) (I(A(I(A))))_{4,2}))))$

Qualitative action

$\begin{array}{l} ((A(I(A)) \ (A(I(A)))_{1,2,4}) \\ \land \gg (A^*I(A(I(A)))_{2,3}) \\ ((I(A) \ (A(I(A)))_{1,4}) \end{array}$	×	$\begin{array}{l} ((A(I(A))((I(A))_{4,1}) \\ \land \gg (I(A(I(A)))^*A_{3,2}) \\ ((A(I(A)) \ (A(I(A)))_{4,2,1}) \end{array}$
$\begin{array}{l} ((I(A(I(A))) \ (A(I(A)))_{2,4}) \\ \land \gg (A^*I(A(I(A)))_{2,3}) \\ ((I(A) \ (A(I(A)))_{1,4}) \end{array}$	×	$((A(I(A))((I(A))_{4,1}) \ \land \gg (I(A(I(A)))^*A_{3,2}) \ ((A(I(A)))(I(A(I(A))))_{4,2})$
$\begin{array}{l} ((I(A) \; (A(I(A)))_{1,4}) \\ \land \gg (A^*I(A(I(A)))_{2,3}) \\ ((A(I(A)) \; (A(I(A)))_{1,2,4}) \end{array}$	×	$((A(I(A)) (A(I(A)))_{4,2,1}))$ $\land \gg (I(A(I(A)))^*A_{3,2})$ $((A(I(A)))((I(A))_{4,1}))$
((I(A(I(A))) (A(I(A))) _{2,4}) ∧ ≫ (A*I(A(I(A))) _{2,3}) ((A(I(A)) (I(A(I(A)))) _{2,4})	×	$\begin{array}{l} ((A(I(A))\ (A(I(A)))_{4,2,1}) \\ \land \gg (I(A(I(A)))^*A_{3,2}) \\ ((A(I(A))\ (A(I(A)))_{1,2,}) \end{array}$
((I(A) (A(I(A))) _{1,4}) 人 ≫ (A*I(A(I(A))) _{2,3}) ((I(A(I(A))) (A(I(A))) _{2,4})	×	$((A(I(A)) (I(A(I(A))))_{4,2})$ $\land \gg (I(A(I(A)))^*A_{3,2})$ $((A(I(A)))((I(A))_{4,1})$
$\begin{array}{l} ((A(I(A))\;(A(I(A)))_{1,2,4}) \\ \land \gg (A^*I(A(I(A)))_{2,3}) \\ ((I(A(I(A)))\;(A(I(A)))_{2,4}) \end{array}$	×	$((A(I(A)) (I(A(I(A))))_{4,2}))$ $\land \gg (I(A(I(A)))^*A_{3,2}))$ $((A(I(A)) (A(I(A)))_{4,2,1}))$
Medial action		
$((A(I(A)) (A(I(A)))_{1,2,4}))$ $\land \gg ((I(A) (A(I(A)))_{1,4}))$ $(A^*I(A(I(A)))_{2,3})$	×	$\begin{array}{l} (I(A(I(A)))^*A_{3,2}) \\ \land \gg ((A(I(A))((I(A))_{4,1}) \\ ((A(I(A)) \ (A(I(A)))_{4,2,1}) \end{array}$
$((I(A(I(A))) (A(I(A)))_{2,4})$		$(I(A(I(A)))*A_{3,2})$

$$\begin{split} & \wedge \gg ((I(A) \ (A(I(A)))_{1,4}) & \times & \wedge \gg ((A(I(A))((I(A))_{4,1}) \\ (A^*I(A(I(A)))_{2,3}) & ((A(I(A)) \ (I(A(I(A))))_{4,2}) \end{split}$$

$(A^*I(A(I(A)))_{2,3})$ $\land \gg ((I(A) (A(I(A)))_{1,4})$ $((A(I(A)) (A(I(A)))_{1,2,4})$	×	$\begin{array}{l} ((A(I(A)) \; (A(I(A)))_{4,2,1}) \\ \land \gg ((A(I(A))((I(A))_{4,1}) \\ (I(A(I(A)))^* A_{3,2}) \end{array}$
$\begin{array}{l} ((I(A(I(A))) (A(I(A)))_{2,4}) \\ \land \gg ((I(A) (A(I(A)))_{1,4}) \\ ((A(I(A)) (A(I(A)))_{1,2,4}) \end{array}$	×	$((A(I(A)) (A(I(A)))_{4,2,1})$ $\land \gg ((A(I(A))((I(A))_{4,1}))_{((A(I(A))) (I(A(I(A))))_{4,2}))_{4,2})$
$(A^*I(A(I(A)))_{2,3})$ $\land \gg ((I(A) (A(I(A)))_{1,4})$ $((I(A(I(A))) (A(I(A)))_{2,4})$	×	$\begin{array}{l} ((A(I(A)) \ (I(A(I(A))))_{4,2}) \\ \land \gg ((A(I(A)))((I(A))_{4,1}) \\ (I(A(I(A)))^*A_{3,2}) \end{array}$
$\begin{array}{l} ((A(I(A)) \ (A(I(A)))_{1,2,4}) \\ \land \gg ((I(A) \ (A(I(A)))_{1,4}) \\ ((I(A(I(A))) \ (A(I(A)))_{2,4}) \end{array}$	×	$\begin{array}{l} ((A(I(A)) \; (I(A(I(A))))_{4,2}) \\ \land \gg ((A(I(A)) (((I(A))_{4,1}) \\ ((A(I(A)) \; (A(I(A)))_{4,2,1}) \end{array}$
Objectal action		
$\begin{array}{l} ((I(A) \; (A(I(A)))_{1,4}) \\ \land \gg ((A(I(A)) \; (A(I(A)))_{1,2,4}) \\ (A^*I(A(I(A)))_{2,3}) \end{array}$	×	$\begin{array}{l} (I(A(I(A)))^*A_{3,2}) \\ & \land \gg ((A(I(A)) \ (A(I(A)))_{4,2,1}) \\ ((A(I(A))((I(A))_{4,1}) \end{array}$
$\begin{array}{l} ((I(A(I(A))) \ (A(I(A)))_{2,4}) \\ \land \gg ((A(I(A)) \ (A(I(A)))_{1,2,4}) \\ (A^*I(A(I(A)))_{2,3}) \end{array}$	×	$\begin{array}{l} (I(A(I(A)))^*A_{3,2}) \\ & \land \gg ((A(I(A)) \ (A(I(A)))_{4,2,1}) \\ ((A(I(A)) \ (I(A(I(A))))_{4,2}) \end{array}$
$(A^*I(A(I(A)))_{2,3})$ $\land \gg ((A(I(A)) (A(I(A)))_{1,2,4})$ $((I(A) (A(I(A)))_{1,4})$	×	$\begin{array}{l} ((A(I(A))((I(A))_{4,1}) \\ \land \gg ((A(I(A)) \ (A(I(A)))_{4,2,1}) \\ (I(A(I(A)))^*A_{3,2}) \end{array}$
$\begin{array}{l} ((I(A(I(A))) \ (A(I(A)))_{2,4}) \\ \land \gg ((A(I(A)) \ (A(I(A)))_{1,2,4}) \\ ((I(A) \ (A(I(A)))_{1,4}) \end{array}$	×	$\begin{array}{l} ((A(I(A))((I(A))_{4,1}) \\ & \land \gg ((A(I(A)) \ (A(I(A)))_{4,2,1}) \\ ((A(I(A)) \ (I(A(I(A))))_{4,2}) \end{array}$
$\begin{array}{l} ((I(A) \ (A(I(A)))_{1,4}) \\ \land \gg ((A(I(A)) \ (A(I(A)))_{1,2,4}) \\ ((I(A(I(A))) \ (A(I(A)))_{2,4}) \end{array}$	×	$\begin{array}{l} ((A(I(A)) \ (I(A(I(A))))_{4,2}) \\ & \land \gg ((A(I(A)) \ (A(I(A)))_{4,2,1}) \\ ((A(I(A)))((I(A))_{4,1}) \end{array}$
$(A^*I(A(I(A)))_{2,3})$ $\land \gg ((A(I(A)) (A(I(A)))_{1,2,4}))$ $((I(A(I(A))) (A(I(A)))_{2,4}))$	×	$\begin{array}{l} ((A(I(A)) \ (I(A(I(A))))_{4,2}) \\ & \land \gg ((A(I(A)) \ (A(I(A)))_{4,2,1}) \\ (I(A(I(A)))^*A_{3,2}) \end{array}$

Interpretative action

$\begin{array}{l} ((A(I(A)) \ (A(I(A)))_{1,2,4}) \\ \land \gg ((I(A(I(A))) \ (A(I(A)))_{2,4}) \\ (A^*I(A(I(A)))_{2,3}) \end{array}$	×	$\begin{array}{l} (I(A(I(A)))^*A_{3,2}) \\ & \land \gg ((A(I(A)) \ (I(A(I(A))))_{4,2}) \\ ((A(I(A)) \ (A(I(A)))_{4,2,1}) \end{array}$
$\begin{array}{l} ((I(A)\;(A(I(A)))_{1,4})\\ \land \gg ((I(A(I(A)))\;(A(I(A)))_{2,4})\\ (A^*I(A(I(A)))_{2,3}) \end{array}$	×	$\begin{array}{l} (I(A(I(A)))^*A_{3,2}) \\ & \land \gg ((A(I(A)) \ (I(A(I(A))))_{4,2}) \\ ((A(I(A))((I(A))_{4,1}) \end{array}$
$\begin{array}{l} ((A(I(A)) \ (A(I(A)))_{1,2,4}) \\ \land \gg ((I(A(I(A))) \ (A(I(A)))_{2,4}) \\ ((I(A) \ (A(I(A)))_{1,4}) \end{array}$	×	$\begin{array}{l} ((A(I(A))((I(A))_{4,1}) \\ \qquad \land \gg ((A(I(A)) \ (I(A(I(A))))_{4,2}) \\ ((A(I(A)) \ (A(I(A)))_{4,2,1}) \end{array}$
$\begin{array}{l}(A^*I(A(I(A)))_{2,3})\\ \land \gg ((I(A(I(A)))\;(A(I(A)))_{2,4})\\ ((I(A)\;(A(I(A)))_{1,4})\end{array}$	×	$\begin{array}{l} ((A(I(A))((I(A))_{4,1}) \\ & \land \gg ((A(I(A)) \ (I(A(I(A))))_{4,2}) \\ (I(A(I(A)))^*A_{3,2}) \end{array}$
$\begin{array}{l} ((I(A) \ (A(I(A)))_{1,4}) \\ \land \gg ((I(A(I(A))) \ (A(I(A)))_{2,4}) \\ ((A(I(A)) \ (A(I(A)))_{1,2,4}) \end{array}$	×	$\begin{array}{l} ((A(I(A))\ (A(I(A)))_{4,2,1}) \\ & \land \gg ((A(I(A))\ (I(A(I(A))))_{4,2}) \\ ((A(I(A))((I(A))_{4,1}) \end{array}$
$\begin{array}{l} (A^*I(A(I(A)))_{2,3}) \\ \land \gg ((I(A(I(A))) \ (A(I(A)))_{2,4}) \\ ((A(I(A)) \ (A(I(A)))_{1,2,4}) \end{array}$	×	$\begin{array}{l} ((A(I(A))\ (A(I(A)))_{4,2,1}) \\ & \land \gg ((A(I(A))\ (I(A(I(A))))_{4,2}) \\ (I(A(I(A)))^*A_{3,2}) \end{array}$

13. Pre-semiotic dual system

 $((I(A(I(A))) (A(I(A)))_{2,4} (A(I(A)) (A(I(A)))_{1,2,4} (I(A) (I(A(I(A))))_{3,4} A^*I(A(I(A)))_{2,3}) \times (I(A(I(A)))^*A_{3,2} (I(A(I(A))) (I(A))_{4,3} (A(I(A)) (A(I(A)))_{4,2,1} (A(I(A)) (I(A(I(A))))_{4,2})))$

$\begin{array}{l} ((A(I(A)) \ (A(I(A)))_{1,2,4}) \\ \land \gg (A^*I(A(I(A)))_{2,3}) \\ ((I(A) \ (I(A(I(A)))))_{3,4}) \end{array}$	×	$\begin{array}{c} ((I(A(I(A)))\;(I(A))_{4,3}) \\ \land \gg (I(A(I(A)))^*A_{3,2}) \\ ((A(I(A))\;(A(I(A)))_{4,2,1}) \end{array}$
$\begin{array}{l} ((I(A(I(A))) \ (A(I(A)))_{2,4}) \\ \land \gg (A^*I(A(I(A)))_{2,3}) \\ ((I(A) \ (I(A(I(A)))))_{3,4}) \end{array}$	×	$\begin{array}{l} ((I(A(I(A)))\;(I(A))_{4,3}) \\ \land \gg (I(A(I(A)))^*A_{3,2}) \\ ((A(I(A))\;(I(A(I(A))))_{4,2}) \end{array}$

$\begin{array}{l} ((I(A) (I(A(I(A)))))_{3,4}) \\ \land \gg (A^*I(A(I(A)))_{2,3}) \\ ((A(I(A)) (A(I(A)))_{1,2,4}) \end{array}$	×	$\begin{array}{l} ((A(I(A))\ (A(I(A)))_{4,2,1}) \\ \land \gg (I(A(I(A)))^*A_{3,2}) \\ ((I(A(I(A)))\ (I(A))_{4,3}) \end{array}$
$\begin{array}{l} ((I(A(I(A))) (A(I(A)))_{2,4}) \\ \land \gg (A^*I(A(I(A)))_{2,3}) \\ ((A(I(A)) (A(I(A)))_{1,2,4}) \end{array}$	×	$\begin{array}{l} ((A(I(A)) \ (A(I(A)))_{4,2,1}) \\ \land \gg (I(A(I(A)))^*A_{3,2}) \\ ((A(I(A)) \ (I(A(I(A))))_{4,2}) \end{array}$
$\begin{array}{l} ((I(A) (I(A(I(A)))))_{3,4}) \\ \land \gg (A^*I(A(I(A)))_{2,3}) \\ ((I(A(I(A))) (A(I(A)))_{2,4}) \end{array}$	×	$((A(I(A)) (I(A(I(A))))_{4,2}))$ $\land \gg (I(A(I(A)))^*A_{3,2})$ $((I(A(I(A))) (I(A))_{4,3}))$
$\begin{array}{l} ((A(I(A)) \ (A(I(A)))_{1,2,4}) \\ \land \gg (A^*I(A(I(A)))_{2,3}) \\ ((I(A(I(A))) \ (A(I(A)))_{2,4}) \end{array}$	×	$\begin{array}{l} ((A(I(A)) \; (I(A(I(A))))_{4,2}) \\ \land \gg (I(A(I(A)))^*A_{3,2}) \\ ((A(I(A)) \; (A(I(A)))_{4,2,1}) \end{array}$

Medial action

 $\begin{array}{ll} ((A(I(A)) (A(I(A)))_{1,2,4}) & (I(A(I(A)))^*A_{3,2}) \\ & \wedge \gg ((I(A) (I(A(I(A))))_{3,4}) & \times & & & \\ (A^*I(A(I(A)))_{2,3}) & ((A(I(A)) (A(I(A)))_{4,2,1}) \end{array}$

Х

$$((I(A(I(A))) (A(I(A)))_{2,4})$$

$$\label{eq:2.1} \begin{split} & \wedge \gg ((I(A) \ (I(A(I(A)))))_{3,4}) \quad \times \\ & (A^*I(A(I(A)))_{2,3}) \end{split}$$

 $(A*I(A(I(A)))_{2,3})$

 $\wedge \gg ((I(A) (I(A(I(A)))))_{3,4}) \times ((A(I(A)) (A(I(A)))_{1,2,4})$

 $\begin{array}{l} ((I(A(I(A))) \ (A(I(A)))_{2,4}) \\ \land \gg ((I(A) \ (I(A(I(A))))_{3,4}) \quad \times \\ ((A(I(A)) \ (A(I(A)))_{1,2,4}) \end{array}$

 $\begin{array}{l} (A^*I(A(I(A)))_{2,3}) \\ \land \gg ((I(A) (I(A(I(A))))_{3,4}) \\ ((I(A(I(A))) (A(I(A)))_{2,4}) \end{array}$

 $\begin{array}{l} (\mathsf{I}(\mathsf{A}(\mathsf{I}(\mathsf{A})))^*\mathsf{A}_{3,2}) \\ \land \gg ((\mathsf{I}(\mathsf{A}(\mathsf{I}(\mathsf{A}))) \ (\mathsf{I}(\mathsf{A}))_{4,3}) \\ ((\mathsf{A}(\mathsf{I}(\mathsf{A})) \ (\mathsf{I}(\mathsf{A}(\mathsf{I}(\mathsf{A}))))_{4,2}) \end{array}$

 $\begin{array}{l} ((A(I(A))\ (A(I(A)))_{4,2,1}) \\ \land \gg ((I(A(I(A)))\ (I(A))_{4,3}) \\ (I(A(I(A)))^*A_{3,2}) \end{array}$

 $\begin{array}{l} ((A(I(A)) \ (A(I(A)))_{4,2,1}) \\ \land \gg ((I(A(I(A))) \ (I(A))_{4,3}) \\ ((A(I(A)) \ (I(A(I(A))))_{4,2}) \end{array}$

 $\begin{array}{l} ((A(I(A)) \ (I(A(I(A))))_{4,2}) \\ & \land \gg ((I(A(I(A))) \ (I(A))_{4,3}) \\ (I(A(I(A)))^* A_{3,2}) \end{array}$

 $((A(I(A)) (A(I(A)))_{1,2,4}))$ $((A(I(A)) (I(A(I(A))))_{4,2}))$ $\land \gg ((I(A) (I(A(I(A)))))_{3,4})$ Х $\land \gg ((I(A(I(A))) (I(A))_{4.3}))$ ((A(I(A)) (A(I(A)))_{4,2,1}) $((I(A(I(A))) (A(I(A)))_{2.4}))$ **Objectal** action $(I(A(I(A)))*A_{3,2})$ $((I(A) (I(A(I(A)))))_{3,4})$ $\land \gg ((A(I(A)) (A(I(A)))_{4,2,1})$ $\land \gg ((A(I(A)) (A(I(A)))_{1.2.4}))$ Х $(A^*I(A(I(A)))_{2,3})$ $((I(A(I(A))) (I(A))_{4,3}))$ $((I(A(I(A))) (A(I(A)))_{2.4}))$ $(I(A(I(A)))*A_{3,2})$ $\land \gg ((A(I(A)) (A(I(A)))_{1,2,4}))$ $\land \gg ((A(I(A)) (A(I(A)))_{4,2,1}))$ \times $(A^*I(A(I(A)))_{2,3})$ $((A(I(A)) (I(A(I(A))))_{4,2}))$ $(A*I(A(I(A)))_{2,3})$ $((I(A(I(A))) (I(A))_{4,3}))$ $\land \gg ((A(I(A)) (A(I(A)))_{1,2,4}))$ Х $\land \gg ((A(I(A)) (A(I(A)))_{4,2,1}))$ $((I(A) (I(A(I(A)))))_{3,4})$ $(I(A(I(A)))*A_{3,2})$ $((I(A(I(A))) (A(I(A)))_{2.4}))$ $((I(A(I(A))) (I(A))_{4,3}))$ $\land \gg ((A(I(A)) (A(I(A)))_{1,2,4}))$ $\land \gg ((A(I(A)) (A(I(A)))_{4,2,1}))$ Х $((I(A) (I(A(I(A)))))_{3,4})$ $((A(I(A)) (I(A(I(A))))_{4,2}))$ $((I(A) (I(A(I(A)))))_{3,4})$ $((A(I(A)) (I(A(I(A))))_{4,2}))$ $\land \gg ((A(I(A)) (A(I(A)))_{1,2,4}))$ $\land \gg ((A(I(A)) (A(I(A)))_{4,2,1}))$ \times $((I(A(I(A))) (A(I(A)))_{2,4}))$ $((I(A(I(A))) (I(A))_{4,3}))$ $(A^*I(A(I(A)))_{2,3})$ $((A(I(A)) (I(A(I(A))))_{4,2}))$ $\land \gg ((A(I(A)) (A(I(A)))_{1,2,4}))$ $\land \gg ((A(I(A)) (A(I(A)))_{4,2,1}))$ × $((I(A(I(A))) (A(I(A)))_{2,4}))$ $(I(A(I(A)))*A_{3,2})$ Interpretative action $((A(I(A)) (A(I(A)))_{1,2,4}))$ $(I(A(I(A)))*A_{3,2})$ $h \gg ((I(A(I(A))) (A(I(A)))_{2,4}))$ $\land \gg ((A(I(A)) (I(A(I(A))))_{4,2}))$ \times $(A*I(A(I(A)))_{2,3})$ $((A(I(A)) (A(I(A)))_{4.2.1}))$ $((I(A) (I(A(I(A)))))_{3,4})$ $(I(A(I(A)))*A_{3,2})$ $\land \gg ((I(A(I(A))) (A(I(A)))_{2,4}))$ $\land \gg ((A(I(A)) (I(A(I(A))))_{4,2}))$ Х $(A^*I(A(I(A)))_{2,3})$ $((I(A(I(A))) (I(A))_{4,3}))$

35

$\begin{array}{l} ((A(I(A)) \ (A(I(A)))_{1,2,4}) \\ \land \gg ((I(A(I(A))) \ (A(I(A)))_{2,4}) \\ ((I(A) \ (I(A(I(A)))))_{3,4}) \end{array}$	×	((I(A(I(A))) (I(A)) _{4,3})
$(A^*I(A(I(A)))_{2,3})$ $\land \gg ((I(A(I(A))) (A(I(A)))_{2,4}))$ $((I(A) (I(A(I(A))))_{3,4}))$	×	((I(A(I(A))) (I(A)) _{4,3})
$\begin{array}{l} ((I(A) (I(A(I(A)))))_{3,4}) \\ \land \gg ((I(A(I(A))) (A(I(A)))_{2,4}) \\ ((A(I(A)) (A(I(A)))_{1,2,4}) \end{array}$	×	$\begin{array}{l} ((A(I(A))\;(A(I(A)))_{4,2,1}) \\ \land \gg ((A(I(A))\;(I(A(I(A))))_{4,2}) \\ ((I(A(I(A)))\;(I(A))_{4,3}) \end{array}$
$\begin{array}{l}(A^*I(A(I(A)))_{2,3})\\ \land \gg ((I(A(I(A)))\;(A(I(A)))_{2,4})\\ ((A(I(A))\;(A(I(A)))_{1,2,4})\end{array}$	×	$\begin{array}{l} ((A(I(A))\ (A(I(A)))_{4,2,1}) \\ \land \gg ((A(I(A))\ (I(A(I(A))))_{4,2}) \\ (I(A(I(A)))^*A_{3,2}) \end{array}$

 $((I(A(I(A))) (A(I(A)))_{2,4} (A(I(A)) (I(A(I(A))))_{2,4} (I(A) (I(A(I(A))))_{3,4} A^*I(A(I(A)))_{2,3}) \times (I(A(I(A)))^*A_{3,2} (I(A(I(A))) (I(A))_{4,3} (I(A(I(A))) (A(I(A)))_{4,2} (A(I(A)) (I(A(I(A))))_{4,2}))$

((A(I(A)) (I(A(I(A)))) _{2,4})		((I(A(I(A))) (I(A)) _{4,3})
$\land \gg (A*I(A(I(A)))_{2,3})$	X	$\wedge \gg (I(A(I(A)))^*A_{3,2})$
((I(A) (I(A(I(A))))) _{3,4})		((I(A(I(A))) (A(I(A))) _{4,2})
((I(A(I(A))) (A(I(A))) _{2,4})		((I(A(I(A))) (I(A)) _{4,3})
$\land \gg (A*I(A(I(A)))_{2,3})$	×	$\wedge \gg (I(A(I(A)))^*A_{3,2})$
((I(A) (I(A(I(A))))) _{3,4})		((A(I(A)) (I(A(I(A)))) _{4,2})
((I(A) (I(A(I(A))))) _{3,4})		((I(A(I(A))) (A(I(A))) _{4,2})
$\land \gg (A*I(A(I(A)))_{2,3})$	X	$\wedge \gg (I(A(I(A)))^*A_{3,2})$
((A(I(A)) (I(A(I(A)))) _{2,4})		((I(A(I(A))) (I(A)) _{4,3})
((I(A(I(A))) (A(I(A))) _{2,4})		((I(A(I(A))) (A(I(A))) _{4,2})
$\land \gg (A*I(A(I(A)))_{2,3})$	×	$\wedge \gg (I(A(I(A)))^*A_{3,2})$
((A(I(A)) (I(A(I(A)))) _{2,4})		((A(I(A)) (I(A(I(A)))) _{4,2})

((I(A) (I(A(I(A))))) _{3,4})		((A(I(A)) (I(A(I(A)))) _{4,2})
$\wedge \gg (A*I(A(I(A)))_{2,3})$	×	$\land \gg (I(A(I(A)))^*A_{3,2})$
((I(A(I(A))) (A(I(A))) _{2,4})		((I(A(I(A))) (I(A)) _{4,3})
((^ (1 (^)) (1 (^ (1 (^))))		
((A(I(A)) (I(A(I(A)))) _{2,4})		((A(I(A)) (I(A(I(A)))) _{4,2})
$\wedge \gg (A*I(A(I(A)))_{2,3})$	×	人 ≫ (I(A(I(A)))*A _{3,2})
((I(A(I(A))) (A(I(A))) _{2,4})		((I(A(I(A))) (A(I(A))) _{4,2})

Medial action

 $((A(I(A)) (I(A(I(A))))_{2,4}))$ $(I(A(I(A)))*A_{3,2})$ $\land \gg ((I(A) (I(A(I(A)))))_{3,4})$ $\land \gg ((I(A(I(A))) (I(A))_{4,3}))$ X $(A*I(A(I(A)))_{2,3})$ $((I(A(I(A))) (A(I(A)))_{4,2}))$ $((I(A(I(A))) (A(I(A)))_{2,4}))$ $(I(A(I(A)))*A_{3,2})$ $\land \gg ((I(A) (I(A(I(A)))))_{3,4})$ Х $\land \gg ((I(A(I(A))) (I(A))_{4,3}))$ $(A^*I(A(I(A)))_{2,3})$ $((A(I(A)) (I(A(I(A))))_{4,2}))$ $(A^*I(A(I(A)))_{2,3})$ $((I(A(I(A))) (A(I(A)))_{4,2}))$ $\land \gg ((I(A) (I(A(I(A)))))_{3,4})$ $\land \gg ((I(A(I(A))) (I(A))_{4,3}))$ Х $((A(I(A)) (I(A(I(A))))_{2.4})$ $(I(A(I(A)))*A_{3,2})$ $((I(A(I(A))) (A(I(A)))_{2,4}))$ $((I(A(I(A))) (A(I(A)))_{4,2}))$ $\land \gg ((I(A) (I(A(I(A)))))_{3,4})$ \times $\land \gg ((I(A(I(A))) (I(A))_{4.3}))$ $((A(I(A)) (I(A(I(A))))_{2,4}))$ $((A(I(A)) (I(A(I(A))))_{4,2}))$ $(A^*I(A(I(A)))_{2,3})$ $((A(I(A)) (I(A(I(A))))_{4,2}))$ $\land \gg ((I(A) (I(A(I(A)))))_{3,4})$ $\land \gg ((I(A(I(A))) (I(A))_{4.3}))$ × $((I(A(I(A))) (A(I(A)))_{2,4}))$ $(I(A(I(A)))*A_{3,2})$ $((A(I(A)) (I(A(I(A))))_{2.4}))$ $((A(I(A)) (I(A(I(A))))_{4,2}))$ $\land \gg ((I(A) (I(A(I(A)))))_{3,4})$ $h \gg ((I(A(I(A))) (I(A))_{4,3}))$ Х $((I(A(I(A))) (A(I(A)))_{2,4}))$ $((I(A(I(A))) (A(I(A)))_{4,2}))$ **Objectal action** $((I(A) (I(A(I(A)))))_{3,4})$ $(I(A(I(A)))*A_{3,2})$

 $\begin{array}{ll} ((I(A) (I(A(I(A))))_{3,4}) & (I(A(I(A)))^{+}A_{3,2}) \\ & \wedge \gg ((A(I(A))) (I(A(I(A))))_{2,4}) & \times & \wedge \gg ((I(A(I(A))) (A(I(A)))_{4,2}) \\ & (A^*I(A(I(A)))_{2,3}) & ((I(A(I(A))) (I(A))_{4,3}) \end{array}$

 $((I(A(I(A))) (A(I(A)))_{2,4}))$ $h \gg ((A(I(A)) (I(A(I(A))))_{2,4}))$ Х $(A*I(A(I(A)))_{2,3})$ $(A^*I(A(I(A)))_{2,3})$ $((I(A(I(A))) (I(A))_{4,3}))$ $h \gg ((A(I(A)) (I(A(I(A))))_{2,4}))$ Х $((I(A) (I(A(I(A)))))_{3,4})$ $((I(A(I(A))) (A(I(A)))_{2,4}))$ $\land \gg ((A(I(A)) (I(A(I(A))))_{2.4}))$ Х $((I(A) (I(A(I(A)))))_{3,4})$ $((I(A) (I(A(I(A)))))_{3,4})$ $h \gg ((A(I(A)) (I(A(I(A))))_{2,4}))$ Х $((I(A(I(A))) (A(I(A)))_{2.4}))$ $(A^*I(A(I(A)))_{2,3})$ $\land \gg ((A(I(A)) (I(A(I(A))))_{2,4}))$ Х $((I(A(I(A))) (A(I(A)))_{2,4}))$ Interpreatative action $((A(I(A)) (I(A(I(A))))_{2,4}))$ $h \gg ((I(A(I(A))) (A(I(A)))_{2,4}))$ Х $(A*I(A(I(A)))_{2,3})$ $((I(A) (I(A(I(A)))))_{3,4})$ $h \gg ((I(A(I(A))) (A(I(A)))_{2,4}))$ Х $(A^*I(A(I(A)))_{2,3})$ $((A(I(A)) (I(A(I(A))))_{2.4}))$ $\land \gg ((I(A(I(A))) (A(I(A)))_{2.4}))$ Х $((I(A) (I(A(I(A)))))_{3,4})$ $((I(A(I(A))) (I(A))_{4,3}))$ $(A*I(A(I(A)))_{2,3})$ $\land \gg ((I(A(I(A))) (A(I(A)))_{2,4}))$ \times $((I(A) (I(A(I(A)))))_{3,4})$ $((I(A) (I(A(I(A)))))_{3,4})$ $\land \gg ((I(A(I(A))) (A(I(A)))_{2,4}))$ Х $((A(I(A)) (I(A(I(A))))_{2,4}))$

 $(I(A(I(A)))*A_{3,2})$ $h \gg ((I(A(I(A))) (A(I(A)))_{4,2}))$ $((A(I(A)) (I(A(I(A))))_{4,2}))$

 $\land \gg ((I(A(I(A))) (A(I(A)))_{4,2}))$ $(I(A(I(A)))*A_{3,2})$

 $((I(A(I(A)))(I(A))_{4,3}))$ $\land \gg ((I(A(I(A))) (A(I(A)))_{4,2}))$ $((A(I(A)) (I(A(I(A))))_{4,2}))$

 $((A(I(A)) (I(A(I(A))))_{4,2}))$ $h \gg ((I(A(I(A))) (A(I(A)))_{4,2}))$ $((I(A(I(A))) (I(A))_{4,3}))$

 $((A(I(A)) (I(A(I(A))))_{4,2}))$ $\land \gg ((I(A(I(A))) (A(I(A)))_{4,2}))$ (I(A(I(A)))*A_{3,2})

 $(I(A(I(A)))*A_{3,2})$ $h \gg ((A(I(A)) (I(A(I(A))))_{4,2}))$ $((I(A(I(A))) (A(I(A)))_{4,2}))$

 $(I(A(I(A)))*A_{3,2})$ $h \gg ((A(I(A)) (I(A(I(A))))_{4,2}))$ $((I(A(I(A))) (I(A))_{4,3}))$

> $((I(A(I(A))) (I(A))_{4,3}))$ $\land \gg ((A(I(A)) (I(A(I(A))))_{4,2}))$ $((I(A(I(A))) (A(I(A)))_{4,2}))$

 $h \gg ((A(I(A)) (I(A(I(A))))_{4,2}))$ $(I(A(I(A)))*A_{3,2})$

 $((I(A(I(A))) (A(I(A)))_{4,2}))$ $\land \gg ((A(I(A)) (I(A(I(A))))_{4,2}))$ $((I(A(I(A)))(I(A))_{4,3}))$

(A*I(A(I(A))) _{2,3})		((I(A(I(A))) (A(I(A))) _{4,2})
$\wedge \gg ((I(A(I(A))) (A(I(A)))_{2,4})$	×	$harphi \gg ((A(I(A)) (I(A(I(A))))_{4,2}))$
((A(I(A)) (I(A(I(A)))) _{2,4})		(I(A(I(A)))*A _{3,2})

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15. Pre-semiotic dual system
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 $((I(A(I(A))) (I(A(I(A))))_{2,3,4} (A(I(A)) (I(A(I(A))))_{2,4} (I(A) (I(A(I(A))))_{3,4} A^*I(A(I(A)))_{2,3}) \times (I(A(I(A)))^* A_{3,2} (I(A(I(A))) (I(A))_{4,3} (I(A(I(A))) (A(I(A)))_{4,2} (I(A(I(A))) (I(A(I(A))))_{4,3,2})))$

Qualitative action

((A(I(A)) (I(A(I(A)))) _{2,4})		((I(A(I(A))) (I(A)) _{4,3})
$\wedge \gg (A*I(A(I(A)))_{2,3})$	×	$\wedge \gg (I(A(I(A)))^*A_{3,2})$
((I(A) (I(A(I(A))))) _{3,4})		((I(A(I(A))) (A(I(A))) _{4,2})
((I(A(I(A))) (I(A(I(A)))) _{2,3,4})		((I(A(I(A))) (I(A)) _{4,3})
$\wedge \gg (A*I(A(I(A)))_{2,3})$	×	$\wedge \gg (I(A(I(A)))^*A_{3,2})$
((I(A) (I(A(I(A))))) _{3,4})		((I(A(I(A))) (I(A(I(A)))) _{4,3,2})
((I(A) (I(A(I(A))))) _{3,4})		((I(A(I(A))) (A(I(A))) _{4,2})
人 ≫ (A*I(A(I(A))) _{2,3})	×	$\wedge \gg (I(A(I(A)))^*A_{3,2})$
((A(I(A)) (I(A(I(A)))) _{2,4})		((I(A(I(A))) (I(A)) _{4,3})
((I(A(I(A))) (A(I(A))) _{2,4})		((I(A(I(A))) (A(I(A))) _{4,2})
$\wedge \gg (A*I(A(I(A)))_{2,3})$	×	$\wedge \gg (I(A(I(A)))^*A_{3,2})$
((A(I(A)) (I(A(I(A)))) _{2,4})		((A(I(A)) (I(A(I(A)))) _{4,2})
((I(A) (I(A(I(A))))) _{3,4})		((A(I(A)) (I(A(I(A)))) _{4,2})
$\land \gg (A*I(A(I(A)))_{2.3})$	×	$\wedge \gg (I(A(I(A)))^*A_{3,2})$
((I(A(I(A))) (A(I(A))) _{2,4})		((I(A(I(A))) (I(A)) _{4,3})
((A(I(A)) (I(A(I(A)))) _{2,4})		((A(I(A)) (I(A(I(A)))) _{4,2})
$\land \gg (A*I(A(I(A)))_{2,3})$	×	$\land \gg (I(A(I(A)))^*A_{3,2})$
((I(A(I(A))) (A(I(A))) _{2,4})		((I(A(I(A))) (A(I(A))) _{4,2})
Medial action		
((A(I(A)) (I(A(I(A)))) _{2,4})		(I(A(I(A)))*A _{3,2})

 $\begin{array}{ll} ((A(I(A)) (I(A(I(A))))_{2,4}) & (I(A(I(A)))^*A_{3,2}) \\ & \wedge \gg ((I(A) (I(A(I(A))))_{3,4}) & \times & \wedge \gg ((I(A(I(A))) (I(A))_{4,3}) \\ & (A^*I(A(I(A)))_{2,3}) & ((I(A(I(A))) (A(I(A)))_{4,2}) \end{array}$

 $((I(A(I(A))) (I(A(I(A))))_{2,3,4}))$ $(I(A(I(A)))*A_{3,2})$ $\land \gg ((I(A) (I(A(I(A)))))_{3,4})$ Х $h \gg ((I(A(I(A))) (I(A))_{4.3}))$ $(A^*I(A(I(A)))_{2,3})$ $((I(A(I(A))) (I(A(I(A))))_{4,3,2}))$ $(A^*I(A(I(A)))_{2,3})$ $((I(A(I(A))) (A(I(A)))_{4,2}))$ $\land \gg ((I(A) (I(A(I(A)))))_{3,4})$ Х $h \gg ((I(A(I(A))) (I(A))_{4.3}))$ $((A(I(A)) (I(A(I(A))))_{2,4}))$ $(I(A(I(A)))*A_{3,2})$ $((I(A(I(A))) (I(A(I(A))))_{2,3,4}))$ $((I(A(I(A))) (A(I(A)))_{4,2}))$ $\land \gg ((I(A) (I(A(I(A)))))_{3,4})$ $\land \gg ((I(A(I(A))) (I(A))_{4.3}))$ Х $((A(I(A)) (I(A(I(A))))_{2.4}))$ $((I(A(I(A))) (I(A(I(A))))_{4,3,2}))$ $(A^*I(A(I(A)))_{2,3})$ $((I(A(I(A))) (I(A(I(A))))_{4.3.2}))$ $h \gg ((I(A) (I(A(I(A)))))_{3,4})$ Х $\land \gg ((I(A(I(A))) (I(A))_{4,3}))$ $((I(A(I(A))) (I(A(I(A))))_{2,3,4}))$ $(I(A(I(A)))*A_{3,2})$ $((A(I(A)) (I(A(I(A))))_{2.4}))$ $((I(A(I(A))) (I(A(I(A))))_{4,3,2}))$ $\land \gg ((I(A) (I(A(I(A)))))_{3,4})$ $\land \gg ((I(A(I(A))) (I(A))_{4,3}))$ Х $((I(A(I(A))) (I(A(I(A))))_{2,3,4}))$ $((I(A(I(A))) (A(I(A)))_{4,2}))$ **Objectal** action $((I(A) (I(A(I(A)))))_{3,4})$ $(I(A(I(A)))*A_{3,2})$ $h \gg ((A(I(A)) (I(A(I(A))))_{2,4}))$ $h \gg ((I(A(I(A))) (A(I(A)))_{4,2}))$ Х $((I(A(I(A))) (I(A))_{4,3}))$ $(A^*I(A(I(A)))_{2,3})$ $((I(A(I(A))) (I(A(I(A))))_{2,3,4}))$ $(I(A(I(A)))*A_{3,2})$ $\land \gg ((I(A(I(A))) (A(I(A)))_{4,2}))$ $\land \gg ((A(I(A)) (I(A(I(A))))_{2.4}))$ Х $(A^*I(A(I(A)))_{2,3})$ $((I(A(I(A))) (I(A(I(A))))_{4,3,2}))$ $(A^*I(A(I(A)))_{2,3})$ $((I(A(I(A))) (I(A))_{4,3}))$ $\land \gg ((A(I(A)) (I(A(I(A))))_{2.4}))$ $\land \gg ((I(A(I(A))) (A(I(A)))_{4,2}))$ Х $((I(A) (I(A(I(A)))))_{3,4})$ $(I(A(I(A)))*A_{3,2})$ $((I(A(I(A))) (I(A(I(A))))_{2,3,4}))$ $((I(A(I(A))) (I(A))_{4,3}))$ $h \gg ((A(I(A)) (I(A(I(A))))_{2,4}))$ \times $\land \gg ((I(A(I(A))) (A(I(A)))_{4,2}))$ $((I(A(I(A))) (I(A(I(A))))_{4,3,2})$ $((I(A) (I(A(I(A)))))_{3,4})$ $((I(A) (I(A(I(A)))))_{3,4})$ $((I(A(I(A))) (I(A(I(A))))_{4,3,2}))$ $\Lambda \gg ((A(I(A)) (I(A(I(A))))_{2,4}))$ Х $\Lambda \gg ((I(A(I(A))) (A(I(A)))_{4,2}))$ $((I(A(I(A))) (I(A(I(A))))_{2,3,4}))$ $((I(A(I(A))) (I(A))_{4,3}))$

$(A*I(A(I(A)))_{2,3})$ $\land \gg ((A(I(A)) (I(A(I(A))))_{2,4})$ $((I(A(I(A))) (I(A(I(A))))_{2,3,4})$	×	$\begin{array}{l} ((I(A(I(A))) \ (I(A(I(A))))_{4,3,2}) \\ & \land \gg ((I(A(I(A))) \ (A(I(A)))_{4,2}) \\ & (I(A(I(A)))^*A_{3,2}) \end{array}$
Interpretative action		
$\begin{array}{l} ((A(I(A)) (I(A(I(A))))_{2,4}) \\ \land \gg ((I(A(I(A))) (I(A(I(A))))_{2,3,4}) \\ (A^*I(A(I(A)))_{2,3}) \end{array}$	>	$(I(A(I(A)))^*A_{3,2}) \\ < \qquad \land \gg ((I(A(I(A))) (I(A(I(A))))_{4,3,2}) \\ ((I(A(I(A))) (A(I(A)))_{4,2})$
$\begin{array}{l} ((I(A) (I(A(I(A)))))_{3,4}) \\ \land \gg ((I(A(I(A))) (I(A(I(A))))_{2,3,4}) \\ (A^*I(A(I(A)))_{2,3}) \end{array}$	>	$(I(A(I(A)))*A_{3,2}) \\ < \qquad \land \gg ((I(A(I(A))) (I(A(I(A))))_{4,3,2}) \\ ((I(A(I(A))) (I(A))_{4,3})$
$\begin{array}{l} ((A(I(A)) \ (I(A(I(A))))_{2,4}) \\ \land \gg ((I(A(I(A))) \ (I(A(I(A))))_{2,3,4}) \\ ((I(A) \ (I(A(I(A)))))_{3,4}) \end{array}$	>	$((I(A(I(A))) (I(A))_{4,3}) \land \gg ((I(A(I(A))) (I(A(I(A))))_{4,3,2}) ((I(A(I(A))) (A(I(A)))_{4,2})) \land (I(A(I(A)))_{4,2}))$
$\begin{array}{l} (A^*I(A(I(A)))_{2,3}) \\ & \land \gg ((I(A(I(A))) \ (I(A(I(A))))_{2,3,4}) \\ ((I(A) \ (I(A(I(A)))))_{3,4}) \end{array}$	>	$ \begin{array}{l} ((I(A(I(A))) (I(A))_{4,3}) \\ < \qquad \land \gg ((I(A(I(A))) (I(A(I(A))))_{4,3,2}) \\ (I(A(I(A)))^*A_{3,2}) \end{array} $
$\begin{array}{l} ((I(A) (I(A(I(A)))))_{3,4}) \\ \land \gg ((I(A(I(A))) (I(A(I(A))))_{2,3,4}) \\ ((A(I(A)) (I(A(I(A))))_{2,4}) \end{array}$	>	$((I(A(I(A))) (A(I(A)))_{4,2}) \\ \land \gg ((I(A(I(A))) (I(A(I(A))))_{4,3,2}) \\ ((I(A(I(A))) (I(A))_{4,3})$
(A*I(A(I(A))) _{2,3}) 人 ≫ ((I(A(I(A))) (I(A(I(A)))) _{2,3,4}) ((A(I(A)) (I(A(I(A)))) _{2,4})	>	$ \begin{array}{l} ((I(A(I(A))) (A(I(A)))_{4,2}) \\ < \qquad \land \gg ((I(A(I(A))) (I(A(I(A))))_{4,3,2}) \\ (I(A(I(A)))^*A_{3,2}) \end{array} $

II. Action schemata of the 2 \cdot 24 tetradic semiotic partial relations

Qualitative action

 $\begin{array}{ccc} ((I(A(I(A))) (I(A))_{3,4}) & ((I(A) (A(I(A)))_{4,1}) \\ ((I(A)(I(A)))_{1,3,4}) & \gg Y > (A^*I(A)_{1,3}) \\ & ((A(I(A)))((I(A))_{1,4}) & (I(A)^*A_{3,1}) \\ & ((I(A) (I(A))((I(A)))_{4,3}) \end{array}$

((I(A)(I(A)))	$\begin{array}{l} ((A(I(A)))((I(A))_{1,4}) \\ \downarrow_{1,4,3}) \gg \gamma > (A^*I(A)_{1,3}) \\ ((I(A(I(A))))(I(A))_{3,4}) \end{array}$	(I(A)*A _{3,1}) >>	Ŷ	$((I(A) (I(A(I(A)))))_{4,3}) > ((I(A)(I(A)))_{4,3,1}) ((I(A) (A(I(A)))_{4,1})$
((A(I(A))((I	$\begin{array}{l} ((I(A(I(A))) (I(A))_{3,4}) \\ (A))_{1,4}) \gg \gamma > (A^*I(A)_{1,3}) \\ ((I(A)(I(A)))_{1,3,4}) \end{array}$	(I(A)*A _{3,1}) ≫	γ	$((I(A)(I(A)))_{4,3,1}) > ((I(A) (A(I(A)))_{4,1}) \\ ((I(A) (I(A(I(A))))_{4,3}))$
((A(I(A))((I	$\begin{array}{l} ((I(A)(I(A)))_{1,3,4}) \\ (A))_{1,4}) \gg \gamma > (A^*I(A)_{1,3}) \\ ((I(A(I(A)))(I(A))_{3,4}) \end{array}$	(I(A)*A _{3,1}) ≫	Ŷ	$((I(A) (I(A(I(A)))))_{4,3}) > ((I(A) (A(I(A)))_{4,1}) ((I(A) (I(A)))_{4,3,1})$
((I(A(I(A))) (I(A(I(A))))) _{4,3})		× (I(A)*A _{3,1})	>>	$((I(A) (A(I(A)))_{4,1})$ Y > ((I(A))
	((A(I(A))((I(A)) _{1,4})			((I(A)(I(A))) _{4,3,1})
((I(A(I(A))) (I(A(I(A))))) _{4,3})		× (I(A)*A _{3,1})	»	$((I(A)(I(A)))_{4,3,1})$ Y > $((I(A))_{4,3,1})$
	((I(A)(I(A))) _{1,3,4})			((I(A) (A(I(A))) _{4,1})
Medial action				
(A*I(A) _{1,3})	$\begin{array}{l} ((I(A(I(A))) (I(A))_{3,4}) \\ \gg \Upsilon \ > ((I(A)(I(A)))_{1,3,4}) \times \\ ((A(I(A)))((I(A))_{1,4}) \end{array}$	((I(A)(I(A))) _{4,3,1})	>>	$((I(A) (A(I(A)))_{4,1}))$ $Y > (I(A)^*A_{3,1})$ $((I(A) (I(A(I(A)))))_{4,3})$
(A*I(A) _{1,3})	$\begin{array}{l} ((A(I(A)))((I(A))_{1,4}) \\ \gg \ Y \ \succ \ ((I(A)(I(A)))_{1,3,4}) \times \\ ((I(A(I(A))) \ (I(A))_{3,4}) \end{array}$	((I(A)(I(A))) _{4,3,1})	>>	$\begin{array}{l} ((I(A) (I(A(I(A)))))_{4,3}) \\ Y \ > (I(A)^*A_{3,1}) \\ ((I(A) (A(I(A)))_{4,1}) \end{array}$
((A(I(A))((I((A(I(A))) _{4,1})	$(A^*I(A)_{1,3})$ $(A))_{1,4} \gg Y > ((I(A)(I(A)))_{1,3,4})$			$(I(A(I(A))))_{4,3}) \\ \gg Y > ((I(A)$
· · · · ///¬,±/	((I(A(I(A))) (I(A)) _{3,4})			(I(A)*A _{3,1})
((A(I(A)))((I))))))))))))))))))))))))))	$((I(A(I(A))) (I(A))_{3,4})$ $(A))_{1,4}) \gg \Upsilon > ((I(A)(I(A)))_{1,3,4}$.)× ((I(A)(I(A)))∠	1,3,1)	(I(A)*A _{3,1}) ≫ Y ≻
((((\C)))) (A*I(A) ₁	-	((I(A) (I(A	A(I(A))))) _{4,3})

 $(A^*I(A)_{1,3})$ $((I(A) (A(I(A)))_{4,1}))$ $((I(A(I(A))) (I(A))_{3,4}) \gg Y > ((I(A)(I(A)))_{1,3,4}) \times$ $((I(A)(I(A)))_{4,3,1}) \gg Y$ \succ $((I(A) (I(A(I(A)))))_{4,3})$ $((A(I(A))((I(A))_{1,4})))$ $(I(A)^*A_{3.1})$ $((A(I(A)))((I(A))_{1.4}))$ $(I(A)^*A_{3.1})$ $((I(A(I(A))) (I(A))_{3,4}) \gg Y > ((I(A)(I(A)))_{1,3,4}) \times$ $((I(A)(I(A)))_{4,3,1}) \gg Y$ \succ $((I(A) (I(A(I(A)))))_{4,3})$ (A*I(A)_{1,3}) $((I(A) (A(I(A)))_{4.1}))$ Objectal action $((I(A(I(A))) (I(A))_{3,4}))$ $((I(A)(I(A)))_{4,3,1})$ $(A^*I(A)_{1,3}) \gg Y > ((A(I(A)))((I(A))_{1,4}) \times ((I(A) (A(I(A)))_{4,1}) \gg Y > (I(A)^*A_{3,1})$ $((I(A)(I(A)))_{1,3,4})$ $((I(A) (I(A(I(A)))))_{4,3})$ $((I(A)(I(A)))_{1.3.4})$ $((I(A) (I(A(I(A)))))_{4.3})$ $(A^*I(A)_{1,3}) \gg Y > ((A(I(A)))((I(A))_{1,4}) \times$ $((I(A) (A(I(A)))_{4,1}) \gg Y > (I(A)^*A_{3,1})$ $((I(A(I(A))) (I(A))_{3,4}))$ $((I(A)(I(A)))_{4,3,1})$ $(A^*I(A)_{1.3})$ $((I(A) (I(A(I(A)))))_{4,3})$ $((I(A)(I(A)))_{1,3,4}) \gg Y > ((A(I(A))((I(A))_{1,4}) \times$ $((I(A) (A(I(A)))_{4,1}) \gg Y$ \succ $((I(A)(I(A)))_{4,3,1})$ $(I(A)^*A_{3.1})$ $((I(A(I(A)))(I(A))_{3,4}))$ $((I(A(I(A))) (I(A))_{3,4}))$ $(I(A)^*A_{3.1})$ $((I(A)(I(A)))_{1,3,4}) \gg Y > ((A(I(A))((I(A))_{1,4}) \times$ $((I(A) (A(I(A)))_{4.1}) \gg Y$ \succ $((I(A)(I(A)))_{4,3,1})$ $(A^*I(A)_{1,3})$ $((I(A) (I(A(I(A)))))_{4,3})$ $(A^*I(A)_{1.3})$ $((I(A)(I(A)))_{4,3,1})$ $((I(A(I(A))) (I(A))_{3,4}) \gg Y > ((A(I(A))((I(A))_{1,4}) \times$ $((I(A) (A(I(A)))_{4,1}) \gg Y$ \succ $((I(A) (I(A(I(A)))))_{4,3})$ $((I(A)(I(A)))_{1,3,4})$ $(I(A)^*A_{3,1})$ $(I(A)^*A_{3,1})$ $((I(A)(I(A)))_{1,3,4})$ $((I(A(I(A)))(I(A))_{3,4}) \gg Y > ((A(I(A))((I(A))_{1,4}) \times$ $((I(A) (A(I(A)))_{4,1}) \gg$ γ $> ((I(A) (I(A(I(A)))))_{4,3})$ $(A^*I(A)_{1.3})$ $((I(A)(I(A)))_{4,3,1})$

Interpretative action

(A*I(A) _{1,3}) (I(A)*A _{3,1})	$\begin{array}{ll} ((A(I(A)))((I(A))_{1,4}) \\ \gg & Y & \succ ((I(A(I(A))) \ (I(A))_{3,4}) & \times \end{array}$	((I(A) (I(A(I(((I(A)(I(A))) _{4,3,1}) A))))) _{4,3}) ≫ Y	≻	
	((I(A)(I(A))) _{1,3,4})		((I(A) (A(I(A))) _{4,1})		
(A*I(A) _{1,3}) (I(A)*A _{3,1})	$((I(A)(I(A)))_{1,3,4})$ $\gg \gamma > ((I(A(I(A))) (I(A))_{3,4}) \times$	((I(A) (I(A(I(((I(A) (A(I(A))) _{4,1}) A))))) _{4,3}) ≫ Ƴ	≻	
(1(A) A3,1)	((A(I(A))((I(A)) _{1,4})		((I(A)(I(A))) _{4,3,1})		
((I(A)(I(A))) Ƴ ≻ ((I(A)($(A^*I(A)_{1,3}) _{1,3,4}) \gg Y > ((I(A(I(A))) (I(A))_{3,4}) I(A)))_{4,3,1}) ((A(I(A)))((I(A))_{1,4}) $		(A) (A(I(A))) _{4,1}) (I(A(I(A))))) _{4,3}) (I(A)*A _{3.1})	»	
((I(A)(I(A))) ≻ ((I(A)(I(A	$((A(I(A)))((I(A))_{1,4})_{1,3,4}) \gg \Upsilon > ((I(A(I(A))))(I(A))_{3,4})$		$(I(A) * A_{3,1})$ $(I(A(I(A))))_{4,3})$ $(A) (A(I(A)))_{4,1})$	>>	Y
((A(I(A))((I(≻ ((I(A) (A($(A^*I(A)_{1,3})$ $(A)_{1,4}) \gg Y > ((I(A(I(A))) (I(A))_{3,4}))$ $I(A)_{1,4})$ $((I(A)(I(A)))_{1,3,4})$		(A)(I(A))) _{4,3,1}) (I(A(I(A))))) _{4,3}) (I(A)*A _{3,1})	γ	
((A(I(A))((I(Y ≻ ((I(A)	$((I(A)(I(A)))_{1,3,4})$ (A)) _{1,4}) $\gg \gamma > ((I(A(I(A))) (I(A))_{3,4}))$ (A(I(A))) _{4,1}) (A*I(A) _{1,3})		(I(A)*A _{3,1}) (I(A(I(A))))) _{4,3}) (A)(I(A))) _{4,3,1})	>>	

2. Pre-semiotic dual system

 $((I(A(I(A))) (I(A))_{3,4} (A(I(A)))((I(A))_{1,4} (I(A)(I(A)))_{1,3,4} A^*A(I(A))_{1,2}) \times (A(I(A))^*A_{2,1} (I(A)(I(A)))_{4,3,1} (I(A) (A(I(A)))_{1,4} (I(A) (I(A(I(A))))_{4,3}))))_{4,3})$

Qualitative action

 $\begin{array}{ccc} ((I(A(I(A))) (I(A))_{3,4}) & ((I(A) (A(I(A)))_{4,1}) \\ ((I(A)(I(A)))_{1,3,4}) & \gg Y > (A^*A(I(A))_{1,2}) & \times & (A(I(A))^*A_{2,1}) & \gg Y > ((I(A)(I(A)))_{4,3,1}) \\ & ((A(I(A))((I(A))_{1,4}) & ((I(A)(I(A)))_{4,3})) \end{array}$

((I(A)(I(A)))	$\begin{array}{l} ((A(I(A))((I(A))_{1,4}) \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\$	(A(I(A))*A _{2,1})	$\begin{array}{l} ((I(A) (I(A(I(A)))))_{4,3}) \\ \gg \Upsilon \ > ((I(A)(I(A)))_{4,3,1}) \\ ((I(A) (A(I(A)))_{4,1}) \end{array}$
((A(I(A))((I($\begin{array}{l} ((I(A(I(A))) (I(A))_{3,4}) \\ (A))_{1,4}) \gg Y > (A^*A(I(A))_{1,2}) \\ ((I(A)(I(A)))_{1,3,4}) \end{array}$	(A(I(A))*A _{2,1})	$((I(A)(I(A)))_{4,3,1}) \\ \gg Y > ((I(A) (A(I(A)))_{4,1}) \\ ((I(A) (I(A(I(A)))))_{4,3}) \\$
((A(I(A))((I($\begin{array}{l} ((I(A)(I(A)))_{1,3,4}) \\ (A))_{1,4}) \gg \gamma > (A^*A(I(A))_{1,2}) \\ ((I(A(I(A))))(I(A))_{3,4}) \end{array}$	(A(I(A))*A _{2,1})	$\begin{array}{l} ((I(A) (I(A(I(A)))))_{4,3}) \\ \gg \forall \ \succ ((I(A) (A(I(A)))_{4,1}) \\ ((I(A)(I(A)))_{4,3,1}) \end{array}$
((I(A(I(A))) (I(A(I(A))))) _{4,3})	$((I(A)(I(A)))_{1,3,4})$ $(I(A))_{3,4}) \gg Y > (A*A(I(A))_{1,2})$	× (A(I(A))*A ₂	$((I(A) (A(I(A)))_{4,1}))_{4,1}) \gg Y > ((I(A)))_{4,1})$
(1(11(11)14,3)	((A(I(A))((I(A)) _{1,4})		((I(A)(I(A))) _{4,3,1})
	$((A(I(A)))((I(A))_{1,4}))$ $(I(A))_{3,4}) \gg Y \succ (A^*A(I(A))_{1,2})$	× (A(I(A))*A ₂	$((I(A)(I(A)))_{4,3,1})$ $_{,1}) \gg Y > ((I(A))_{4,3,1})$
(I(A(I(A))))) _{4,3})	((I(A)(I(A))) _{1,3,4})		((I(A) (A(I(A))) _{4,1})
Medial action	I.		
(A*A(I(A)) ₁	$((I(A(I(A))) (I(A))_{3,4}))_{,2}) \gg \gamma > ((I(A)(I(A)))_{1,3,4}) \times ((A(I(A)))((I(A))_{1,4}))_{,4})$	((I(A)(I(A))) _{4,3,1})	$((I(A) (A(I(A)))_{4,1}) \\ \gg Y > (A(I(A))^*A_{2,1}) \\ ((I(A) (I(A(I(A))))_{4,3}) \\ ((I(A) (I(A(I(A)))))_{4,3}) \\ ((I(A) (I(A(I(A))))_{4,3}) \\ ((I(A) (I(A)))_{4,3}) \\ ((I(A) (I($
(A*A(I(A)) ₁	$\begin{array}{l} ((A(I(A)))((I(A))_{1,4}) \\ _{,2}) \gg Y > ((I(A)(I(A)))_{1,3,4}) \times \\ ((I(A(I(A))))(I(A))_{3,4}) \end{array}$	((I(A)(I(A))) _{4,3,1})	$\begin{array}{l} ((I(A) (I(A(I(A)))))_{4,3}) \\ \gg \gamma \ > (A(I(A))^*A_{2,1}) \\ ((I(A) (A(I(A)))_{4,1}) \end{array}$
	$(A^*A(I(A))_{1,2})$ $(A))_{1,4}) \gg Y > ((I(A)(I(A)))_{1,3,4}) \times$		$\begin{array}{l} (A) (I(A(I(A))))_{4,3}) \\ _{1}) > Y > ((I(A)) \end{array}$
(A(I(A))) _{4,1})	((I(A(I(A))) (I(A)) _{3,4})		(A(I(A))*A _{2,1})
	$((I(A(I(A))) (I(A))_{3,4}) \\ (A))_{1,4}) \gg Y > ((I(A)(I(A)))_{1,3,4}) \times$	((I(A)(I(A))) _{4,3,}	$(A(I(A))^*A_{2,1})$ $((I(A))^*) \rightarrow \gamma \rightarrow ((I(A))^*)$
(A(I(A))) _{1,4})	(A*A(I(A)) _{1,2})	(()	I(A) (I(A(I(A))))) _{4,3})

((I(A(I(A))) ((I(A) (I(A(I(A))	$(A^*A(I(A))_{1,2})$ $(I(A))_{3,4}) \gg Y > ((I(A)(I(A)))_{1,3,4}) \times$ $(I(A))_{4,3})$ $((A(I(A)))((I(A))_{1,4}))$	$((I(A) (A(I(A)))_{4,1})$ $((I(A)(I(A)))_{4,3,1}) \gg \gamma >$ $(A(I(A))^*A_{2,1})$
	(((((()))))))))))))))))))))))))))))))))	(A(I(A)) A _{2,1})
((I(A(I(A))) ((I(A) (I(A(I(A))	$((A(I(A)))((I(A))_{1,4})) ((I(A))_{3,4}) \gg Y > ((I(A)(I(A)))_{1,3,4}) (I(A))_{1,3,4}) $	$(A(I(A))^*A_{2,1})$ $((I(A)(I(A)))_{4,3,1}) \gg Y >$
	$(A^*A(I(A))_{1,2})$	((I(A) (A(I(A))) _{4,1})
Objectal actio	n	
(A*A(I(A)) <u>1</u> (A(I(A))*A _{2.1})	$((I(A(I(A))) (I(A))_{3,4})_{,2}) \gg \Upsilon > ((A(I(A))((I(A))_{1,4}) \times$	$((I(A)(I(A)))_{4,3,1})$ $((I(A)(A(I(A)))_{4,1}) \gg Y >$
(~('(~)) ~2,1)	((I(A)(I(A))) _{1,3,4})	((I(A) (I(A(I(A))))) _{4,3})
	$((I(A)(I(A)))_{1,3,4})_{,2}) \gg \Upsilon > ((A(I(A))((I(A))_{1,4}) \times$	$((I(A) (I(A(I(A)))))_{4,3})$ $((I(A) (A(I(A)))_{4,1}) \gg Y >$
(A(I(A))*A _{2,1})	((I(A(I(A))) (I(A)) _{3,4})	((I(A)(I(A))) _{4,3,1})
	$(A^*A(I(A))_{1,2})_{1,3,4}) \gg Y > ((A(I(A)))((I(A))_{1,4}) \times A)_{1,3,4}$	$((I(A) (I(A(I(A)))))_{4,3})$ $((I(A) (A(I(A)))_{4,1}) \gg Y > Y$
((I(A)(I(A))) _{4,3,2}	((I(A(I(A))) (I(A)) _{3,4})	(A(I(A))*A _{2,1})
((I(A)(I(A))) ((I(A)(I(A))) _{4,3,}	$((I(A(I(A))) (I(A))_{3,4})_{1,3,4}) \gg \Upsilon > ((A(I(A)))((I(A))_{1,4}) \times I)_{1,3,4}) = (I(A))_{1,4} + I(A)_{1,4} + I(A)_{1,4} + I(A)_{1,4})_{1,4} + I(A)_{1,4} + I($	$(A(I(A))^*A_{2,1})$ $((I(A) (A(I(A)))_{4,1}) \gg \gamma >$
(((((()))))))))))))))))))))))))))))))))	(A*A(I(A)) _{1,2})	((I(A) (I(A(I(A))))) _{4,3})
	$\begin{array}{l} (A^*A(I(A))_{1,2}) \\ (I(A))_{3,4}) \gg Y > ((A(I(A))((I(A))_{1,4}) \\ A(I(A))))_{4,3}) \\ (A(I(A))^*A_{2,1}) \end{array}$	$((I(A)(I(A)))_{4,3,1}) \times ((I(A) (A(I(A)))_{4,1}) \gg Y (I(A)))_{1,3,4})$
((I(A(I(A))) ≻ ((I(A) (I(A	$((I(A)(I(A)))_{1,3,4})$ (I(A))_{3,4}) >> Y > ((A(I(A))((I(A))_{1,4})) A(I(A))))_{4,2})	$(A(I(A))^*A_{2,1})$ × $((I(A) (A(I(A)))_{4,1}) \gg Y$
	$(A^*A(I(A))_{1,2})$	((I(A)(I(A))) _{4,3,1})

Interpretative action

	(A*A(I(A)) _{1,2} ≻ (A(I(A))*A	$\begin{array}{l} ((A(I(A))((I(A))_{1,4}) \\ (A_{2,1}) \\ ((I(A)(I(A)))_{1,3,4}) \\ ((I(A)(I(A)))_{1,3,4}) \end{array} \times$	((I(A) (I(A(I(A)	$\begin{array}{l} (A)(I(A)))_{4,3,1})\\ ())))_{4,3}) >> \\ (A)(A(I(A)))_{4,1}) \end{array}$	٧
	(A*A(I(A)) _{1,2} ≻ (A(I(A))*A	$((I(A)(I(A)))_{1,3,4})$ $(I(A)) > Y > ((I(A(I(A)))) (I(A))_{3,4}) \times A_{2,1})$ $((A(I(A)))((I(A))_{1,4}))$	((I(A) (I(A(I(A)	$\begin{array}{l} (A) \ (A(I(A)))_{4,1}) \\ ()))_{4,3} \ \gg \\ (A)(I(A)))_{4,3,1} \end{array}$	٢
	((I(A)(I(A))) ₁ Y ≻ ((I(A)(I	$(A^*A(I(A))_{1,2})$ $_{,3,4}) \gg Y > ((I(A(I(A))) (I(A))_{3,4}) >$ $(A)))_{4,3,1})((A(I(A)))((I(A))_{1,4})$	< ((I(A) (I(A(I	(A(I(A))) _{4,1}) (A))))) _{4,3}) .(I(A))*A _{2,1})	»
	((I(A)(I(A))) ₁ Υ ≻ ((I(A)(I	$\begin{array}{l} ((A(I(A))((I(A))_{1,4}) \\ _{,3,4}) \qquad \gg \ \gamma \ > ((I(A(I(A))) \ (I(A))_{3,4}) \ > \\ (A)))_{4,3,1}) \\ (A^*A(I(A))_{1,2}) \end{array}$	< ((I(A) (I(A(I	.(I(A))*A _{2,1}) (A))))) _{4,3}) (A(I(A))) _{4,1})	»
	((A(I(A))((I(A Ƴ ≻ ((I(A) (/	$(A^*A(I(A))_{1,2})$ $A)_{1,4} \gg Y > ((I(A(I(A))) (I(A))_{3,4}) > A(I(A)))_{4,1})$ $((I(A)(I(A)))_{1,3,4})$	< ((I(A) (I(A(I	(I(A))) _{4,3,1}) (A))))) _{4,3}) .(I(A))*A _{2,1})	>>
	((A(I(A))((I(A Υ ≻ ((I(A) (A	$\begin{array}{l} ((I(A)(I(A)))_{1,3,4}) \\ (A))_{1,4}) \gg \Upsilon > ((I(A(I(A))) (I(A))_{3,4}) > \\ A(I(A)))_{4,1}) \\ (A^*A(I(A))_{1,2}) \end{array}$	< ((I(A) (I(A(I	.(I(A))*A _{2,1}) (A))))) _{4,3}) (I(A))) _{4,3,1})	»
((1(4	4(I(A))) (I(A)	c dual system 1) _{3,4} (A(I(A))((I(A)) _{1,4} (I(A)(I(A))) _{1,3,4} A* I(A) (A(I(A))) _{4,1} (I(A) (I(A(I(A))))) _{4,3})	∃I(A(I(A))) _{2,3}) × (I	(A(I(A)))*A _{3,2}	
Qua	alitative act	ion			
	((I(A)(I(A))) _{1,} A)(I(A))) _{4,3,1})		I(A(I(A)))*A _{3,2}) ((I	((I(A) (A(I(A))), ≫ Y ≻ (A) (I(A(I(A))))),	, -

((I(A)(I(A))) ((I(A)(I(A)))	$((A(I(A)))((I(A))_{1,4}))_{1,3,4}) \gg Y > (A^*I(A(I(A)))_{2,3}) \times (A^*I(A)) \times (A^*I(A(I(A))) \times (A^*I(A)) \times (A^*I(A)) \times (A^*I($		(I(A) (I(A(I(A))))) _{4,3}) Ƴ ≻
	$((I(A(I(A))) (I(A))_{3,4}))$		((I(A) (A(I(A))) _{4,1})
((A(I(A))((I((A(I(A))) _{4,1})	$((I(A(I(A))) (I(A))_{3,4}))$ (A)) _{1,4}) >> Y > (A*I(A(I(A)))_{2,3})×	(I(A(I(A)))*A _{3,2})	$\begin{array}{l} ((I(A)(I(A)))_{4,3,1}) \\ \gg \Upsilon \ \succ \qquad ((I(A)$
(~('\~)))4,1)	((I(A)(I(A))) _{1,3,4})	((I(A) (I(A(I(A))))) _{4,3})
((A(I(A))((I((A(I(A))) _{4,1})	$((I(A)(I(A)))_{1,3,4})$ (A)) _{1,4}) \gg Y $>$ (A*I(A(I(A))) _{2,3}) \times		$(I(A) (I(A(I(A))))_{4,3})$ >> Y > ((I(A)
(,,(,(,,,))4,1)	((I(A(I(A))) (I(A)) _{3,4})		((I(A)(I(A))) _{4,3,1})
((I(A(I(A))) ((I(A) (I(A(I(A)	$((I(A)(I(A)))_{1,3,4})$ (I(A))_{3,4} $\gg \gamma > (A^*I(A(I(A)))_{2,3}) \times$))))_{4,3})		$(I(A) (A(I(A)))_{4,1})$ $_{3,2}) \gg \gamma > \gamma$
	$((A(I(A)))((I(A))_{1,4})$	((I(A)(I(A))) _{4,3,1})
((I(A(I(A))) ((I(A) (I(A(I(A)	$((A(I(A)))((I(A))_{1,4}) (I(A))_{3,4}) \gg Y > (A^*I(A(I(A)))_{2,3}))))_{4,3})$		$(I(A)(I(A)))_{4,3,1})$ $(I(A)(I(A)))_{4,3,1}) > Y > Y$
,	((I(A)(I(A))) _{1,3,4})	((I(A) (A(I(A))) _{4,1})
Medial action	1		
(A*I(A(I(A) (I(A(I(A)))*A _{3,:}	$((I(A(I(A))) (I(A))_{3,4}))_{2,3}) \gg Y > ((I(A)(I(A)))_{1,3,4}) \times$	((I(A)(I(A))) _{4,3,1})	((I(A) (A(I(A))) _{4,1}) ≫ Y ≻
((· · · · · · · · · · · · · · · · · ·	((A(I(A))((I(A)) _{1,4})	((I(A) (I(A(I(A))))) _{4,3})
	$((A(I(A)))((I(A))_{1,4})))_{2,3}) \gg Y > ((I(A)(I(A)))_{1,3,4}) \times$	(((I(A)(I(A))) _{4,3,1})	(I(A) (I(A(I(A))))) _{4,3}) ≫ Y ≻
(I(A(I(A)))*A _{3,:}	((I(A(I(A))) (I(A)) _{3,4})		((I(A) (A(I(A))) _{4,1})
	$(A^*I(A(I(A)))_{2,3})$ $(A))_{1,4}) \gg Y > ((I(A)(I(A)))_{1,3,4}) \times$	•	$(I(A) (I(A(I(A))))_{4,3})$ >> Y > ((I(A)
(A(I(A))) _{4,1})	((I(A(I(A))) (I(A)) _{3,4})		(I(A(I(A)))*A _{3,2})

((A(I(A)))((I((A(I(A))) _{4,1})	$((I(A(I(A))) (I(A))_{3,4})$ (A)) _{1,4}) $\gg \gamma > ((I(A)(I(A)))_{1,3,4}) \times$	((I(A)(I(A))) _{4,3,1})	(I(A(I(A)))*A _{3,:} ≫ Y ≻	
	(A*I(A(I(A))) _{2,3})	((1	I(A) (I(A(I(A)))))	4,3)
((I(A(I(A))) ((I(A) (I(A(I(A)		((I(A)(I(A))) _{4,3,}		>
	((A(I(A))((I(A)) _{1,4})		(A(I(A)))*A _{3,2})	
((I(A(I(A))) ((I(A) (I(A(I(A)))	$((A(I(A)))((I(A))_{1,4}))((I(A))_{3,4}) \gg Y > ((I(A)(I(A)))_{1,3,4}) \times ((I(A))_{3,4}))))_{4,3}$		(A(I(A)))*A _{3,2}) ₁) ≫ Y	≻
	(A*I(A(I(A))) _{2,3})	(()	I(A) (A(I(A))) _{4,1})	
Objectal action	on			
	$((I(A(I(A))) (I(A))_{3,4}))_{2,3}) \gg Y \succ ((A(I(A))((I(A))_{1,4}) \times a))_{3,4})$	((I(A) (A(I(A)))	$((I(A)(I(A)))_{4,3,4}) \gg \gamma$	
(I(A(I(A)))*A _{3,}	((I(A)(I(A))) _{1,3,4})	((1	I(A) (I(A(I(A)))))	4,3)
(A*I(A(I(A) (I(A(I(A)))*A _{3,}	$((I(A)(I(A)))_{1,3,4}))_{2,3} \gg \Upsilon > ((A(I(A)))((I(A))_{1,4}) \times 2)$		I(A) (I(A(I(A))))) ₄,1) ≫ Y	4,3) ≻
(((I(A(I(A))) (I(A)) _{3,4})		((I(A)(I(A))) _{4,3,}	1)
	$(A^*I(A(I(A)))_{2,3}) _{1,3,4}) \gg Y > ((A(I(A)))((I(A))_{1,4}) \times (A(I(A)))_{1,4}) $		I(A) (I(A(I(A))))) ₄,1) ≫ Y	4,3) ≻
((I(A)(I(A))) _{4,3,}	1) ((I(A(I(A))) (I(A)) _{3,4})		(I(A(I(A)))*A _{3,;}	2)
	$((I(A(I(A))) (I(A))_{3,4}))_{1,3,4}) \gg \Upsilon > ((A(I(A)))((I(A))_{1,4}) \times 1)$	((I(A) (A(I(A)))	(I(A(I(A)))*A _{3,:} ₄,₁) ≫ Υ	2) >
((I(A)(I(A))) _{4,3,}	(A*I(A(I(A))) _{2,3})	((1	I(A) (I(A(I(A)))))	4,3)
	$(A^*I(A(I(A)))_{2,3})$ (I(A))_{3,4}) $\gg Y > ((A(I(A))((I(A))_{1,4}))$ A(I(A)))))_{4,3})		$(A)(I(A))_{4,3,1})$ $(A)))_{4,1} \gg$	γ
	$((I(A)))_{1,3,4})$	(1)	(A(I(A)))*A _{3,2})	

	$\begin{array}{l} ((I(A)(I(A)))_{1,3,4}) \\ (I(A))_{3,4}) \gg \Upsilon \succ ((A(I(A))((I(A))_{1,4}) \\ A(I(A))))_{4,3}) \\ (A^*I(A(I(A)))_{2,3}) \end{array}$	×	$(I(A(I(A)))^*A_{3,2})$ $((I(A) (A(I(A)))_{4,1}) \gg$ $((I(A)(I(A)))_{4,3,1})$	γ
Interpretative	action			
(A*I(A(I(A)) Ƴ ≻ (I(A(I($((A(I(A)))((I(A))_{1,4})))_{2,3}) \gg \Upsilon \succ ((I(A(I(A))))(I(A))_{3,4}))_{A)))^*A_{3,2})$	×	((I(A)(I(A))) _{4,3,1}) ((I(A) (I(A(I(A))))) _{4,3})	>>
	((I(A)(I(A))) _{1,3,4})		((I(A) (A(I(A))) _{4,1})	
(A*I(A(I(A)) Ƴ ≻ (I(A(I($((I(A)(I(A)))_{1,3,4})$ $(I(A)(I(A)))_{2,3}) \gg Y > ((I(A(I(A))) (I(A))_{3,4}))_{3,4}$	×	((I(A) (A(I(A))) _{4,1}) ((I(A) (I(A(I(A))))) _{4,3})	»
י ג וויסויו	((A(I(A))((I(A)) _{1,4})		((I(A)(I(A))) _{4,3,1})	
((I(A)(I(A))) Y ≻ ((I(A)($(A^*I(A(I(A)))_{2,3})_{1,3,4}) \gg Y > ((I(A(I(A))) (I(A))_{3,4})_{(I(A))})_{4,2,1})$	×	((I(A) (A(I(A))) _{4,1}) ((I(A) (I(A(I(A))))) _{4,3})	»
	((A(I(A))((I(A)) _{1,4})		(I(A(I(A)))*A _{3,2})	
((I(A)(I(A))) Ƴ ≻ ((I(A)($((A(I(A)))((I(A))_{1,4})_{1,3,4}) \gg Y > ((I(A(I(A))))(I(A))_{3,4})_{(I(A)))_{4,3,1}}$	×	(I(A(I(A)))*A _{3,2}) ((I(A) (I(A(I(A))))) _{4,3})	»
	$(A^*I(A(I(A)))_{2,3})$		((I(A) (A(I(A))) _{4,1})	
	$(A^*I(A(I(A)))_{2,3})$ $(A))_{1,4}) \gg \gamma > ((I(A(I(A))) (I(A))_{3,4}))$ $(A(I(A)))_{4,1})$	×	((I(A)(I(A))) _{4,3,1}) ((I(A) (I(A(I(A))))) _{4,3})	»
¥	$((I(A)))_{4,1})$ $((I(A)(I(A)))_{1,3,4})$		(I(A(I(A)))*A _{3,2})	
	$((I(A)(I(A)))_{1,3,4})$ A)) _{1,4}) $\gg \gamma > ((I(A(I(A)))(I(A))_{3,4})$ (A(I(A))) _{4,1})	×	(I(A(I(A)))*A _{3,2}) ((I(A) (I(A(I(A))))) _{4,3})	»
י ר ((י(ה)	$(A^{(1}(A)))_{4,1})$ $(A^*I(A(I(A)))_{2,3})$		((I(A)(I(A))) _{4,3,1})	
	ic system A)) _{3,4} (A(I(A))((I(A)) _{1,4} (I(A) (A(I(A))) _{1,} , ₁ (I(A) (A(I(A))) _{4,1} (I(A) (I(A(I(A))))) _{4,3}		(A)) _{1,2}) × (A(I(A))*A _{2,1}	

Qualitative action

((I(A) (A(I(A) ((A(I(A)))((I(A)))	$((I(A(I(A))) (I(A))_{3,4})$ A)))_{1,4} $\gg Y > (A^*A(I(A))_{1,2}) \times$	(A(I(A))*A _{2,1})	((I(A) (A(I(A))) _{4,1}) ≫ Y ≻
	((A(I(A))((I(A)) _{1,4})		((I(A) (I(A(I(A))))) _{4,3})
((I(A) (A(I)) ((I(A))))))))))))))))))))))))))))	$((A(I(A)))((I(A))_{1,4}))$ A)))_{1,4} >> Y > (A*A(I(A))_{1,2}) ×	(A(I(A))*A _{2,1})	((I(A) (I(A(I(A))))) _{4,3}) ≫ Y ≻
	4,1) ((I(A(I(A))) (I(A)) _{3,4})		((I(A) (A(I(A))) _{4,1})
((A(I(A))((I($\begin{array}{l} ((I(A(I(A))) (I(A))_{3,4}) \\ (A))_{1,4}) \gg \gamma > (A^*A(I(A))_{1,2}) \\ ((I(A) (A(I(A)))_{1,4}) \end{array}$	(A(I(A))*A _{2,1})	$\begin{array}{l} ((A(I(A))((I(A))_{4,1}) \\ \gg \gamma \ > ((I(A) \ (A(I(A)))_{4,1}) \\ ((I(A) \ (I(A(I(A)))))_{4,3}) \end{array}$
((A(I(A))((I($\begin{array}{l} ((I(A) (A(I(A)))_{1,4}) \\ (A))_{1,4}) \gg \gamma > (A^*A(I(A))_{1,2}) \times \\ ((I(A(I(A))) (I(A))_{3,4}) \end{array}$	(A(I(A))*A _{2,1})	$\begin{array}{l} ((I(A) (I(A(I(A)))))_{3,4}) \\ \gg \gamma \ > ((I(A) (A(I(A)))_{4,1}) \\ ((A(I(A))((I(A))_{4,1}) \end{array}$
((I(A(I(A))) (I(A(I(A))))) _{4,3})	$((I(A) (A(I(A)))_{1,4}))$ $(I(A))_{3,4}) \gg Y > (A*A(I(A))_{1,2})$	× (A(I(A))*A ₂	$((I(A) (A(I(A)))_{4,1}))_{2,1}) \gg Y > ((I(A))$
	((A(I(A))((I(A)) _{1,4})		((A(I(A))((I(A)) _{4,1})
	$\begin{array}{l} ((A(I(A)))((I(A))_{1,4}) \\ (I(A))_{3,4}) & \gg \Upsilon \ > (A^*A(I(A))_{1,2}) \end{array}$	× (A(I(A))*A ₂	$((A(I(A)))((I(A))_{4,1})_{2,1}) \gg Y > ((I(A))_{4,1})$
(I(A(I(A))))) _{4,3})	((I(A) (A(I(A))) _{1,4})		((I(A) (A(I(A))) _{4,1})
Medial action	I.		
	$((I(A(I(A))) (I(A))_{3,4})_{,2}) \gg Y > ((I(A) (A(I(A)))_{1,4}) \times$	((A(I(A))((I(A))	$((I(A) (A(I(A)))_{4,1}))_{4,1}) \gg \gamma >$
(A(I(A))*A _{2,1})	((A(I(A))((I(A)) _{1,4})		((I(A) (I(A(I(A))))) _{4,3})
	$((A(I(A)))((I(A))_{1,4}))_{,2}) \gg Y > ((I(A) (A(I(A)))_{1,4}) \times$	((A(I(A))((I(A))	$((I(A) (I(A(I(A)))))_{4,3}))_{4,1}) \gg \Upsilon >$
(A(I(A))*A _{2,1}) (((I(A(I(A))) (I(A)) _{3,4})		((I(A) (A(I(A))) _{4,1})

((A(I(A))((I((((A))(A(I(A)))))	$(A^*A(I(A))_{1,2})$ (A)) _{1,4}) \gg Y > ((I(A) (A(I(A)))_{1,4}) ×	$((I(A) (I(A(I(A)))))_{4,3})$ $((A(I(A))((I(A))_{4,1}) \gg Y >$
	((I(A(I(A))) (I(A)) _{3,4})	(A(I(A))*A _{2,1})
((A(I(A))((I((((A))(A(I(A)))))	$((I(A(I(A))) (I(A))_{3,4})$ (A)) _{1,4}) $\gg Y > ((I(A) (A(I(A)))_{1,4}) \times$	$(A(I(A))^*A_{2,1})$ $((A(I(A))((I(A))_{4,1}) \gg Y >$
	4,1) (A*A(I(A)) _{1,2})	((I(A) (I(A(I(A))))) _{4,3})
	$(A^*A(I(A))_{1,2})$ $(I(A))_{3,4}) \gg \Upsilon > ((I(A) (A(I(A)))_{1,4}))$ $A(I(A)))))_{4,3})$	$((I(A) (A(I(A)))_{4,1}) \times ((A(I(A)))((I(A))_{4,1}) \gg Y$
	$((A(I(A))))))_{1,4}$	(A(I(A))*A _{2,1})
	$\begin{array}{l} ((A(I(A)))((I(A))_{1,4}) \\ (I(A))_{3,4}) \gg Y > ((I(A) (A(I(A)))_{1,4}) \\ A(I(A))))_{4,3}) \\ (A^*A(I(A))_{1,2}) \end{array}$	$(A(I(A))^*A_{2,1})$ × $((A(I(A)))((I(A))_{4,1}) \gg Y$ $((I(A) (A(I(A)))_{4,1})$
Objectal actio	on	
	$\begin{array}{l} ((I(A(I(A))) (I(A))_{3,4}) \\ _{,2}) \gg Y > ((A(I(A))((I(A))_{1,4}) \times \end{array}$	$((A(I(A)))((I(A))_{4,1}))$ $((I(A) (A(I(A)))_{4,1}) \gg \gamma >$
(A(I(A))*A _{2,1})	((I(A) (A(I(A))) _{1,4})	((I(A) (I(A(I(A))))) _{4,3})
	$((I(A) (A(I(A)))_{1,4})_{,2}) \gg Y > ((A(I(A))((I(A))_{1,4}) \times$	$((I(A) (I(A(I(A)))))_{4,3})$ $((I(A) (A(I(A)))_{4,1}) \gg Y >$
(A(I(A))*A _{2,1})	((I(A(I(A))) (I(A)) _{3,4})	((A(I(A))((I(A)) _{4,1})
	$(A^*A(I(A))_{1,2})$ $(A)))_{1,4}) \gg Y > ((A(I(A)))((I(A))_{1,4}) \times A))$	$((I(A) (I(A(I(A)))))_{4,3})$ $((I(A) (A(I(A)))_{4,1}) \gg Y >$
((A(I(A))((I(A))	((I(A(I(A))) (I(A)) _{3,4})	(A(I(A))*A _{2,1})
((I(A) (A(I(A) ((A(I(A)))()(A)))	$((I(A(I(A))) (I(A))_{3,4}))$ (A))) _{1,4}) $\gg Y > ((A(I(A))((I(A))_{1,4}) \times I_{1,4}))$	$(A(I(A))^*A_{2,1})$ $((I(A) (A(I(A)))_{4,1}) \gg Y >$
\\~\'\\^\/\\\'\A'}	(A*A(I(A)) _{1,2})	((I(A) (I(A(I(A))))) _{4,3})

$\begin{array}{c} (A^*A(I(A))_{1,2}) \\ ((I(A(I(A))) (I(A))_{3,4}) \gg Y > ((A(I(A)))((I(A))_{1,4}) \times \\ > ((I(A) (I(A(I(A))))_{4,3}) \\ ((I(A) (A(I(A)))_{1,4}) \end{array}$	$((A(I(A)))((I(A))_{4,1})))((I(A))_{4,1}) \gg ((I(A))(A(I(A)))_{4,1}) \gg (A(I(A))^*A_{2,1})))$	Y
$\begin{array}{c} ((I(A) (A(I(A)))_{1,4}) \\ ((I(A(I(A))) (I(A))_{3,4}) \gg \Upsilon > ((A(I(A)))((I(A))_{1,4}) \times \\ > ((I(A) (I(A(I(A))))_{4,3}) \\ (A^*A(I(A))_{1,2}) \end{array}$	$(A(I(A))^*A_{2,1})$ $((I(A) (A(I(A)))_{4,1}) \gg$ $((A(I(A)))((I(A))_{4,1})$	Y
Interpretative action		
$\begin{array}{l} ((A(I(A))((I(A))_{1,4}) \\ (A^*A(I(A))_{1,2}) \gg Y > ((I(A(I(A))) (I(A))_{3,4}) \\ > (A(I(A))^*A_{2,1}) \\ ((I(A) (A(I(A)))_{1,4}) \end{array}$	$\begin{array}{l} ((A(I(A))((I(A))_{4,1}) \\ ((I(A) (I(A(I(A)))))_{4,3}) \gg \\ ((I(A) (A(I(A)))_{4,1}) \end{array}$	Y
$\begin{array}{l} ((I(A) (A(I(A)))_{1,4}) \\ (A^*A(I(A))_{1,2}) \gg Y > ((I(A(I(A))) (I(A))_{3,4}) \times \\ > (A(I(A))^*A_{2,1}) \\ ((A(I(A))((I(A))_{1,4}) \end{array}$	$\begin{array}{l} ((I(A) (A(I(A)))_{4,1}) \\ ((I(A) (I(A(I(A)))))_{4,3}) \gg \\ ((A(I(A)))((I(A))_{4,1}) \end{array}$	Y
$\begin{array}{l} (A^*A(I(A))_{1,2}) \\ ((I(A) (A(I(A)))_{1,4}) \gg Y > ((I(A(I(A))) (I(A))_{3,4}) \times \\ > ((A(I(A)))((I(A))_{4,1}) \\ ((A(I(A)))((I(A))_{1,4}) \end{array}$	((I(A) (A(I(A))) _{4,1}) ((I(A) (I(A(I(A))))) _{4,3}) (A(I(A))*A _{2,1})	» ү
$\begin{array}{c} ((A(I(A)))((I(A))_{1,4}) \\ ((I(A) (A(I(A)))_{1,4}) \gg \gamma > ((I(A(I(A))) (I(A))_{3,4}) \\ \gamma > ((A(I(A)))((I(A))_{4,1}) \\ (A^*A(I(A))_{1,2}) \end{array}$	(A(I(A))*A _{2,1}) ((I(A) (I(A(I(A))))) _{4,3}) ((I(A) (A(I(A))) _{4,1})	>>
$\begin{array}{l} (A^*A(I(A))_{1,2}) \\ ((A(I(A)))((I(A))_{1,4}) \gg Y > ((I(A(I(A))))(I(A))_{3,4}) \\ Y > ((I(A) (A(I(A)))_{4,1}) \\ ((I(A) (A(I(A)))_{1,4}) \end{array}$	((A(I(A))((I(A)) _{4,1}) ((I(A) (I(A(I(A))))) _{4,3}) (A(I(A))*A _{2,1})	»
$\begin{array}{l} ((I(A) (A(I(A)))_{1,4}) \\ ((A(I(A)))((I(A))_{1,4}) \gg \Upsilon > ((I(A(I(A))) (I(A))_{3,4}) \times \Upsilon > ((I(A) (A(I(A)))_{4,1}) \\ (A^*A(I(A))_{1,2}) \end{array}$	(A(I(A))*A _{2,1}) ((I(A) (I(A(I(A))))) _{4,3}) ((A(I(A))((I(A)) _{4,1})	»

((I(A(I(A))) (I(A	ic dual system A)) _{3,4} (A(I(A))((I(A)) _{1,4} (I(A) (A(I(A))) _{1,4} _{1,1} (I(A) (A(I(A))) _{4,1} (I(A) (I(A(I(A))))) _{3,4}		(I(A(I(A)))*A _{3,2}	
Qualitative ac	tion			
	$((I(A(I(A))) (I(A))_{3,4}))_{3,4}) $ (A))) _{1,4}) $\gg \gamma > (A*I(A(I(A)))_{2,3}) \times$	(I(A(I(A)))*A _{3,2})	((I(A) (A(I(A))) _{4,1}) ≫ Y ≻	
((A(I(A))((I(A))	4,1) ((A(I(A))((I(A)) _{1,4})	((I(A) (I(A(I(A))))) _{4,3})	
((I(A) (A(I(A) ((A(I(A)))(((A)))	$((A(I(A)))((I(A))_{1,4})))_{1,4}) \gg Y > (A^*I(A(I(A)))_{2,3}) \times (A^*I(A(I(A)))_{2,3})) \times (A^*I(A(I(A)))_{2,3}) \times (A^*I(A(I(A)))_{2,3})) = (A^*I(A(I(A)))_{2,3})) = (A^*I(A(I(A)))_{2,3}) \times (A^*I(A(I(A)))_{2,3})) = (A^*I(A(I(A)$		I(A) (I(A(I(A))))) _{4,3}) ≫ Y ≻	
	$((I(A(I(A))) (I(A))_{3,4}))$		((I(A) (A(I(A))) _{4,1})	
((A(I(A))((I((A(I(A))) _{4,1})	$((I(A(I(A))) (I(A))_{3,4}))$ A)) _{1,4}) $\gg \gamma > (A*I(A(I(A)))_{2,3}) \times$		A(I(A))((I(A)) _{4,1}) ≫ Y ≻	((I(A)
	((I(A) (A(I(A))) _{1,4})	((I(A) (I(A(I(A))))) _{3,4})	
	$((I(A) (A(I(A)))_{1,4}))$ A)) _{1,4}) $\gg \gamma > (A*I(A(I(A)))_{2,3}) \times$		I(A) (I(A(I(A))))) _{4,3}) ≫ Y ≻	((I(A)
(A(I(A))) _{4,1})	((I(A(I(A))) (I(A)) _{3,4})		((A(I(A))((I(A)) _{4,1})	1
((I(A(I(A))) ((I(A) (I(A(I(A)	$((I(A) (A(I(A)))_{1,4}))(I(A))_{3,4}) \gg \Upsilon > (A*I(A(I(A)))_{2,3}) \times)))_{4,3})$		I(A) (A(I(A))) _{4,1}) ₂) ≫ Y ≻	
	((A(I(A))((I(A)) _{1,4})	((,	A(I(A))((I(A)) _{4,1})	
((I(A(I(A))) ((I(A) (I(A(I(A)	$((A(I(A)))((I(A))_{1,4}))$ (I(A))_{3,4}) $\gg Y > (A^*I(A(I(A)))_{2,3}) \times$ ())))_{4,3})		$\begin{array}{l} A(I(A))((I(A))_{4,1})\\ _2) \qquad \qquad$	
	((I(A) (A(I(A))) _{1,4})	((I(A) (A(I(A))) _{4,1})	
Medial action				
(A*I(A(I(A)))) (I(A(I(A)))*A _{3,2})	$((I(A(I(A))) (I(A))_{3,4}))_{2,3}) \gg Y > ((I(A) (A(I(A)))_{1,4}) \times 0)$	((A(I(A))((I(A))	((I(A) (A(I(A))) _{4,1})) _{4,1}) ≫ ⋎ ≻	
	((A(I(A))((I(A)) _{1,4})	((I(A) (I(A(I(A))))) _{4,3})	

 $((A(I(A))((I(A))_{1,4})))$ $((I(A) (I(A(I(A)))))_{4,3})$ $(A^{*}I(A(I(A)))_{2,3}) \gg Y > ((I(A) (A(I(A)))_{1,4}) \times ((A(I(A)))((I(A))_{4,1}))_{1,4})$ \gg $\Upsilon > (I(A(I(A)))^*A_{3,2})$ $((I(A(I(A))) (I(A))_{3,4}))$ $((I(A) (A(I(A)))_{4.1}))$ $(A*I(A(I(A)))_{2.3})$ $((I(A) (I(A(I(A)))))_{4,3})$ $((A(I(A))((I(A))_{1,4}) \gg Y > ((I(A) (A(I(A)))_{1,4}) \times ((A(I(A))((I(A))_{4,1}) \gg Y)))$ \succ $((I(A) (A(I(A)))_{4,1}))$ $((I(A(I(A))) (I(A))_{3,4}))$ $(I(A(I(A)))*A_{3,2})$ $((I(A(I(A))) (I(A))_{3,4}))$ $(I(A(I(A)))*A_{3,2})$ $((A(I(A))((I(A))_{1,4}) \gg Y > ((I(A) (A(I(A)))_{1,4}) \times ((A(I(A))((I(A))_{4,1}) \gg Y)))$ \succ $((I(A) (A(I(A)))_{4.1}))$ $(A^*I(A(I(A)))_{2,3})$ $((I(A) (I(A(I(A)))))_4)$ $(A*I(A(I(A)))_{2.3})$ $((I(A) (A(I(A)))_{4,1}))$ $((I(A(I(A))) (I(A))_{3,4}) \gg Y > ((I(A) (A(I(A)))_{1,4}) \times ((A(I(A)))((I(A))_{4,1}) \gg$ γ $> ((I(A) (I(A(I(A)))))_{4,3})$ $((A(I(A)))((I(A))_{1,4}))$ $(I(A(I(A)))*A_{3,2})$ $(I(A(I(A)))*A_{3,2})$ $((A(I(A)))((I(A))_{1,4}))$ $((I(A(I(A))) (I(A))_{3,4}) \gg Y > ((I(A) (A(I(A)))_{1,4}) \times ((A(I(A)))((I(A))_{4,1})))$ \gg $\Upsilon > ((I(A) (I(A(I(A)))))_{4,3})$ $(A^*I(A(I(A)))_{2,3})$ $((I(A) (A(I(A)))_{4,1}))$ Objectal action $((I(A(I(A))) (I(A))_{3,4}))$ $((A(I(A)))((I(A))_{4.1}))$ $(A^*I(A(I(A)))_{2,3}) \gg Y > ((A(I(A))((I(A))_{1,4}) \times$ $((I(A) (A(I(A)))_{4,1}) \gg Y$ \succ $(I(A(I(A)))*A_{3,2})$ $((I(A) (A(I(A)))_{1,4}))$ $((I(A) (I(A(I(A)))))_{4,3})$ $((I(A) (A(I(A)))_{1,4}))$ $((I(A) (I(A(I(A)))))_{4,3})$ $(A^*I(A(I(A)))_{2,3}) \gg Y > ((A(I(A))((I(A))_{1,4}) \times$ $((I(A) (A(I(A)))_{4,1}) \gg Y$ \succ $(I(A(I(A)))*A_{3,2})$ $((I(A(I(A))) (I(A))_{3,4}))$ $((A(I(A)))((I(A))_{4,1}))$ $(A^*I(A(I(A)))_{2,3})$ $((I(A) (I(A(I(A)))))_{4,3})$ $((I(A) (A(I(A)))_{1,4}) \gg Y > ((A(I(A)))((I(A))_{1,4}) \times ((I(A) (A(I(A)))_{4,1}) \gg Y))$ \succ $((A(I(A)))((I(A))_{4,1}))$ $((I(A(I(A))) (I(A))_{3,4}))$ $(I(A(I(A)))*A_{3,2})$

$\begin{array}{l} ((I(A(I(A))) (I(A))_{3,4}) \\ ((I(A) (A(I(A)))_{1,4}) \gg \Upsilon \succ ((A(I(A)))((I(A))_{1,4}) \times \\ ((A(I(A))((I(A))_{4,1}) \end{array}$	(I(A(I(A)))*A _{3,2}) ((I(A) (A(I(A)))₄,1) ≫ Y ≻
(A*I(A(I(A))) _{2,3})	((I(A) (I(A(I(A))))) _{4,3})
$\begin{array}{l} (A^*I(A(I(A)))_{2,3}) \\ ((I(A(I(A)))(I(A))_{3,4}) \gg \Upsilon > ((A(I(A)))((I(A))_{1,4}) \\ > ((I(A)(A(I(A)))_{4,1}) \end{array}$	$((A(I(A)))((I(A))_{4,1}) \times ((I(A) (A(I(A)))_{4,1}) \gg Y$
((I(A) (A(I(A))) _{1,4}) ((I(A) (A(I(A))) _{1,4})	(I(A(I(A)))*A _{3,2})
$((I(A) (A(I(A)))_{1,4}) \\ ((I(A(I(A))) (I(A))_{3,4}) \gg \Upsilon > ((A(I(A)))((I(A))_{1,4}) \\ > ((I(A) (I(A(I(A)))))_{4,3})$	$(I(A(I(A)))*A_{3,2})$ × $((I(A) (A(I(A)))_{4,1}) \gg Y$
(A*I(A(I(A))) _{2,3})	((A(I(A))((I(A)) _{4,1})
Interpretative action	
$\begin{array}{l} ((A(I(A)))((I(A))_{1,4}) \\ (A^*I(A(I(A)))_{2,3}) \gg \gamma > ((I(A(I(A))))(I(A))_{3,4}) \\ \gamma > (I(A(I(A)))^*A_{3,2}) \end{array}$	$((A(I(A)))((I(A))_{4,1}) \times ((I(A) (I(A(I(A)))))_{3,4}) \gg$
((I(A) (A(I(A))) _{1,4})	((I(A) (A(I(A))) _{4,1})
$\begin{array}{l} ((I(A) (A(I(A)))_{1,4}) \\ (A^*I(A(I(A)))_{2,3}) & \gg \Upsilon & \succ ((I(A(I(A))) (I(A))_{3,4}) \\ \Upsilon & \succ (I(A(I(A)))^*A_{3,2}) \end{array}$	$((I(A) (A(I(A)))_{4,1}) \times ((I(A) (I(A(I(A))))_{4,3}) \gg$
((A(I(A))((I(A)) _{1,4})	((A(I(A))((I(A)) _{4,1})
$\begin{array}{l} (A^*I(A(I(A)))_{2,3}) \\ ((I(A) (A(I(A)))_{1,4}) \gg \gamma > ((I(A(I(A))) (I(A))_{3,4}) \\ \gamma > ((A(I(A)))((I(A))_{4,1}) \end{array}$	$((I(A) (A(I(A)))_{4,1}) \times ((I(A) (I(A(I(A))))_{4,3}) \gg$
$((A(I(A)))((I(A))_{1,4}))$	(I(A(I(A)))*A _{3,2})
$((A(I(A)))((I(A))_{1,4}))$ $((I(A) (A(I(A)))_{1,4}) \gg Y > ((I(A(I(A))) (I(A))_{3,4}))$ $Y > ((A(I(A)))((I(A))_{4,1}))$	$(I(A(I(A)))*A_{3,2}) \times ((I(A) (I(A(I(A)))))_{4,3}) \gg$
(A*I(A(I(A))) _{2,3})	((I(A) (A(I(A))) _{4,1})
$\begin{array}{l} (A^*I(A(I(A)))_{2,3}) \\ ((A(I(A))((I(A))_{1,4}) \gg \Upsilon \ \succ \ ((I(A(I(A))) \ (I(A))_{3,4}) \\ \Upsilon \ \succ \ ((I(A) \ (A(I(A)))_{4,1}) \end{array}$	$((A(I(A)))((I(A))_{4,1}) \times ((I(A) (I(A(I(A)))))_{4,3}) \gg$
$((I(A) (A(I(A)))_{1,4}))$	(I(A(I(A)))*A _{3,2})

	$\begin{array}{l} ((I(A) (A(I(A)))_{1,4}) \\ (A))_{1,4}) \gg \gamma > ((I(A(I(A))) (I(A))_{3,4}) \\ (A(I(A)))_{4,1}) \\ (A^*I(A(I(A)))_{2,3}) \end{array}$	× ((I(A) (I(A(I	A(I(A)))*A _{3,2}) (A))))) _{4,3}) ≫ A(I(A))((I(A)) _{4,1})
((I(A(I(A))) (I(A	ic dual system A)) _{3,4} (A(I(A))((I(A)) _{1,4} (I(A) (I(A(I(A)))))) _{4,3} (I(A) (A(I(A))) _{4,1} (I(A) (I(A(I(A)))))		× (I(A(I(A)))*A _{3,2}
Qualitative ac	tion		
((I(A) (I(A(I (I(A))) (I(A))) (I(A)))	$((I(A(I(A))) (I(A))_{3,4}) ((A)))))_{3,4}) \gg Y > (A*I(A(I(A)))_{2,3}) ((A(I(A)))_{1,4}) ((A(I(A)))_{1,4}) $,	$((I(A) (A(I(A)))_{4,1})_{2}) \gg \gamma >$ $(A) (I(A(I(A))))_{4,3})$
((I(A) (I(A(I (I(A(I(A))) (I(A	$((A(I(A)))((I(A))_{1,4}) (A))))_{3,4}) \gg Y > (A*I(A(I(A)))_{2,3}) \times A))_{4,3}) ((I(A(I(A))))(I(A))_{3,4})$	((1	(A) (I(A(I(A))))) _{3,4})
((A(I(A)))((I((A(I(A))) _{4,1})	$((I(A(I(A))) (I(A))_{3,4}) (A))_{1,4}) \gg Y > (A*I(A(I(A)))_{2,3}) \times ((I(A) (I(A(I(A))))_{3,4}))$	(I(A(I(A)))*A _{3,2})	$((I(A(I(A))) (I(A))_{4,3}) \\ \gg Y > ((I(A) (I(A(I(A)))))_{4,3})$
((A(I(A)))((I (A(I(A))) _{4,1})	$\begin{array}{l} ((I(A) (I(A(I(A)))))_{3,4}) \\ (A))_{1,4}) \gg \Upsilon > (A*I(A(I(A)))_{2,3}) \times \\ ((I(A(I(A))) (I(A))_{3,4}) \end{array}$	(I(A(I(A)))*A _{3,2})	$((I(A) (I(A(I(A)))))_{4,3}) \\ \gg Y > ((I(A) (I(A))) (I(A))_{4,3})$
((I(A(I(A))) ((I(A) (I(A(I(A)	$\begin{array}{l} ((I(A) (I(A(I(A)))))_{3,4}) \\ (I(A))_{3,4}) & \gg \Upsilon \ \succ (A^*I(A(I(A)))_{2,3}) \times \end{array}$,	((I(A) (A(I(A))) _{4,1})
((I(A(I(A))) ((I(A) (I(A(I(A)	$\begin{array}{l} ((A(I(A))((I(A))_{1,4}) \\ (I(A))_{3,4}) \gg Y > (A^*I(A(I(A)))_{2,3}) \times \\))))_{4,3}) \\ ((I(A) (I(A(I(A)))))_{3,4}) \end{array}$		$(A(I(A))) (I(A))_{4,3})_{2} \gg \gamma >$ $((I(A) (A(I(A)))_{4,1})$

Medial action

$\begin{array}{c} ((I(A(I(A))) (I(A))_{3,4}) \\ (A^*I(A(I(A)))_{2,3}) \gg Y > ((I(A) (I(A(I(A))))_{3,4}) \times \\ > (I(A(I(A)))^*A_{3,2}) \\ ((A(I(A)))((I(A))_{1,4}) \end{array}$	$((I(A) (A(I(A)))_{4,1}) \\ ((I(A(I(A))) (I(A))_{4,3}) \gg \qquad \vee \\ ((I(A) (I(A)(I(A))))_{4,3})$
$((A(I(A)))((I(A))_{1,4})) (A^{*}I(A(I(A)))_{2,3}) \gg Y > ((I(A)(I(A(I(A))))_{3,4}) \times (I(A(I(A)))^{*}A_{3,2}))) (I(A)) (I(A)) =)$	
((I(A(I(A))) (I(A)) _{3,4})	((I(A) (A(I(A))) _{4,1})
$(A^*I(A(I(A)))_{2,3})$ $((A(I(A)))((I(A))_{1,4}) \gg Y > ((I(A) (I(A(I(A)))))_{3,4}) \times ((I(A) (A(I(A)))_{4,1}))$	((I(A) (I(A(I(A))))) _{4,3}) ((I(A(I(A))) (I(A)) _{3,4})≫ Ƴ
$((I(A(I(A))) (I(A))_{3,4}))$	(I(A(I(A)))*A _{3,2})
$\begin{array}{l} ((I(A(I(A))) (I(A))_{3,4}) \\ ((A(I(A))((I(A))_{1,4}) \gg \Upsilon > ((I(A) (I(A(I(A)))))_{3,4}) \times \\ > ((I(A) (A(I(A)))_{4,1}) \end{array}$	
(A*I(A(I(A))) _{2,3})	((I(A) (I(A(I(A))))) _{4,3})
$\begin{array}{c} (A^*I(A(I(A)))_{2,3})\\ ((I(A(I(A)))(I(A))_{3,4}) \gg \Upsilon > ((I(A)(I(A(I(A)))))_{3,4})\\ \Upsilon > ((I(A)(I(A(I(A)))))_{4,3})\end{array}$	$((I(A) (A(I(A)))_{4,1}) \times ((I(A(I(A))) (I(A))_{4,3}) \gg$
((A(I(A))((I(A)) _{1,4})	(I(A(I(A)))*A _{3,2})
$((A(I(A)))((I(A))_{1,4}))$ $((I(A(I(A))))(I(A))_{3,4}) \gg \gamma > ((I(A))(I(A(I(A))))_{3,4}))$ $\gamma > ((I(A))(I(A(I(A))))_{4,3}))$	$(I(A(I(A)))^*A_{3,2})$ × $((I(A(I(A)))(I(A))_{4,3})$ >>
$(A*I(A(I(A)))_{2,3})$	((I(A) (A(I(A))) _{4,1})
Objectal action	
$((I(A(I(A))) (I(A))_{3,4}) (A*I(A(I(A)))_{2,3}) \gg Y \succ ((A(I(A)))((I(A))_{1,4}) \times (I(A(I(A)))*A_{3,2})$	((I(A(I(A))) (I(A)) _{4,3}) ((I(A) (A(I(A))) _{1,4}) ≫ Ƴ ≻
((I(A(I(A)))) A3,2) ((I(A) (I(A(I(A))))) _{3,4})	((I(A) (I(A(I(A))))) _{4,3})
$((I(A) (I(A(I(A))))_{3,4}))$ $(A^*I(A(I(A)))_{2,3}) \gg Y \succ ((A(I(A)))((I(A))_{1,4}) \times (A^*I(A(I(A)))_{2,3})) \approx Y \succ (A^*I(A(I(A)))_{1,4}))$	$((I(A) (I(A(I(A)))))_{4,3})$ $((I(A) (A(I(A)))_{4,1}) \gg Y$
≻ (I(A(I(A)))*A _{3,2}) ((I(A(I(A))) (I(A)) _{3,4})	((I(A(I(A))) (I(A)) _{4,3})

$(A^*I(A(I(A)))_{2,3})$ $((I(A) (I(A(I(A))))_{3,4}) \gg Y > ((A(I(A)))((I(A))_{1,4}) \times ((I(A(I(A)))) (I(A))_{4,3})$	$((I(A) (I(A(I(A)))))_{4,3})$ $((I(A) (A(I(A)))_{4,1}) \gg Y$
((I(A(I(A))) (I(A)) _{4,3}) ((I(A(I(A))) (I(A)) _{3,4})	(I(A(I(A)))*A _{3,2})
$\begin{array}{l} ((I(A(I(A))) (I(A))_{3,4}) \\ ((I(A) (I(A(I(A))))_{3,4}) \gg Y > ((A(I(A)))((I(A))_{1,4}) \times \\ > ((I(A(I(A))) (I(A))_{4,3}) \end{array}$	$(I(A(I(A)))^*A_{3,2})$ $((I(A) (A(I(A)))_{4,1}) \gg Y$
$(A*I(A(I(A)))_{2,3})$	((I(A) (I(A(I(A))))) _{4,3})
$(A^*I(A(I(A)))_{2,3})$ $((I(A(I(A)))(I(A))_{3,4}) \gg Y > ((A(I(A)))((I(A))_{1,4}) \times ((I(A)(I(A))))_{4,3})$	$((I(A(I(A))) (I(A))_{4,3}) \\ ((I(A) (A(I(A)))_{4,1}) \gg Y$
((I(A) (I(A(I(A))))) _{3,4})	(I(A(I(A)))*A _{3,2})
$\begin{array}{l} ((I(A) (I(A(I(A)))))_{3,4}) \\ ((I(A(I(A))) (I(A))_{3,4}) \gg Y > ((A(I(A)))((I(A))_{1,4}) \times \\ > ((I(A) (I(A(I(A)))))_{3,4}) \end{array}$	$(I(A(I(A)))^*A_{3,2})$ $((I(A) (A(I(A)))_{4,1}) \gg Y$
$(I(A) (I(A(I(A))))_{3,4})$ (A*I(A(I(A))) _{2,3})	((I(A(I(A))) (I(A)) _{3,4})
Interpretative action	
$\begin{array}{c} ((A(I(A)))((I(A))_{1,4}) \\ (A^*I(A(I(A)))_{2,3}) \gg \ \gamma \ > ((I(A(I(A))))(I(A))_{3,4}) \times \\ \gamma \ > (I(A(I(A)))^*A_{3,2}) \end{array}$	((I(A(I(A))) (I(A)) _{3,4}) ((I(A) (I(A(I(A))))) _{3,4}) >>>
$((I(A))) (I(A(I(A))))_{3,4})$	((I(A) (A(I(A))) _{4,1})
$\begin{array}{l} ((I(A) (I(A(I(A)))))_{3,4}) \\ (A^*I(A(I(A)))_{2,3}) \implies Y > ((I(A(I(A))) (I(A))_{3,4}) \\ Y > (I(A(I(A)))^*A_{3,2}) \end{array}$	$((I(A) (A(I(A)))_{4,1}))((I(A) (I(A(I(A))))_{3,4})) \gg$
$((A(I(A)))((I(A))_{1,4}))$	((I(A(I(A))) (I(A)) _{3,4})
$\begin{array}{l} (A^*I(A(I(A)))_{2,3}) \\ ((I(A) (I(A(I(A)))))_{3,4}) \gg Y \succ ((I(A(I(A))) (I(A))_{3,4}) \times Y \succ ((I(A(I(A))) (I(A))_{4,3}) \end{array}$	$((I(A) (A(I(A)))_{4,1})))((I(A) (I(A(I(A)))))_{3,4}) \gg$
$((A(I(A)))((I(A))_{1,4}))$	(I(A(I(A)))*A _{3,2})
$\begin{array}{l} ((A(I(A))((I(A))_{1,4}) \\ ((I(A) (I(A(I(A))))_{3,4}) \gg \gamma > ((I(A(I(A))) (I(A))_{3,4}) \\ \gamma > ((I(A(I(A))) (I(A))_{4,3}) \end{array} \times$	(I(A(I(A)))*A _{3,2}) ((I(A) (I(A(I(A))))) _{4,3}) ≫
$(A^*I(A(I(A)))_{2,3})$	((I(A) (A(I(A))) _{4,1})

((A(I(A))((I(/ Ƴ ≻ ((I(A) ($(A^*I(A(I(A)))_{2,3})$ $(A))_{1,4}) \gg Y > ((I(A(I(A))) (I(A))_{3,4}))$ $(A(I(A)))_{1,4})$ $((I(A) (I(A(I(A)))))_{3,4})$	× ((I		((I(A(I(A))) (I(A) (I(A))))) _{4,3}) (I(A(I(A)))*A	»
((A(I(A))((I(/ Ƴ ≻ ((I(A) ($((I(A) (I(A(I(A)))))_{3,4})$ $(A))_{1,4}) \gg \gamma > ((I(A(I(A))) (I(A))_{3,4}))$ $(A(I(A)))_{4,1})$ $(A^*I(A(I(A)))_{2,3})$	× ((I		(I(A(I(A)))*A (I(A))))) _{4,3}) ((I(A(I(A))) (I(A)	»
	c dual system)) _{3,4} (A(I(A)) (A(I(A))) _{1,2,4} (I(A) (A(I(A) ₁ (A(I(A)) (A(I(A))) _{4,2,1} (I(A) (I(A(I(A))	-	(I(A)) _{1,2})×(A(I(A))*A _{2,}	.1
Qualitative act	tion				
	$((I(A(I(A))) (I(A))_{3,4})))_{1,4}) \gg \Upsilon > (A^*A(I(A))_{1,2}) \times$	(A(I(A))*	*A _{2,1})	((A(I(A)) (A(≫ Ƴ ≻	I(A))) _{4,2,1})
((A(I(A))((I(A))⊿	1,1) ((A(I(A)) (A(I(A))) _{1,2,4})			((I(A) (I(A(I(/	4))))) _{4,3})
	((A(I(A)) (A(I(A))) _{1,2,4})			((I(A)	
(I(A(I(A))))) _{4,3}) ((I(A) (A(I(A ((A(I(A))((I(A)) ₄	$)))_{1,4}) \gg Y > (A^*A(I(A))_{1,2}) \times \\ a_{1,1}) \\ ((I(A(I(A))) (I(A))_{3,4}))$	(A(I(A))*	*A _{2,1})	× × × ((A(I(A)) (A(I	I(A)))
	$\begin{array}{l} ((I(A(I(A))) (I(A))_{3,4}) \\ (I(A)))_{1,2,4}) \qquad > Y \qquad > (A^*A(I(A))_{1,2}) \end{array}$	× (A	(I(A))* <i>A</i>	((A(I(A))((I(A A _{2,1}) ≫ Y	
((A(I(A)) (A(I(A))) _{4,2,1}) ((I(A) (A(I(A))) _{1,4})		(((I(A) (I(A(I(A)))))) _{4,3})
((A(I(A)) (A(((A(I(A)) (A(I(A)))))	$((I(A) (A(I(A)))_{1,4}) \\ (I(A)))_{1,2,4}) \gg Y > (A^*A(I(A))_{1,2})$	× (A		((I(A) (I(A(I(A))) A _{2,1}) ≫ Y	
	((I(A(I(A))) (I(A)) _{3,4})			((A(I(A))((I(A	A)) _{4,1})
	$((I(A) (A(I(A)))_{1,4})$ $I(A))_{3,4}) \gg Y > (A*A(I(A))_{1,2}) \times$	(A(I(<i>I</i>		((A(I(A)) (A(I(A)) ≫ Y ≻	
(I(A(I(A))))) _{4,3})	((A(I(A)) (A(I(A))) _{1,2,4})			((A(I(A))((I(A)) _{4,1})

((I(A(I(A))) (I(A(I(A))))) _{4,3})	$((A(I(A)) (A(I(A)))_{1,2,4}))$ $(I(A))_{3,4}) \gg Y > (A^*A(I(A))_{1,2}) \times$	(A(I	(A))*A _{2,1})		\(I(A))((I(/ ≻	,
('(^('(^)))))4,3)	((I(A) (A(I(A))) _{1,4})		((/	4(I(A))	(A(I(A)))4	.,2,1)
Medial action						
(A*A(I(A)) ₁ (A(I(A))*A _{2,1})	$\begin{array}{l} ((I(A(I(A))) \ (I(A))_{3,4}) \\ _{,2}) \ \gg \ Y \ > ((I(A) \ (A(I(A)))_{1,4}) \ \times \end{array}$	((A(I(A))((I(A)) _{4,1})		A)) (A(I(A ≻))) _{4,2,1})
((((, , , , , , , , , , , , , , , ,	((A(I(A)) (A(I(A))) _{1,2,4})			((I(A)	(I(A(I(A))))) _{4,3})
(I(A(I(A))))) _{4,3})	((A(I(A)) (A(I(A))) _{1,2,4})			(()	(A)	
(A*A(I(A)) ₁ (A(I(A))*A _{2.1})	$_{,2}) \gg \Upsilon \succ ((I(A) (A(I(A)))_{1,4}) \times$	((A(I(A))((I(A)) _{4,1})	≫ Y	≻	
(* ((((*)) * *2,1)	((I(A(I(A))) (I(A)) _{3,4})			((A(I(/	4)) (A(I(A)))4,2,1)
	$(A^*A(I(A))_{1,2})$ $(I(A)))_{1,2,4}) \gg Y > ((I(A) (A(I(A)))_1)$ A)) $(A(I(A)))_{4,2,1})$.,4) ×			A))))) _{4,3}) _{1,1})	>>
	((I(A(I(A))) (I(A)) _{3,4})			(A(I(A	.))*A _{2,1})	
	$\begin{array}{l} ((I(A(I(A))) (I(A))_{3,4}) \\ (I(A)))_{1,2,4}) & \gg Y > ((I(A) (A(I(A)))_{1}) \\ A)) (A(I(A)))_{4,2,1}) \end{array}$.,4) ×		((I(A))		»
	(A*A(I(A)) _{1,2})		((I(A)	(I(A(I(A))))) _{4,3})	
	$(A^*A(I(A))_{1,2})$ $(I(A))_{3,4}) \gg Y > ((I(A) (A(I(A)))_{1,4}))$ $A(I(A)))))_{4,3})$	×			I(A))) _{4,2,1} ≫) Y
	((A(I(A)) (A(I(A))) _{1,2,4})			(A	(I(A))*A _{2,}	1)
	$((A(I(A)) (A(I(A)))_{1,2,4}) (I(A))_{3,4}) \gg Y > ((I(A) (A(I(A)))_{1,4}) A(I(A))))_{4,3})$	× ((A(I(A))((I(-	(I(A))*A _{2,} ≫	1) Y
	$(A^*A(I(A))_{1,2})$		((A(I(A)) (A(I(A))) _{4,2,1})

Objectal action

$\begin{array}{l} ((I(A(I(A))) (I(A))_{3,4}) \\ (A^*A(I(A))_{1,2}) \gg \gamma > ((A(I(A)) (A(I(A)))_{1,2,4}) \times \\ > (A(I(A))^*A_{2,1}) \end{array} $	$((A(I(A)))((I(A))_{4,1}))$ $(A(I(A)) (A(I(A)))_{4,2,1}) \gg \Upsilon$
$((I(A)) A_{2,1})$ ((I(A) (A(I(A)))_{1,4})	((I(A) (I(A(I(A))))) _{4,3})
$((I(A) (A(I(A)))_{1,4}) (A^*A(I(A))_{1,2}) \gg Y > ((A(I(A)) (A(I(A)))_{1,2,4}) \times (A(I(A))^*A_{2,1})) $	$((I(A) (I(A(I(A)))))_{4,3})$ (A(I(A)) (A(I(A)))_{4,2,1}) >> Y
$((I(A)) \land 2,1) \\ ((I(A(I(A))) (I(A))_{3,4})$	((A(I(A))((I(A)) _{4,1})
$\begin{array}{l} (A^*A(I(A))_{1,2}) \\ ((I(A) (A(I(A)))_{1,4}) \gg \gamma > ((A(I(A)) (A(I(A)))_{1,2,4}) \times \\ \gamma > ((A(I(A)))((I(A))_{4,1}) \end{array}$	$((I(A) (I(A(I(A)))))_{4,3})$ $((A(I(A)) (A(I(A)))_{4,2,1}) \gg$
$((I(A(I(A))))) (I(A))_{3,4})$	(A(I(A))*A _{2,1})
$\begin{array}{l} ((I(A(I(A))) (I(A))_{3,4}) \\ ((I(A) (A(I(A)))_{1,4}) \gg \gamma > ((A(I(A)) (A(I(A)))_{1,2,4}) \times \\ \gamma > ((A(I(A)))((I(A))_{4,1}) \end{array}$	$(A(I(A))^*A_{2,1})$ $((A(I(A)) (A(I(A)))_{4,2,1}) \gg$
$(A^*A(I(A))_{1,2})$	((I(A) (I(A(I(A))))) _{4,3})
$\begin{array}{c} (A^*A(I(A))_{1,2}) \\ ((I(A(I(A))) (I(A))_{3,4}) \gg \Upsilon > ((A(I(A)) (A(I(A)))_{1,2,4}) \times \\ \Upsilon > ((I(A) (I(A(I(A)))))_{4,3}) \end{array}$	$((A(I(A)))((I(A))_{4,1})$ $< ((A(I(A)))(A(I(A)))_{4,2,1}) \gg$
((I(A) (A(I(A))) _{1,4})	(A(I(A))*A _{2,1})
$\begin{array}{c} ((I(A) (A(I(A)))_{1,4}) \\ ((I(A(I(A))) (I(A))_{3,4}) \gg \gamma > ((A(I(A)) (A(I(A)))_{1,2,4}) \times \\ \gamma > ((I(A) (I(A(I(A)))))_{4,3}) \end{array}$	$(A(I(A))^*A_{2,1})$ $((A(I(A)) (A(I(A)))_{4,2,1}) \gg$
(A*A(I(A)) _{1,2})	((A(I(A))((I(A)) _{4,1})
Interpretative action	
$((A(I(A)) (A(I(A)))_{1,2,4}) (A^*A(I(A))_{1,2}) \gg Y > ((I(A(I(A))) (I(A))_{3,4}) \times (A(I(A))^*A_{2,1}) $	$((A(I(A)))((I(A))_{4,1}))$ $(I(A) (I(A(I(A))))_{4,3}) \gg Y$
$((I(A)) \land 2,1)$ $((I(A) (A(I(A)))_{1,4})$	((A(I(A)) (A(I(A))) _{4,2,1})

$\begin{array}{l} ((I(A) (A(I(A)))_{1,4}) \\ (A^*A(I(A))_{1,2}) \gg \gamma > ((I(A(I(A))) (I(A))_{3,4}) \times \\ > (A(I(A))^*A_{2,1}) \\ ((A(I(A)) (A(I(A)))_{1,2,4}) \end{array}$	$((A(I(A)) (A(I(A)))_{4,2,1})$ $((I(A) (I(A(I(A))))_{4,3}) \gg Y$ $((A(I(A)))((I(A))_{4,1})$
$(A^*A(I(A))_{1,2})$ $((I(A) (A(I(A)))_{1,4}) \gg Y > ((I(A(I(A))) (I(A))_{3,4}) > Y > ((A(I(A)))((I(A))_{4,1}) ((A(I(A))) (A(I(A)))_{1,2,4}))$	((A(I(A)) (A(I(A))) _{4,2,1})
$\begin{array}{l} ((A(I(A)) (A(I(A)))_{1,2,4}) \\ ((I(A) (A(I(A)))_{1,4}) \gg \gamma > ((I(A(I(A))) (I(A))_{3,4}) > \\ \gamma > ((A(I(A))((I(A))_{4,1}) \\ (A^*A(I(A))_{1,2}) \end{array}$	$(A(I(A))^*A_{2,1})$ $< ((I(A) (I(A(I(A)))))_{4,3}) \gg$ $((A(I(A)) (A(I(A)))_{4,2,1})$
$\begin{array}{l} (A^*A(I(A))_{1,2}) \\ ((A(I(A)) (A(I(A)))_{1,2,4}) \gg Y > ((I(A(I(A))) (I(A)))_{1,2,4}) \\ Y > ((A(I(A)) (A(I(A)))_{4,2,1}) \\ ((I(A) (A(I(A)))_{1,4}) \end{array}$	$\begin{array}{rcl} ((A(I(A)))((I(A))_{4,1}) \\ &\\ _{3,4}) &\times & ((I(A) (I(A(I(A)))))_{4,3}) \gg \\ &\\ & (A(I(A))^*A_{2,1}) \end{array}$
$\begin{array}{c} ((I(A) (A(I(A)))_{1,4}) \\ ((A(I(A)) (A(I(A)))_{1,2,4}) \gg Y > ((I(A(I(A))) (I(A)))_{1,2,4}) \\ Y > ((A(I(A)) (A(I(A)))_{4,2,1}) \\ (A^*A(I(A))_{1,2}) \end{array}$	$(A(I(A))^*A_{2,1})$ $((I(A) (I(A(I(A)))))_{4,3}) \gg$ $((A(I(A))((I(A))_{4,1})))$
8. Pre-semiotic dual system ((I(A(I(A))) (I(A)) _{3,4} (A(I(A)) (A(I(A))) _{1,2,4} (I(A) (A(I(A))) (A(I(A))((I(A)) _{4,1} (A(I(A)) (A(I(A))) _{4,2,1} (I(A) (I(A(I(A))))	
Qualitative action	
$\begin{array}{c} ((I(A(I(A))) (I(A))_{3,4}) \\ ((I(A) (A(I(A)))_{1,4}) \gg Y > (A^*I(A(I(A)))_{2,3}) \times \\ ((A(I(A)))((I(A))_{4,1}) \\ ((A(I(A)) (A(I(A)))_{1,2,4}) \\ (I(A(I(A))))_{4,3}) \end{array}$	$((A(I(A)) (A(I(A)))_{4,2,1})$ $I(A(I(A)))^*A_{3,2}) \gg \gamma >$ ((I(A))
$\begin{array}{c} ((A(I(A)) (A(I(A)))_{1,2,4}) \\ (I(A(I(A))))_{4,3}) \\ ((I(A) (A(I(A)))_{1,4}) \gg \Upsilon > (A^*I(A(I(A)))_{2,3}) \times \\ ((A(I(A)))((I(A))_{4,1}) \\ ((I(A(I(A))) (I(A))_{3,4}) \end{array}$	$((I(A) (I(A)))^*A_{3,2}) \gg \gamma >$ $((A(I(A)) (A(I(A)))_{4,2,1}))$

$\begin{array}{l} ((I(A(I(A))) \ (I(A))_{3,4}) \\ ((A(I(A)) \ (A(I(A)))_{1,2,4}) \gg \ Y \ \succ \ (A^*I(A)) \\ \succ \ ((A(I(A)) \ (A(I(A)))_{4,2,1}) \end{array}$	$((A(I(A)))((I(A))_{4,1}))$ A(I(A))) _{2,3})× (I(A(I(A)))*A _{3,2}) » Y
((I(A) (A(I(A))) _{1,4})	((I(A) (I(A(I(A))))) _{4,3})
$((I(A) (A(I(A)))_{1,4}) \\ ((A(I(A)) (A(I(A)))_{1,2,4}) \gg Y > (A*I(A)) \\ > ((A(I(A)) (A(I(A)))_{4,2,1})$	$((I(A) (I(A(I(A))))_{4,3}))_{4,3}) = (I(A(I(A)))_{2,3}) \times (I(A(I(A)))_{4,3}) \gg Y$
((I(A(I(A))) (I(A)) _{3,4})	((A(I(A))((I(A)) _{4,1})
$((I(A) (A(I(A)))_{1,4}) \\ ((I(A(I(A))) (I(A))_{3,4}) \gg Y > (A*I(A(I(A))))_{4,3}) \\ ((I(A) (I(A(I(A)))))_{4,3})$	$((A(I(A)) (A(I(A)))_{4,2,1})$ A))) _{2,3})× $(I(A(I(A)))^*A_{3,2}) \gg Y >$
$((A(I(A)) (A(I(A)))_{1,2,4}))$	((A(I(A))((I(A)) _{4,1})
$((A(I(A)) (A(I(A)))_{1,2,4})$ $((I(A(I(A))) (I(A))_{3,4}) \gg Y > (A*I(A(I(A)))))$	$((A(I(A))((I(A))_{4,1}) A)))_{2,3}) \times (I(A(I(A)))^*A_{3,2}) \gg \gamma >$
((I(A) (I(A(I(A))))) _{4,3}) ((I(A) (A(I(A))) _{1,4})	((A(I(A)) (A(I(A))) _{4,2,1})
Medial action	
$((I(A(I(A))) (I(A))_{3,4}) (A*I(A(I(A)))_{2,3}) \gg Y > ((I(A) (A(I(A))_{3,4})) (I(A(I(A)))_{2,3}) > Y > ((I(A) (A(I(A))_{3,4}))) $	$((A(I(A)) (A(I(A)))_{4,2,1}))_{1,4}) \times ((A(I(A)))((I(A))_{4,1}) \gg Y >$
(I(A(I(A)))*A _{3,2}) ((A(I(A)) (A(I(A))) _{1,2,4}) (I(A(I(A))))) _{4,3})	((I(A)
((A(I(A)) (A(I(A))) _{1,2,4})	((I(A)
$\begin{array}{l} (I(A(I(A))))_{4,3}) \\ (A^*I(A(I(A)))_{2,3}) \gg Y \ \succ ((I(A) \ (A(I(A)))_{1,3})) \\ (I(A(I(A)))^*A_{3,2}) \end{array}$	$)))_{1,4}) \times ((A(I(A))((I(A))_{4,1}) \gg Y >$
((I(A(I(A))) (I(A)) _{3,4})	((A(I(A)) (A(I(A))) _{4,2,1})
$\begin{array}{c} (A^*I(A(I(A)))_{2,3}) \\ ((A(I(A)) (A(I(A)))_{1,2,4}) \implies \forall \qquad \succ ((I(A) (A(I(A)))_{1,4}) \\ \forall \qquad \succ ((A(I(A)) (A(I(A)))_{4,2,1}) \end{array}$	$((I(A) (I(A(I(A)))))_{4,3})$ $(A(I(A)))_{1,4}) \times ((A(I(A))((I(A))_{4,1}) \gg$
((I(A(I(A))) (I(A))) _{3,4})	(I(A(I(A)))*A _{3,2})
$((I(A(I(A))) (I(A))_{3,4}))$ $((A(I(A)) (A(I(A)))_{1,2,4}) \gg Y > ((I(A)))_{1,2,4})$ $Y > ((A(I(A)) (A(I(A)))_{4,2,1}))$	$(I(A(I(A)))^*A_{3,2})$ $(A(I(A)))_{1,4}) \times ((A(I(A))((I(A))_{4,1}) \gg$
(A*I(A(I(A))) _{2,3})	

$\begin{array}{l} (A^*I(A(I(A)))_{2,3}) \\ ((I(A(I(A))) (I(A))_{3,4}) \gg Y > ((I(A) (A(I(A)))_{1,4}) \times \\ > ((I(A) (I(A(I(A))))_{4,3}) \\ ((A(I(A)) (A(I(A)))_{1,2,4}) \end{array}$	$\begin{array}{c} ((A(I(A)) \ (A(I(A)))_{4,2,1}) \\ ((A(I(A)))((I(A))_{4,1}) \ \gg \ \gamma \\ (I(A(I(A)))^*A_{3,2}) \end{array}$
$\begin{array}{l} ((A(I(A)) (A(I(A)))_{1,2,4}) \\ ((I(A(I(A))) (I(A))_{3,4}) \gg Y > ((I(A) (A(I(A)))_{1,4}) \times \\ > ((I(A) (I(A(I(A))))_{4,3}) \\ (A^*I(A(I(A)))_{2,3}) \end{array}$	$(I(A(I(A)))^*A_{3,2})$ $((A(I(A)))((I(A))_{4,1}) \gg \gamma$ $((A(I(A)))(A(I(A)))_{4,2,1})$
Objectal action	
$\begin{array}{l} ((I(A(I(A))) (I(A))_{3,4}) \\ (A^*I(A(I(A)))_{2,3}) & \gg \Upsilon \ > ((A(I(A)) (A(I(A)))_{1,2,4}) \times \\ \Upsilon \ > (I(A(I(A)))^*A_{3,2}) \\ & ((I(A) (A(I(A)))_{1,4}) \end{array}$	$((A(I(A))((I(A))_{4,1})))$ $((A(I(A)))(A(I(A)))_{4,2,1}) \gg$
	((I(A) (I(A(I(A))))) _{4,3})
$\begin{array}{c} ((I(A) (A(I(A)))_{1,4}) \\ (A^*I(A(I(A)))_{2,3}) & \gg Y > ((A(I(A)) (A(I(A)))_{1,2,4}) \times \\ Y & > (I(A(I(A)))^*A_{3,2}) \end{array}$	$((I(A) (I(A(I(A)))))_{4,3})$ $((A(I(A)) (A(I(A)))_{4,2,1}) \gg$
$((I(A(I(A))) (I(A))_{3,4}))$	((A(I(A))((I(A)) _{4,1})
$\begin{array}{l} (A^*I(A(I(A)))_{2,3}) \\ ((I(A) (A(I(A)))_{1,4}) \gg \Upsilon > ((A(I(A)) (A(I(A)))_{1,2,4}) \times \\ \Upsilon > ((A(I(A)))((I(A))_{4,1}) \\ ((I(A(I(A))) (I(A))_{3,4}) \end{array}$	$((I(A) (I(A(I(A)))))_{4,3})$ $((A(I(A)) (A(I(A)))_{4,2,1}) \gg$
	(I(A(I(A)))*A _{3,2})
$\begin{array}{l} ((I(A(I(A))) (I(A))_{3,4}) \\ ((I(A) (A(I(A)))_{1,4}) \gg \gamma > ((A(I(A)) (A(I(A)))_{1,2,4}) \times \\ \gamma > ((A(I(A))((I(A))_{4,1}) \end{array}$	(I(A(I(A)))*A _{3,2}) ((A(I(A)) (A(I(A))) _{4,2,1}) ≫
$(A^{(I(A))})((I(A))_{4,1})$ (A*I(A(I(A))) _{2,3})	((I(A) (I(A(I(A))))) _{4,3})
$\begin{array}{c} (A^*I(A(I(A)))_{2,3}) \\ ((I(A(I(A))) (I(A))_{3,4}) \gg Y > ((A(I(A)) (A(I(A)))_{1,2,4}) \times \\ Y > ((I(A) (I(A(I(A))))_{4,3}) \\ ((I(A) (A(I(A)))_{1,4}) \end{array}$	$((A(I(A))((I(A))_{4,1})))))$ $((A(I(A)))(A(I(A)))_{4,2,1}) \gg$
	(I(A(I(A)))*A _{3,2})
$\begin{array}{c} ((I(A) (A(I(A)))_{1,4}) \\ ((I(A(I(A))) (I(A))_{3,4}) \gg \gamma > ((A(I(A)) (A(I(A)))_{1,2,4}) \times \\ \gamma > ((I(A) (I(A(I(A)))))_{4,3}) \end{array}$	$(I(A(I(A)))^*A_{3,2})$ $((A(I(A)) (A(I(A)))_{4,2,1}) \gg$
(A*I(A(I(A))) _{2,3})	((A(I(A))((I(A)) _{4,1})

Interpretative action

$\begin{array}{l} ((A(I(A)) (A(I(A)))_{1,2,4}) \\ (A^*I(A(I(A)))_{2,3}) \gg Y > ((I(A(I(A))) (I(A))_{3,4}) \times Y > (I(A(I(A)))^*A_{3,2}) \\ ((I(A) (A(I(A)))_{1,4}) \end{array}$	$((A(I(A))((I(A))_{4,1}) \\ ((I(A) (I(A(I(A)))))_{4,3}) \gg \\ ((A(I(A)) (A(I(A)))_{4,2,1})$
$\begin{array}{l} ((I(A) (A(I(A)))_{1,4}) \\ (A^*I(A(I(A)))_{2,3}) \implies Y > ((I(A(I(A))) (I(A))_{3,4}) \\ Y > (I(A(I(A)))^*A_{3,2}) \\ ((A(I(A)) (A(I(A)))_{1,2,4}) \end{array}$	$((A(I(A)) (A(I(A)))_{4,2,1}) \\ ((I(A) (I(A(I(A)))))_{4,3}) \gg \\ ((A(I(A))((I(A))_{4,1})$
$\begin{array}{l} (A^*I(A(I(A)))_{2,3}) \\ ((I(A) (A(I(A)))_{1,4}) \gg \gamma > ((I(A(I(A))) (I(A))_{3,4}) \times \gamma > ((A(I(A)))((I(A))_{4,1}) \\ ((A(I(A)) (A(I(A)))_{1,2,4}) \end{array}$	$\begin{array}{c} ((A(I(A)) (A(I(A)))_{4,2,1}) \\ ((I(A) (I(A(I(A)))))_{4,3}) & \gg \\ (I(A(I(A)))^*A_{3,2}) \end{array}$
$\begin{array}{l} ((A(I(A)) (A(I(A)))_{1,2,4}) \\ ((I(A) (A(I(A)))_{1,4}) \gg \Upsilon > ((I(A(I(A))) (I(A))_{3,4}) \times \Upsilon > ((A(I(A)))((I(A))_{4,1}) \\ (A^*I(A(I(A)))_{2,3}) \end{array}$	$(I(A(I(A)))^*A_{3,2})$ $((I(A) (I(A(I(A)))))_{4,3}) \gg$ $((A(I(A)) (A(I(A)))_{4,2,1})$
$\begin{array}{l} (A^*I(A(I(A)))_{2,3}) \\ ((A(I(A)) (A(I(A)))_{1,2,4}) \gg Y > ((I(A(I(A))) (I(A))_{3,4}) \\ Y > ((A(I(A)) (A(I(A)))_{4,2,1}) \\ ((I(A) (A(I(A)))_{1,4}) \end{array}$	$((A(I(A)))((I(A))_{4,1}) \times ((I(A) (I(A) (I(A(I(A)))))_{4,3}) \gg (I(A(I(A))))^*A_{3,2})$
$\begin{array}{c} ((I(A) (A(I(A)))_{1,4}) \\ ((A(I(A)) (A(I(A)))_{1,2,4}) \gg Y > ((I(A(I(A))) (I(A))_{3,4}) \\ Y > ((A(I(A)) (A(I(A)))_{4,2,1}) \\ (A^*I(A(I(A)))_{2,3}) \end{array}$	$(I(A(I(A)))^*A_{3,2}) \times ((I(A) (I(A(I(A)))))_{4,3}) \gg ((A(I(A)))((I(A))_{4,1})))$

9. Pre-semiotic dual system

 $((I(A(I(A))) (I(A))_{3,4} (A(I(A)) (A(I(A)))_{1,2,4} (I(A) (I(A(I(A))))_{3,4} A*I(A(I(A)))_{2,3}) \times (I(A(I(A)))*A_{3,2} (I(A(I(A))) (I(A))_{4,3} (A(I(A)) (A(I(A)))_{4,2,1} (I(A) (I(A(I(A))))_{4,3}))))$

Qualitative action

$\begin{array}{l} ((I(A(I(A))) (I(A))_{3,4}) \\ ((I(A) (I(A(I(A))))_{3,4}) \gg \Upsilon > (A^*I(A(I(A)))_{2,3}) \times \\ ((I(A(I(A))) (I(A))_{4,3}) \end{array}$	$((A(I(A)) (A(I(A)))_{4,2,1}))$ $(I(A(I(A)))^*A_{3,2}) \gg \gamma >$
((A(I(A)))(A(I(A))) _{1,2,4})	((I(A) (I(A(I(A))))) _{4,3})
((A(I(A))) _{1,2,4})	((I(A)
$\begin{array}{l} (I(A(I(A))))_{4,3}) \\ ((I(A) (I(A(I(A))))_{3,4}) \gg Y > (A^*I(A(I(A)))_{2,3}) \times \\ ((I(A(I(A))) (I(A))_{4,3}) \end{array}$	$(I(A(I(A)))^*A_{3,2}) \gg Y >$
((I(A(I(A))) (I(A)) _{3,4})	((A(I(A)) (A(I(A))) _{4,2,1})
$\begin{array}{l} ((I(A(I(A))) (I(A))_{3,4}) \\ ((A(I(A)) (A(I(A)))_{1,2,4}) \implies Y > (A^*I(A(I(A)))_{2,3}) \\ Y > ((A(I(A)) (A(I(A)))_{4,2,1}) \end{array}$	$((I(A(I(A))) (I(A))_{3,4}) \times (I(A(I(A)))^*A_{3,2}) \gg$
$((I(A))(I(A(I(A)))))_{3,4})$	((I(A) (I(A(I(A))))) _{4,3})
$\begin{array}{l} ((I(A) (I(A(I(A)))))_{3,4}) \\ ((A(I(A)) (A(I(A)))_{1,2,4}) \implies \forall \succ (A^*I(A(I(A)))_{2,3}) \times \\ \succ ((A(I(A)) (A(I(A)))_{4,2,1}) \end{array}$	$((I(A) (I(A(I(A)))))_{4,3})$ $(I(A(I(A)))^*A_{3,2}) \gg Y$
$((I(A(I(A))) (I(A)))_{3,4})$	((I(A(I(A))) (I(A)) _{4,3})
$\begin{array}{l} ((I(A) (I(A(I(A)))))_{3,4}) \\ ((I(A(I(A))) (I(A))_{3,4}) \gg \Upsilon > (A^*I(A(I(A)))_{2,3}) \times \\ ((I(A) (I(A(I(A)))))_{4,3}) \end{array}$	$((A(I(A)) (A(I(A)))_{4,2,1}))$ $(I(A(I(A)))^*A_{3,2}) \gg Y >$
(((A) ((A((A))))),3) ((A(I(A)) (A(I(A))) _{1,2,4})	((I(A(I(A))) (I(A)) _{4,3})
$\begin{array}{l} ((A(I(A)) \ (A(I(A)))_{1,2,4}) \\ ((I(A(I(A))) \ (I(A))_{3,4}) \ \gg \Upsilon \ > (A^*I(A(I(A)))_{2,3}) \times \\ ((I(A) \ (I(A(I(A)))))_{4,3}) \end{array}$	$((I(A(I(A))) (I(A))_{4,3}))$ $(I(A(I(A)))^*A_{3,2}) \gg \gamma >$
((I(A) (I(A(I(A))))) _{3,4})	((A(I(A)) (A(I(A))) _{4,2,1})
Medial action	
$((I(A(I(A))) (I(A))_{3,4}))$ $(A^*I(A(I(A)))_{2,3}) \gg Y > ((I(A) (I(A(I(A))))_{3,4}) \times (I(A(I(A)))^*A_{3,2}))$	((A(I(A)) (A(I(A))) _{4,2,1}) ((I(A(I(A))) (I(A)) _{4,3})≫ Y
((A(I(A))) (A(I(A))) _{1,2,4})	((I(A)

(I(A(I(A)))))_{4,3})

((I(A) $((A(I(A)) (A(I(A)))_{1,2,4}))$ $(I(A(I(A))))_{4,3})$ $(A^{*}I(A(I(A)))_{2,3}) \gg Y > ((I(A)(I(A(I(A)))))_{3,4}) \times ((I(A(I(A)))(I(A))_{4,3}))$ γ $> (I(A(I(A)))*A_{3.2})$ $((I(A(I(A))) (I(A))_{3,4}))$ $((A(I(A)) (A(I(A)))_{4,2,1}))$ $(A*I(A(I(A)))_{2,3})$ $((I(A) (I(A(I(A)))))_{4,3})$ $((A(I(A)) (A(I(A)))_{1,2,4}) \gg Y > ((I(A) (I(A(I(A)))))_{3,4}) \times$ $((I(A(I(A))) (I(A))_{4,3}) \gg$ $\Upsilon > ((A(I(A)) (A(I(A)))_{4,2,1}))$ $((I(A(I(A))) (I(A))_{3,4}))$ $(I(A(I(A)))*A_{3,2})$ $((I(A(I(A))) (I(A))_{3,4}))$ $(I(A(I(A)))*A_{3,2})$ $((A(I(A)) (A(I(A)))_{1,2,4}) \gg Y > ((I(A) (I(A(I(A)))))_{3,4}) \times$ $((I(A(I(A))) (I(A))_{4,3}) \gg$ $\Upsilon > ((A(I(A)) (A(I(A)))_{4.2.1}))$ $(A^*I(A(I(A)))_{2,3})$ $((I(A) (I(A(I(A)))))_{4,3})$ $(A^*I(A(I(A)))_{2,3})$ $((A(I(A)) (A(I(A)))_{4,2,1}))$ $((I(A(I(A)))(I(A))_{3,4}) \gg Y > ((I(A)(I(A(I(A)))))_{3,4}) \times$ $((I(A(I(A))) (I(A))_{4,3}))$ \gg $\Upsilon > ((I(A) (I(A(I(A)))))_{4,3})$ $((A(I(A)) (A(I(A)))_{1,2,4}))$ $(I(A(I(A)))*A_{3,2})$ $((A(I(A)) (A(I(A)))_{1,2,4}))$ $(I(A(I(A)))*A_{3,2})$ $((I(A(I(A))) (I(A))_{3,4}) \gg Y > ((I(A) (I(A(I(A)))))_{3,4}) \times$ $((I(A(I(A))) (I(A))_{4,3}))$ \gg $\Upsilon > ((I(A) (I(A(I(A)))))_{4,3})$ $(A*I(A(I(A)))_{2,3})$ $((A(I(A)) (A(I(A)))_{4,2,1}))$ Objective action $((I(A(I(A))) (I(A))_{3,4}))$ $((I(A(I(A))) (I(A))_{4,3}))$ $(A^{*}I(A(I(A)))_{2,3}) \gg Y > ((A(I(A))(A(I(A)))_{1,2,4}) \times ((A(I(A))(A(I(A)))_{4,2,1}))$ \gg $\Upsilon > (I(A(I(A)))^*A_{3,2})$ $((I(A) (I(A(I(A)))))_{3,4})$ $((I(A) (I(A(I(A)))))_{4,3})$ $((I(A) (I(A(I(A)))))_{4,3})$ $((I(A) (I(A(I(A)))))_{3,4})$ $(A^*I(A(I(A)))_{2,3}) \gg Y > ((A(I(A))(A(I(A)))_{1,2,4}) \times$ $((A(I(A)) (A(I(A)))_{4,2,1}))$ \gg $\Upsilon > (I(A(I(A)))^*A_{3,2})$ $((I(A(I(A)))(I(A))_{3,4}))$ $((I(A(I(A))) (I(A))_{4,3}))$ $(A^*I(A(I(A)))_{2,3})$ $((I(A) (I(A(I(A)))))_{4,3})$ $((I(A) (I(A(I(A)))))_{3,4}) \gg Y > ((A(I(A)) (A(I(A)))_{1,2,4}) \times$ $((A(I(A)) (A(I(A)))_{4,2,1}) \gg$ $\Upsilon > ((I(A(I(A))) (I(A))_{4,3}))$ $((I(A(I(A))) (I(A))_{3,4}))$ $(I(A(I(A)))*A_{3,2})$

$\begin{array}{c} ((I(A(I(A))) (I(A))_{3,4}) \\ ((I(A) (I(A(I(A))))_{3,4}) \gg \Upsilon \succ ((A(I(A)) (A(I(A)))_{1,2,4}) \times \\ \Upsilon \succ ((I(A(I(A))) (I(A))_{4,3}) \\ (A^*I(A(I(A)))_{2,3}) \end{array}$	$(I(A(I(A)))^*A_{3,2})$ $((A(I(A)) (A(I(A)))_{4,2,1}) \gg$ $((I(A) (I(A) (I(A(I(A))))_{4,3})$
$\begin{array}{c} (A^*I(A(I(A)))_{2,3}) \\ ((I(A(I(A))) (I(A))_{3,4}) \gg Y > ((A(I(A)) (A(I(A)))_{1,2,4}) \times \\ Y > ((I(A) (I(A(I(A)))))_{4,3}) \\ ((I(A) (I(A(I(A)))))_{3,4}) \end{array}$	$((I(A(I(A))) (I(A))_{4,3}) \\ ((A(I(A)) (A(I(A)))_{4,2,1}) \gg \\ (I(A(I(A)))^*A_{3,2})$
$\begin{array}{c} ((I(A) (I(A(I(A)))))_{3,4}) \\ ((I(A(I(A))) (I(A))_{3,4}) \gg \Upsilon > ((A(I(A)) (A(I(A)))_{1,2,4}) \times \\ \Upsilon > ((I(A) (I(A(I(A)))))_{4,3}) \\ (A^*I(A(I(A)))_{2,3}) \end{array}$	$(I(A(I(A)))^*A_{3,2})$ $((A(I(A)) (A(I(A)))_{4,2,1}) \gg$ $((I(A(I(A))) (I(A))_{4,3})$
Interpretative action	
$\begin{array}{l} ((A(I(A)) (A(I(A)))_{1,2,4}) \\ (A^*I(A(I(A)))_{2,3}) \implies \forall \succ ((I(A(I(A))) (I(A))_{3,4}) \qquad \times \\ \forall \ \succ (I(A(I(A)))^*A_{3,2}) \\ ((I(A) (I(A(I(A))))_{3,4}) \end{array}$	$((I(A(I(A))) (I(A))_{4,3}) \\ ((I(A) (I(A(I(A)))))_{4,3}) \gg \\ ((A(I(A)) (A(I(A)))_{4,2,1})$
$((I(A) (I(A(I(A))))_{3,4}) \\ (A^*I(A(I(A)))_{2,3}) \gg Y > ((I(A(I(A))) (I(A))_{3,4}) \times Y > (I(A(I(A)))^*A_{3,2}) \\ ((A(I(A)) (A(I(A)))_{1,2,4})$	((A(I(A)) (A(I(A))) _{4,2,1})
$\begin{array}{l} (A^*I(A(I(A)))_{2,3}) \\ ((I(A) (I(A(I(A))))_{3,4}) \gg Y > ((I(A(I(A))) (I(A))_{3,4}) \times Y > ((I(A(I(A))) (I(A))_{4,3}) \\ ((A(I(A)) (A(I(A)))_{1,2,4}) \end{array}$	$((A(I(A)) (A(I(A)))_{4,2,1}) \\ ((I(A) (I(A(I(A)))))_{4,3}) \gg \\ (I(A(I(A)))^*A_{3,2})$
$\begin{array}{l} ((A(I(A)) (A(I(A)))_{1,2,4}) \\ ((I(A) (I(A(I(A))))_{3,4}) \gg \Upsilon > ((I(A(I(A))) (I(A))_{3,4}) \times \\ \Upsilon > ((I(A(I(A))) (I(A))_{4,3}) \\ (A^*I(A(I(A)))_{2,3}) \end{array}$	$(I(A(I(A)))*A_{3,2})$ $((I(A) (I(A(I(A)))))_{4,3}) \gg$ $((A(I(A)) (A(I(A)))_{4,2,1})$
$\begin{array}{l} (A^*I(A(I(A)))_{2,3}) \\ ((A(I(A)) (A(I(A)))_{1,2,4}) \gg Y \succ ((I(A(I(A))) (I(A))_{3,4}) \\ Y \succ ((A(I(A)) (A(I(A)))_{4,2,1}) \\ ((I(A) (I(A(I(A)))))_{3,4}) \end{array}$	$((I(A(I(A))) (I(A))_{4,3}) \times ((I(A) (I(A(I(A))))_{4,3}) \gg (I(A(I(A)))^*A_{3,2}))$

$\begin{array}{c} ((I(A) (I(A(I(A)))))_{3,4}) \\ ((A(I(A)) (A(I(A)))_{1,2,4}) \gg Y > ((I(A(I(A))) (I(A))_{3,4})) \\ Y > ((A(I(A)) (A(I(A)))_{4,2,1})) \\ (A^*I(A(I(A)))_{2,3}) \end{array}$	$(I(A(I(A)))^*A_{3,2})$ $_{4}) \times ((I(A) (I(A(I(A)))))_{4,3}) \gg ((I(A(I(A))) (I(A))_{4,3}))$	
10. Pre-semiotic dual system ((I(A(I(A))) (I(A)) _{3,4} (A(I(A)) (I(A(I(A)))) _{2,4} (I(A) (I(A(I(A))))) _{3,4} A*I(A(I(A))) _{2,3}) × (I(A(I(A)))*A _{3,2} (I(A(I(A))) (I(A)) _{4,3} (I(A(I(A))) (A(I(A))) _{4,2} (I(A) (I(A(I(A))))) _{4,3})		
Qualitative action		
$\begin{array}{l} ((I(A(I(A))) (I(A))_{3,4}) \\ ((I(A) (I(A(I(A))))_{3,4}) \gg \Upsilon > (A^*I(A(I(A)))_{2,3}) \times \\ ((I(A(I(A))) (I(A))_{4,3}) \\ ((A(I(A))) (I(A(I(A))))_{2,4}) \end{array}$	$((I(A(I(A))) (A(I(A)))_{4,2}) \\ (I(A(I(A)))^*A_{3,2}) \gg Y > \\ ((I(A) (I(A(I(A))))_{4,3})$	
((A(I(A)) (I(A(I(A)))) _{2,4})	((I(A)	
$(I(A(I(A))))_{4,3})$ $((I(A) (I(A(I(A))))_{3,4}) \gg Y > (A^*I(A(I(A)))_{2,3}) \times$ $((I(A(I(A))) (I(A))_{4,3})$	$(I(A(I(A)))^*A_{3,2}) \gg Y >$	
((I(A(I(A))) (I(A)) _{3,4})	((I(A(I(A))) (A(I(A))) _{4,2})	
$\begin{array}{c} ((I(A(I(A))) (I(A))_{3,4}) \\ ((A(I(A)) (I(A(I(A))))_{2,4}) \gg Y > (A^*I(A(I(A)))_{2,3}) \times \\ > ((I(A(I(A))) (A(I(A)))_{4,2}) \\ ((I(A) (I(A(I(A))))_{3,4}) \end{array}$	$((I(A(I(A))) (I(A))_{4,3}))$ $(I(A(I(A)))^*A_{3,2}) \gg \gamma$	
	((I(A) (I(A(I(A))))) _{4,3})	
$((I(A) (I(A(I(A))))_{3,4})) ((A(I(A))) (I(A(I(A)))_{2,4}) \gg Y > (A^*I(A(I(A)))_{2,3}) \times ((I(A(I(A)))_{2,3}))) (A(I(A)))_{3,4})$	$((I(A) (I(A(I(A)))))_{4,3})$ $(I(A(I(A)))^*A_{3,2}) \gg Y$	
> ((I(A(I(A))) (A(I(A))) _{4,2}) ((I(A(I(A))) (I(A)) _{3,4})	((I(A(I(A))) (I(A)) _{4,3})	
$\begin{array}{l} ((I(A) (I(A(I(A)))))_{3,4}) \\ ((I(A(I(A))) (I(A))_{3,4}) \gg \Upsilon > (A^*I(A(I(A)))_{2,3}) \times \\ ((I(A) (I(A(I(A)))))_{4,3}) \end{array}$	$((I(A(I(A))) (A(I(A)))_{4,2}))$ $(I(A(I(A)))^*A_{3,2}) \gg Y >$	
((I(A) (I(A(I(A))))) _{4,3}) ((A(I(A)) (I(A(I(A)))) _{2,4})	((I(A(I(A))) (I(A)) _{4,3})	
$\begin{array}{l} ((A(I(A)) \ (A(I(A)))_{1,2,4}) \\ ((I(A(I(A))) \ (I(A))_{3,4}) \ \gg \Upsilon \ > (A^*I(A(I(A)))_{2,3}) \times \\ ((I(A) \ (I(A(I(A)))))_{4,3}) \end{array}$	$((I(A(I(A))) (I(A))_{4,3}))$ $(I(A(I(A)))^*A_{3,2}) \gg \gamma >$	
((I(A) (I(A(I(A))))) _{3,4})	((A(I(A)) (A(I(A))) _{4,2,1})	

Medial action

$\begin{array}{l} ((I(A(I(A))) (I(A))_{3,4}) \\ (A^*I(A(I(A)))_{2,3}) \gg \gamma > ((I(A) (I(A(I(A))))_{3,4}) \times \\ > (I(A(I(A)))^*A_{3,2}) \end{array}$	((I(A(I(A))) (A(I(A))) _{4,2}) ((I(A(I(A))) (I(A)) _{4,3})≫ Y
$((A(I(A)) (I(A(I(A))))_{2,4})$ $(I(A(I(A)))))_{4,3})$	((I(A)
((A(I(A)) (I(A(I(A)))) _{2,4}) (I(A(I(A))))) _{4,3})	((I(A)
$(A^*I(A(I(A)))_{2,3}) \gg Y > ((I(A)(I(A(I(A))))_{3,4}) \times (I(A(I(A)))^*A_{3,2}))$	((I(A(I(A))) (I(A))₄,₃)≫ Y
$((I(A(I(A))) (I(A))_{3,4}))$	((I(A(I(A))) (A(I(A))) _{4,2})
$\begin{array}{l} (A^*I(A(I(A)))_{2,3}) \\ ((A(I(A)) (I(A(I(A))))_{2,4}) \gg \gamma > ((I(A) (I(A(I(A)))))_{3,4}) \\ \gamma > ((I(A(I(A))) (A(I(A)))_{4,2}) \end{array}$	$((I(A) (I(A(I(A)))))_{4,3})$) × $((I(A(I(A))) (I(A))_{4,3}) \gg$
((I(A(I(A))) (I(A)) _{3,4})	(I(A(I(A)))*A _{3,2})
$\begin{array}{l} ((I(A(I(A))) (I(A))_{3,4}) \\ ((A(I(A)) (I(A(I(A))))_{2,4}) \gg \gamma > ((I(A) (I(A(I(A))))_{3,4}) \\ \gamma > ((I(A(I(A))) (A(I(A)))_{4,2}) \end{array}$	(I(A(I(A)))*A _{3,2})) × ((I(A(I(A))) (I(A)) _{4,3}) ≫
$(A^*I(A(I(A)))_{2,3})$	((I(A) (I(A(I(A))))) _{4,3})
$(A^*I(A(I(A)))_{2,3})$ $((I(A(I(A)))(I(A))_{3,4}) \gg Y > ((I(A)(I(A(I(A)))))_{3,4}) > Y > ((I(A)(I(A(I(A)))))_{4,3})$	$((I(A(I(A))) (A(I(A)))_{4,2}) \\ \times ((I(A(I(A))) (I(A))_{4,3}) \gg$
((A(I(A)) (I(A(I(A)))) _{2,4}) :	(I(A(I(A)))*A _{3,2})
$\begin{array}{l} ((A(I(A)) (I(A(I(A))))_{2,4}) \\ ((I(A(I(A))) (I(A))_{3,4}) \gg Y > ((I(A) (I(A(I(A)))))_{3,4}) > \\ Y > ((I(A) (I(A(I(A)))))_{4,3}) \end{array}$	(I(A(I(A)))*A _{3,2}) ≺ ((I(A(I(A))) (I(A)) _{4,3}) ≫
$(A*I(A(I(A)))_{2,3})$	((I(A(I(A))) (A(I(A))) _{4,2})
Objectal action	
$\begin{array}{l} ((I(A(I(A))) (I(A))_{3,4}) \\ (A^*I(A(I(A)))_{2,3}) \implies \gamma > ((A(I(A)) (I(A(I(A))))_{2,4}) > \\ \gamma > (I(A(I(A)))^*A_{3,2}) \end{array}$	$((I(A(I(A))) (I(A))_{4,3}) \times ((I(A(I(A))) (A(I(A)))_{4,2}) \gg$
1 < (1(-(1)(-))) - 3,2)	

 $((I(A) (I(A(I(A)))))_{3,4}) ((I(A) (I(A(I(A)))))_{4,3})$

$\begin{array}{l} ((I(A) (I(A(I(A)))))_{3,4}) \\ (A^*I(A(I(A)))_{2,3}) \gg \gamma > ((A(I(A)) (I(A(I(A))))_{2,4}) \times \\ \gamma > (I(A(I(A)))^*A_{3,2}) \\ ((I(A(I(A))) (I(A))_{3,4}) \end{array}$	$((I(A) (I(A(I(A)))))_{4,3})$ $((I(A(I(A))) (A(I(A)))_{4,2}) \gg$ $((I(A(I(A))) (I(A))_{4,3})$
(((((((()), ()), ()))))))))))))))))))	(((((((((((((((((((((((((((((((((((((((
$\begin{array}{l} (A^*I(A(I(A)))_{2,3}) \\ ((I(A) (I(A(I(A))))_{3,4}) \gg Y > ((A(I(A)) (I(A(I(A))))_{2,4}) \\ \gg Y > ((I(A(I(A))) (I(A))_{4,3}) \\ ((I(A(I(A))) (I(A))_{3,4}) \end{array}$	$((I(A) (I(A(I(A)))))_{4,3}) \times ((I(A(I(A))) (A(I(A)))_{4,2}))$
	(I(A(I(A)))*A _{3,2})
$((I(A(I(A))) (I(A))_{3,4}) \\ ((I(A) (I(A(I(A))))_{3,4}) \gg Y > ((A(I(A)) (I(A(I(A))))_{2,4})$	$(I(A(I(A)))^*A_{3,2})$ × $((I(A(I(A))) (A(I(A)))_{4,2})$
$\gg \gamma > ((I(A(I(A))) (I(A))_{4,3}) (A*I(A(I(A)))_{2,3}))$	((I(A) (I(A(I(A))))) _{4,3})
$(A^*I(A(I(A)))_{2,3})$ ((I(A(I(A))) (I(A))_{3,4}) $\gg Y > ((A(I(A)) (I(A(I(A))))_{2,4})$	$((I(A(I(A))) (I(A))_{4,3}) \times ((I(A(I(A))) (A(I(A)))_{4,2}))$
$ \gg \gamma > ((I(A) (I(A(I(A)))))_{4,3}) ((I(A) (I(A(I(A)))))_{3,4}) $	(I(A(I(A)))*A _{3,2})
$\begin{array}{c} ((I(A) (I(A(I(A)))))_{3,4}) \\ ((I(A(I(A))) (I(A))_{3,4}) \gg Y > ((A(I(A)) (I(A(I(A))))_{2,4}) \\ \gg Y > ((I(A) (I(A(I(A))))_{3,4}) \\ (A^*I(A(I(A)))_{2,3}) \end{array}$	$(I(A(I(A)))^*A_{3,2})$ × $((I(A(I(A))) (A(I(A)))_{4,2})$
	((I(A(I(A))) (I(A)) _{4,3})
Interpretative action	
$\begin{array}{l} ((A(I(A)) \ (I(A(I(A))))_{2,4}) \\ (A^*I(A(I(A)))_{2,3}) \gg \gamma \ > ((I(A(I(A))) \ (I(A))_{3,4}) \times \\ \gamma \ > (I(A(I(A)))^*A_{3,2}) \end{array}$	$((I(A(I(A))) (I(A))_{4,3}) \\ ((I(A) (I(A(I(A)))))_{4,3}) \gg$
((I(A) (I(A(I(A))))) _{3,4})	((I(A(I(A))) (A(I(A))) _{4,2})
$\begin{array}{l} ((I(A) (I(A(I(A)))))_{3,4}) \\ (A^*I(A(I(A)))_{2,3}) \gg \gamma > ((I(A(I(A))) (I(A))_{3,4}) \times \\ \gamma > (I(A(I(A)))^*A_{3,2}) \end{array}$	$((I(A(I(A))) (A(I(A)))_{4,2}) \\ ((I(A) (I(A(I(A))))_{4,3}) \gg$
$((A(I(A))))_{3,2})$	((I(A(I(A))) (I(A)) _{4,3})
$\begin{array}{l} (A^{*}I(A(I(A)))_{2,3}) \\ ((I(A) (I(A(I(A)))))_{3,4}) \gg Y > ((I(A(I(A))) (I(A))_{3,4}) \times Y > ((I(A(I(A))) (I(A))_{4,3})) \end{array}$	$((I(A(I(A))) (A(I(A)))_{4,2})))(I(A(I(A)))_{4,3}) \gg$
$((A(I(A)))(I(A)))_{2,4})$	(I(A(I(A)))*A _{3,2})

 $((A(I(A)) (I(A(I(A))))_{2,4}))$ $(I(A(I(A)))*A_{3,2})$ $((I(A) (I(A(I(A)))))_{3,4}) \gg Y > ((I(A(I(A))) (I(A))_{3,4}) \times$ $((I(A) (I(A(I(A)))))_{4,3})$ \gg $\Upsilon > ((I(A(I(A))) (I(A))_{4,3}))$ $(A^*I(A(I(A)))_{2,3})$ $((I(A(I(A))) (A(I(A)))_{4,2}))$ $(A*I(A(I(A)))_{2,3})$ $((I(A(I(A))) (I(A))_{4,3}))$ $((A(I(A)) (I(A(I(A))))_{2,4}) \gg Y > ((I(A(I(A))) (I(A))_{3,4}) \times$ $((I(A) (I(A(I(A)))))_{4,3}) \gg$ $\Upsilon > ((I(A(I(A))) (A(I(A)))_{4,2}))$ $((I(A) (I(A(I(A)))))_{3,4})$ $(I(A(I(A)))*A_{3,2})$ $((I(A) (I(A(I(A)))))_{3,4})$ $(I(A(I(A)))*A_{3,2})$ $((A(I(A)) (I(A(I(A))))_{2,4}) \gg Y > ((I(A(I(A))) (I(A))_{3,4}) \times ((I(A) (I(A(I(A)))))_{4,3}) \gg$ $\Upsilon > ((I(A(I(A))) (A(I(A)))_{4,2}))$ $(A^*I(A(I(A)))_{2,3})$ $((I(A(I(A))) (I(A))_{4,3}))$ 11. Pre-semiotic dual system $((I(A(I(A))) (A(I(A)))_{2,4} (A(I(A)) (A(I(A)))_{1,2,4} (I(A) (A(I(A)))_{1,4} A^*A(I(A))_{1,2}) \times (A(I(A))^*A_{2,1})_{2,4} (I(A) (A(I(A)))_{2,4} (I(A))_{2,4} ($ $(A(I(A))((I(A))_{4,1} (A(I(A)) (A(I(A)))_{4,2,1} (A(I(A)) (I(A(I(A))))_{4,2}))$ Qualitative action $((I(A(I(A))) (A(I(A)))_{2,4}))$ $((A(I(A)) (A(I(A)))_{4,2,1}))$ $((I(A) (A(I(A)))_{1,4}) \gg Y > (A^*A(I(A))_{1,2}) \times (A(I(A))^*A_{2,1}) \gg Y >$ $((A(I(A)))((I(A))_{4,1}))$ $((A(I(A)) (A(I(A)))_{1,2,4}))$ $((A(I(A)) (I(A(I(A))))_{4,2}))$ $((A(I(A)) (A(I(A)))_{1,2,4}))$ $((A(I(A)) (I(A(I(A))))_{4,2}))$ $((I(A) (A(I(A)))_{14}) \gg Y > (A^*A(I(A))_{12}) \times (A(I(A))^*A_{21}) \gg Y >$ $((A(I(A)))((I(A))_{4,1}))$ $((I(A(I(A))) (A(I(A)))_{2,4})$ $((A(I(A)) (A(I(A)))_{4,2,1}))$ $((I(A(I(A))) (A(I(A)))_{2,4}))$ $((A(I(A)))((I(A))_{4,1}))$ $((A(I(A)) (A(I(A)))_{1,2,4}) \gg Y > (A^*A(I(A))_{1,2}) \times (A(I(A))^*A_{2,1}) \gg Y$ \succ $((A(I(A)) (A(I(A)))_{4,2,1}))$ $((I(A) (A(I(A)))_{1,4}))$ $((A(I(A)) (I(A(I(A))))_{4,2}))$ $((I(A) (A(I(A)))_{1.4}))$ $((A(I(A)) (I(A(I(A))))_{4,2}))$ $((A(I(A)) (A(I(A)))_{1,2,4}) \gg Y > (A^*A(I(A))_{1,2}) \times (A(I(A))^*A_{2,1}) \gg Y$ \succ $((A(I(A)) (A(I(A)))_{4,2,1}))$ $((I(A(I(A))) (A(I(A)))_{2,4}))$ $((A(I(A)))((I(A))_{4,1}))$

((I(A(I(A)))) ((A(I(A))) (I(A(I($((I(A) (A(I(A)))_{1,4}) (A(I(A)))_{2,4}) \gg Y > (A*A(I(A))_{1,2}) (A))))_{4,2}) ((A(I(A)) (A(I(A)))_{1,2,4})$	×		A)) (A(I(A)))₄, ≫ Υ : ((A(I(A))((I(A	>
((I(A(I(A)))) ((A(I(A))) (I(A(I($((A(I(A)) (A(I(A)))_{1,2,4}) (A(I(A)))_{2,4}) \gg Y > (A^*A(I(A))_{1,2})$	×	(A(I(A))*A _{2,1})	((A(I(A))((I(A	()) _{4,1})
Medial action	((I(A) (A(I(A))) _{1,4})		((A(I(A)) (A(I(A))) _{4,}	2,1)
(A*A(I(A)) _{1,}	$\begin{array}{l} ((I(A(I(A))) (A(I(A)))_{2,4}) \\ _{,2}) \gg Y \ \succ ((I(A) (A(I(A)))_{1,4}) \ \times \end{array}$	((A(I((A(I(A))) _{4,2,1}) Y ≻	
(A(I(A))*A _{2,1}) :	((A(I(A)) (A(I(A))) _{1,2,4})		((A(I(A))	(I(A(I(A)))) _{4,2})
(A*A(I(A)) _{1,} (A(I(A))*A _{2,1})	$((A(I(A)) (A(I(A)))_{1,2,4}))_{2} \gg \Upsilon > ((I(A) (A(I(A)))_{1,4}) \times$	((A(I((I(A(I(A)))) _{4,2} Y ≻)
(A(I(A))) _{4,2,1})	((I(A(I(A))) (A(I(A))) _{2,4})			((A(I(A))	
	$(A^*A(I(A))_{1,2})$ $(I(A)))_{1,2,4}) \gg Y > ((I(A) (A(I(A)))_1)$ A)) $(A(I(A)))_{4,2,1})$,4) ×		(I(A(I(A)))) _{4,2} A)) _{4,1})	.) ≫
	((I(A(I(A))) (A(I(A))) _{2,4})			(A(I(A))*A _{2,1})
	$\begin{array}{l} ((I(A(I(A))) (A(I(A)))_{2,4}) \\ (I(A)))_{1,2,4}) & \gg \Upsilon \ \succ ((I(A) (A(I(A)))_{1})_{4,2,1}) \end{array}$,4) ×	((A(I(A))((I((A(I(A))*A _{2,1} A)) _{4,1})	<u>)</u> ≫
	(A*A(I(A)) _{1,2})		((A(I(A))	(I(A(I(A)))) _{4,2})
	$(A^*A(I(A))_{1,2})$ $(A(I(A)))_{2,4}) \gg Y > ((I(A) (A(I(A)))_1)$ $(A)) (I(A(I(A))))_{4,2})$,4) ×		(A(I(A))) _{4,2,1}) A)) _{4,1})	»
	$((A(I(A)) (A(I(A)))_{1,2,4}))$			(A(I(A))*A _{2,1})
	$\begin{array}{l} ((A(I(A)) (A(I(A)))_{1,2,4}) \\ (A(I(A)))_{2,4}) \gg \gamma > ((I(A) (A(I(A)))_{1}) \\ A)) (I(A(I(A))))_{4,2}) \end{array}$,4) ×	((A(I(A))((I((A(I(A))*A _{2,1} A)) _{4,1})	.) ≫
• • ((• (•(•	A)) (I(A(I(A)))) _{4,2}) (A*A(I(A)) _{1,2})		((A(I(A))	(A(I(A))) _{4,2,1})	

Objectal action

 $((I(A(I(A))) (A(I(A)))_{2,4}))$ $((A(I(A)))((I(A))_{4,1}))$ $(A^*A(I(A))_{1,2}) \gg Y > ((A(I(A)) (A(I(A)))_{1,2,4}) \times ((A(I(A)) (A(I(A)))_{4,2,1}) \gg$ Υ $> (A(I(A))^*A_{2,1})$ $((I(A) (A(I(A)))_{1.4}))$ $((A(I(A)) (I(A(I(A))))_{4,2}))$ $((I(A) (A(I(A)))_{1.4}))$ $((A(I(A)) (I(A(I(A))))_{4,2}))$ $(A^*A(I(A))_{1,2}) \gg Y > ((A(I(A))(A(I(A)))_{1,2,4}) \times$ $((A(I(A)) (A(I(A)))_{4,2,1}) \gg$ Υ $> (A(I(A))^*A_{2,1})$ $((I(A(I(A))) (A(I(A)))_{2.4}))$ $((A(I(A)))((I(A))_{4,1}))$ $(A^*A(I(A))_{1,2})$ $((A(I(A)) (I(A(I(A))))_{4,2}))$ $((I(A) (A(I(A)))_{1,4}) \gg Y > ((A(I(A)) (A(I(A)))_{1,2,4}) \times$ $((A(I(A)) (A(I(A)))_{4,2,1}))$ \gg $\Upsilon \succ ((A(I(A))((I(A))_{4,1})$ $((I(A(I(A))) (A(I(A)))_{2,4}))$ $(A(I(A))^*A_{2,1})$ $((I(A(I(A))) (A(I(A)))_{2,4}))$ $(A(I(A))*A_{2,1})$ $((I(A) (A(I(A)))_{1,4}) \gg Y > ((A(I(A)) (A(I(A)))_{1,2,4}) \times$ $((A(I(A)) (A(I(A)))_{4,2,1}))$ \gg $\Upsilon > ((A(I(A)))((I(A))_{4,1}))$ $(A^*A(I(A))_{1,2})$ $((A(I(A)) (I(A(I(A))))_{4,2}))$ $(A^*A(I(A))_{1,2})$ $((A(I(A)))((I(A))_{4,1}))$ $((I(A(I(A)))(A(I(A)))_{2,4}) \gg Y > ((A(I(A))(A(I(A)))_{1,2,4}) \times$ ((A(I(A)) $(A(I(A)))_{4,2,1})$ $\gg \Upsilon > ((A(I(A)) (I(A(I(A))))_{4,2}))$ $((I(A) (A(I(A)))_{1,2,4}))$ $(A(I(A))*A_{2.1})$ $((I(A) (A(I(A)))_{1.4}))$ $(A(I(A))*A_{2.1})$ $(A(I(A)))_{4,2,1})$ $((I(A(I(A)))(A(I(A)))_{2,4}) \gg Y > ((A(I(A))(A(I(A)))_{1,2,4}) \times$ ((A(I(A)) $\gg \gamma > ((A(I(A)) (I(A(I(A))))_{4,2}))$ $(A^*A(I(A))_{1,2})$ $((A(I(A)))((I(A))_{4,1}))$ Interpretative action $((A(I(A)) (A(I(A)))_{1,2,4}))$ $((A(I(A)))((I(A))_{4,1}))$ $(A^*A(I(A))_{1,2}) \gg Y > ((I(A(I(A)))(A(I(A)))_{2,4}) \times ((A(I(A))(I(A(I(A))))_{4,2}))$ \gg $\Upsilon > (A(I(A))^*A_{2,1})$ $((I(A) (A(I(A)))_{1,4}))$ $((A(I(A)) (A(I(A)))_{4,2,1}))$ $((I(A) (A(I(A)))_{1.4}))$ $((A(I(A)) (A(I(A)))_{4,2,1}))$ $(A^*A(I(A))_{1,2}) \gg Y > ((I(A(I(A)))(A(I(A)))_{2,4}) \times ((A(I(A))(I(A(I(A))))_{4,2}))$ \gg $\Upsilon > (A(I(A))^*A_{2,1})$ $((A(I(A)) (A(I(A)))_{1,2,4}))$ $((A(I(A)))((I(A))_{4,1}))$

 $((A(I(A)) (A(I(A)))_{4,2,1}))$ $(A^*A(I(A))_{1,2})$ $((I(A) (A(I(A)))_{1,4}) \gg Y > ((I(A(I(A))) (A(I(A)))_{2,4}) \times$ $((A(I(A)) (I(A(I(A))))_{4,2}) \gg$ $\Upsilon > ((A(I(A)))((I(A))_{4,1}))$ $((A(I(A)) (A(I(A)))_{1,2,4}))$ $(A(I(A))^*A_{2,1})$ $((A(I(A)) (A(I(A)))_{1,2,4}))$ $(A(I(A))*A_{2,1})$ $((I(A) (A(I(A)))_{1,4}) \gg Y > ((I(A(I(A))) (A(I(A)))_{2,4}) \times ((A(I(A)) (I(A(I(A))))_{4,2}) \gg$ $\Upsilon > ((A(I(A)))((I(A))_{4,1}))$ $(A^*A(I(A))_{1,2})$ $((A(I(A)) (A(I(A)))_{4,2,1}))$ $(A^*A(I(A))_{1.2})$ $((A(I(A)))((I(A))_{4.1}))$ $((A(I(A)) (A(I(A)))_{1,2,4}) \gg Y > ((I(A(I(A))) (A(I(A)))_{2,4}) \times$ $((A(I(A))) (I(A(I(A))))_{4,2})$ $\gg \gamma > ((A(I(A)) (A(I(A)))_{4,2,1}))$ $((I(A) (A(I(A)))_{1.4}))$ $(A(I(A))*A_{2.1})$ $((I(A) (A(I(A)))_{1,4}))$ $(A(I(A))*A_{2,1})$ $((A(I(A)) (A(I(A)))_{1,2,4}) \gg Y > ((I(A(I(A))) (A(I(A)))_{2,4}) \times$ $((A(I(A)))) (I(A(I(A))))_{4,2})$ $\gg \gamma > ((A(I(A)) (A(I(A)))_{4,2,1}))$ $(A^*A(I(A))_{1,2})$ $((A(I(A)))((I(A))_{4,1}))$ 12. Pre-semiotic dual system $((I(A(I(A))) (A(I(A)))_{2,4} (A(I(A)) (A(I(A)))_{1,2,4} (I(A) (A(I(A)))_{1,4} A*I(A(I(A)))_{2,3}) \times (I(A(I(A)))*A_{3,2})) \times (I(A(I(A)))*A_{3,2}) \times (I(A(I(A)))*A_{3,2}) \times (I(A(I(A)))*A_{3,2})) \times (I(A(I(A)))*A_{3,2})) \times (I(A(I(A)))*A_{3,2}) \times (I(A(I(A)))*A_{3,2})) \times (I(A(I(A)))*A_{3,2})) \times (I(A(I(A)))*A_{3,2}) \times (I(A(I(A)))*A_{3,2})) \times (I(A(I(A)))) \times (I(A$ $(A(I(A))((I(A))_{4,1} (A(I(A)) (A(I(A)))_{4,2,1} (A(I(A)) (I(A(I(A))))_{4,2}))$ Qualitative action $((I(A(I(A))) (A(I(A)))_{2,4}))$ $((A(I(A)) (A(I(A)))_{4,2,1}))$ $((I(A) (A(I(A)))_{1,4}) \gg Y > (A^*I(A(I(A)))_{2,3}) \times (I(A(I(A)))^*A_{3,2}) \gg Y > (I(A(I(A)))^*A_{3,2}) \gg (I(A(I(A)))^*A_{3,2}) = (I(A(I(A)))^*A_{3,$ $((A(I(A)))((I(A))_{4,1}))$ $((A(I(A)) (A(I(A)))_{1,2,4}))$ ((A(I(A))) $(I(A(I(A))))_{4,2})$ $((A(I(A)) (A(I(A)))_{1,2,4}))$ $((A(I(A)) (I(A(I(A))))_{4,2}))$ $((I(A) (A(I(A)))_{1,4}) \gg Y > (A^*I(A(I(A)))_{2,3}) \times (I(A(I(A)))^*A_{3,2}) \gg Y >$ $((A(I(A)))((I(A))_{4,1}))$ $((I(A(I(A))) (A(I(A)))_{2,4}))$ ((A(I(A))) $(A(I(A)))_{4,2,1})$ $((I(A(I(A))) (A(I(A)))_{2,4}))$ $((A(I(A)))((I(A))_{4,1}))$ $((A(I(A)) (A(I(A)))_{1,2,4}) \gg Y > (A^*I(A(I(A)))_{2,3}) \times (I(A(I(A)))^*A_{3,2})$ \gg γ $> ((A(I(A)) (A(I(A)))_{4,2,1}))$ $((I(A) (A(I(A)))_{1.4}))$ $((A(I(A)) (I(A(I(A))))_{4,2}))$

 $((I(A) (A(I(A)))_{1,4}))$ $((A(I(A)) (I(A(I(A))))_{4,2}))$ $((A(I(A)) (A(I(A)))_{1,2,4}) \gg Y > (A^*I(A(I(A)))_{2,3}) \times$ $(I(A(I(A)))^*A_{3,2}) \gg$ Y $> ((A(I(A)) (A(I(A)))_{4,2,1}))$ $((I(A(I(A))) (A(I(A)))_{2,4}))$ $((A(I(A)))((I(A))_{4,1}))$ $((I(A) (A(I(A)))_{1.4}))$ $((A(I(A)) (A(I(A)))_{4,2,1}))$ $((I(A(I(A))) (A(I(A)))_{2,4}) \gg Y > (A^*I(A(I(A)))_{2,3}) \times$ (I(A(I(A)))*A_{3.2}) \gg γ $> ((A(I(A)) (I(A(I(A))))_{4,2}))$ $((A(I(A)) (A(I(A)))_{1,2,4}))$ $((A(I(A)))((I(A))_{4,1}))$ $((A(I(A)) (A(I(A)))_{1,2,4}))$ $((A(I(A)))((I(A))_{4.1}))$ $((I(A(I(A))) (A(I(A)))_{2,4}) \gg Y > (A^*I(A(I(A)))_{2,3}) \times$ $(I(A(I(A)))*A_{3,2})$ \gg Υ $> ((A(I(A)) (I(A(I(A))))_{4,2}))$ $((I(A) (A(I(A)))_{1.4}))$ $((A(I(A)) (A(I(A)))_{4.2.1}))$ Medial action $((I(A(I(A))) (A(I(A)))_{2,4}))$ $((A(I(A)) (A(I(A)))_{4,2,1}))$ $(A^*I(A(I(A)))_{2,3}) \gg Y > ((I(A) (A(I(A)))_{1,4}) \times$ $((A(I(A)))((I(A))_{4,1}) \gg Y$ \succ $(I(A(I(A)))*A_{3,2})$ $((A(I(A)) (A(I(A)))_{1,2,4}))$ ((A(I(A))) $(I(A(I(A))))_{4,2})$ $((A(I(A)) (A(I(A)))_{1,2,4}))$ $((A(I(A)) (I(A(I(A))))_{4,2}))$ $(A^{*}I(A(I(A)))_{2,3}) \gg Y > ((I(A)(A(I(A)))_{1,4}) \times ((A(I(A)))((I(A))_{4,1}) \gg Y > (A^{*}I(A(I(A)))_{2,3}) \otimes Y > ((A^{*}I(A))_{2,3}) \otimes ((A^{*}I(A))_{2,3}$ $(I(A(I(A)))*A_{3,2})$ $((I(A(I(A))) (A(I(A)))_{2,4}))$ $((A(I(A)) (A(I(A)))_{4,2,1}))$ $(A*I(A(I(A)))_{2,3})$ $((A(I(A)) (I(A(I(A))))_{4,2}))$ $((A(I(A)) (A(I(A)))_{1,2,4}) \gg Y > ((I(A) (A(I(A)))_{1,4}) \times$ $((A(I(A)))((I(A))_{4,1}))$ \gg $\Upsilon > ((A(I(A)) (A(I(A)))_{4,2,1}))$ $((I(A(I(A))) (A(I(A)))_{2,4}))$ $(I(A(I(A)))*A_{3,2})$ $((I(A(I(A))) (A(I(A)))_{2,4}))$ $(I(A(I(A)))*A_{3,2})$ $((A(I(A)) (A(I(A)))_{1,2,4}) \gg Y > ((I(A) (A(I(A)))_{1,4}) \times$ $((A(I(A))((I(A))_{4,1})))$ \gg $\Upsilon > ((A(I(A)) (A(I(A)))_{4,2,1}))$ $(A^*I(A(I(A)))_{2,3})$ $((A(I(A)) (I(A(I(A))))_{4,2}))$ $(A*I(A(I(A)))_{2,3})$ $((A(I(A)) (A(I(A)))_{4,2,1}))$ $((I(A(I(A))) (A(I(A)))_{2,4}) \gg Y > ((I(A) (A(I(A)))_{1,4}) \times$ ((A(I(A))((I(A))_{4.1}) \gg $\Upsilon > ((A(I(A)) (I(A(I(A))))_{4,2}))$ $((A(I(A)) (A(I(A)))_{1,2,4}))$ $(I(A(I(A)))*A_{3,2})$

$\begin{array}{c} ((A(I(A)) \ (A(I(A)))_{1,2,4}) \\ ((I(A(I(A))) \ (A(I(A)))_{2,4}) \ \gg \gamma \ \succ \ ((I(A) \ (A(I(A)))_{1,4}) \ \times \\ \gamma \ \ \succ \ ((A(I(A)) \ (I(A(I(A))))_{4,2}) \\ (A^*I(A(I(A)))_{2,3}) \end{array}$	$(I(A(I(A)))*A_{3,2})$ $((A(I(A)))((I(A))_{4,1}) \gg$ $((A(I(A)))(A(I(A)))_{4,2,1})$
Objectal action	
$\begin{array}{l} ((I(A(I(A))) (A(I(A)))_{2,4}) \\ (A^*I(A(I(A)))_{2,3}) \implies Y > ((A(I(A)) (A(I(A)))_{1,2,4}) \times \\ Y > (I(A(I(A)))^*A_{3,2}) \\ ((I(A) (A(I(A)))_{1,4}) \end{array}$	$((A(I(A)))((I(A))_{4,1}) \\ ((A(I(A))) (A(I(A)))_{4,2,1}) \gg \\ ((A(I(A))) (I(A(I(A))))_{4,2})$
$\begin{array}{c} ((I(A) (A(I(A)))_{1,4}) \\ (A^*I(A(I(A)))_{2,3}) \implies \forall > ((A(I(A)) (A(I(A)))_{1,2,4}) \times \\ \forall > (I(A(I(A)))^*A_{3,2}) \\ ((I(A(I(A))) (A(I(A)))_{2,4}) \end{array}$	$((A(I(A)) (I(A(I(A))))_{4,2}) \\ ((A(I(A)) (A(I(A)))_{4,2,1}) \gg \\ ((A(I(A))((I(A))_{4,1})$
$\begin{array}{l} (A^*I(A(I(A)))_{2,3}) \\ ((I(A) (A(I(A)))_{1,4}) \gg Y > ((A(I(A)) (A(I(A)))_{1,2,4}) \times \\ Y > ((A(I(A)))((I(A))_{4,1}) \\ ((I(A(I(A))) (A(I(A)))_{2,4}) \end{array}$	$((A(I(A)) (I(A(I(A))))_{4,2}) \\ ((A(I(A)) (A(I(A)))_{4,2,1}) \gg \\ (I(A(I(A)))^*A_{3,2})$
$\begin{array}{c} ((I(A(I(A))) (A(I(A)))_{2,4}) \\ ((I(A) (A(I(A)))_{1,4}) \gg Y > ((A(I(A)) (A(I(A)))_{1,2,4}) \\ \gg Y \ > ((A(I(A)))((I(A))_{4,1}) \\ (A^*I(A(I(A)))_{2,3}) \end{array}$	$(I(A(I(A)))^*A_{3,2}) \times ((A(I(A))) (A(I(A)))_{4,2,1}) + ((A(I(A))) (I(A(I(A))))_{4,2}))$
$\begin{array}{l} (A^*I(A(I(A)))_{2,3}) \\ ((I(A(I(A))) (A(I(A)))_{2,4}) \gg \gamma > ((A(I(A)) (A(I(A)))_{1,2,4}) \\ \gg \gamma > ((A(I(A)) (I(A(I(A))))_{4,2}) \\ ((I(A) (A(I(A)))_{1,4}) \end{array}$	$((A(I(A)))((I(A))_{4,1})) \times ((A(I(A))) (A(I(A)))_{4,2,1}) $ $(I(A(I(A)))^*A_{3,2})$
$\begin{array}{c} ((I(A) (A(I(A)))_{1,4}) \\ ((I(A(I(A))) (A(I(A)))_{2,4}) \gg Y \succ ((A(I(A)) (A(I(A)))_{1,2,4}) \\ \gg Y \ \succ ((A(I(A)) (I(A(I(A))))_{4,2}) \\ (A^*I(A(I(A)))_{2,3}) \end{array}$	$(I(A(I(A)))*A_{3,2}) \times ((A(I(A))) (A(I(A)))_{4,2,1}) ((A(I(A)))((I(A))_{4,1}))$

$((A(I(A)) (A(I(A)))_{1,2,4}))$ $(A^*I(A(I(A)))_{2,3}) \gg Y > ((I(A(I(A))) (A(I(A)))_{2,4}) \times X) = (I(A(I(A)))_{2,4}) \times X)$	((A(I	$((A(I(A)))((I(A))_{4,1})$ (A)) (I(A(I(A))))_{4,2}) \gg
$\Upsilon > (I(A(I(A)))*A_{3,2})$ ((I(A) (A(I(A)))_{1,4})		((A(I(A)) (A(I(A))) _{4,2,1})
$\begin{array}{l} ((I(A) (A(I(A)))_{1,4}) \\ (A^*I(A(I(A)))_{2,3}) & \gg \Upsilon \ \succ \ ((I(A(I(A))) (A(I(A)))_{2,4}) \\ \Upsilon & \succ \ (I(A(I(A)))^*A_{3,2}) \end{array} $	((A(I	$((A(I(A)) (A(I(A)))_{4,2,1}))(A))(I(A(I(A))))_{4,2}) \gg$
$((A(I(A))) (A(I(A)))_{1,2,4})$		((A(I(A))((I(A)) _{4,1})
$\begin{array}{l} (A^*I(A(I(A)))_{2,3}) \\ ((I(A) (A(I(A)))_{1,4}) \gg \Upsilon > ((I(A(I(A))) (A(I(A)))_{2,4}) \times \Upsilon > ((A(I(A)))((I(A))_{4,1}) \\ ((A(I(A)) (A(I(A)))_{1,2,4}) \end{array}$	((A(I	$((A(I(A)) (A(I(A)))_{4,2,1})$ (A)) (I(A(I(A))))_{4,2}) \gg (I(A(I(A))))^*A_{3,2})
$\begin{array}{c} ((A(I(A)) (A(I(A)))_{1,2,4}) \\ ((I(A) (A(I(A)))_{1,4}) \gg \gamma > ((I(A(I(A))) (A(I(A)))_{2,4}) \times \\ \gamma > ((A(I(A)))((I(A))_{4,1}) \end{array}$	((A(I	$(I(A(I(A)))^*A_{3,2})$ (A)) $(I(A(I(A)))_{4,2}) \gg$
(A*I(A(I(A))) _{2,3})		((A(I(A)) (A(I(A))) _{4,2,1})
$(A^*I(A(I(A)))_{2,3})$ $((A(I(A)) (A(I(A)))_{1,2,4}) \gg Y > ((I(A(I(A))) (A(I(A)))_{2,4}))$ $\gg Y > ((A(I(A)) (A(I(A)))_{4,2,1}))$	×	$((A(I(A)))((I(A))_{4,1}))((A(I(A)))_{4,2}))((A(I(A))))(A(A(I(A))))(A(A(I(A)))))(A(A(I(A)))))(A(A(I(A)))))(A(A(I(A))))(A(A(I(A)))))(A(A(I(A))))(A(A(I(A)))))(A(A(I(A))))(A(A(I(A)))))(A(A(I(A))))(A(A(I(A)))))(A(A(I(A))))(A(A(I(A)))))(A(A(I(A))))(A(A(I(A)))))(A(A(I(A))))(A(A(I(A)))))(A(A(I(A))))(A(A(I(A)))))(A(A(I(A))))(A(A(I(A)))))(A(A(I(A))))(A(A(I(A)))))(A(A(I(A))))(A(A(I(A)))))(A(A(I(A))))(A(A(I(A)))))(A(A(I(A))))(A(A(I(A)))))(A(A(I(A))))(A(A(I(A)))))(A(A(I(A)))))(A(A(I(A))))(A(A(I(A)))))(A(A(I(A))))(A(A(I(A)))))(A(A(I(A)))))(A(A(I(A))))(A(A(I(A)))))(A(A(I(A))))(A(A(I(A)))))(A(A(I(A))))(A(A(I(A)))))(A(A(I(A))))(A(A(I(A))))(A(A(I(A)))))(A(A(I(A))))(A(A(I(A))))(A(A(I(A)))))(A(A(I(A))))(A(A(I(A)))))(A(A(I(A))))(A(A(I(A))))(A(A(I(A)))))(A(A(I(A))))(A(A(I(A))))(A(A(I(A)))))(A(A(I(A))))(A(A(I(A)))))(A(A(I(A))))(A(A(I(A)))))(A(A(I(A)))))(A(A(I(A))))(A(A(I(A)))))(A(A(I(A))))(A(A(I(A)))))(A(A(I(A))))(A(A(I(A)))))(A(A(I(A))))(A(A(I(A)))))(A(A(I(A))))(A(A(I(A))))(A(A(I(A))))(A(A(I(A))))(A(A(I(A))))(A(A(I(A))))(A(A(I(A))))(A(A(I(A))))(A(A(I(A))))(A(A(I(A))))(A(A(I(A))))(A(A(I(A))))(A(A(I(A))))(A(A(I(A))))(A(A(I(A))))(A(A(I(A))))(A(A(I(A)))(A(A(I(A))))(A(A(I(A))))(A(A(I(A)))(A(A(I(A))))(A(A(I(A))))(A(A(I(A))))(A(A(I(A))))(A(A(I(A))))(A(A(I(A))))(A(A(I(A))))(A(A(I(A))))(A(A(I(A)))))(A(A(I(A))))(A(A(I(A))))(A(A(I(A))))(A(A(I(A))))(A(A(I(A))))(A(A(I(A))))(A(A(I(A))))(A(A(I(A))))(A(A(I(A))))(A(A(I(A))))(A(A(I(A))))(A(A(I(A))))(A(A(I(A))))(A(A(I(A))))(A(A(I(A))))(A(A(I(A))))(A(A(I(A))))(A(A(I(A)))))(A(A(I(A))))(A(A(I(A))))(A(A(I(A))))(A(A(A(I(A)))))(A(A(I(A))))(A(A(I(A))))(A(A(I(A)))))(A(A(I(A))))(A(A(I(A))))(A(A(A(A$
((I(A) (A(I(A))) _{1,4})		(I(A(I(A)))*A _{3,2})
$\begin{array}{l} ((I(A) (A(I(A)))_{1,4}) \\ ((A(I(A)) (A(I(A)))_{1,2,4}) \gg Y > ((I(A(I(A))) (A(I(A)))_{2,4}) \\ \gg Y > ((A(I(A)) (A(I(A)))_{4,2,1}) \end{array}$	×	(I(A(I(A)))*A _{3,2}) ((A(I(A)) (I(A(I(A)))) _{4,2})
$(A^*I(A(I(A)))_{2,3})$		((A(I(A))((I(A)) _{4,1})
13. Pre-semiotic system ((I(A(I(A))) (A(I(A))) _{2,4} (A(I(A)) (A(I(A))) _{1,2,4} (I(A) (I(A(I(A))))) (I(A(I(A)))*A _{3,2} (I(A(I(A))) (I(A)) _{4,3} (A(I(A)) (A(I(A))) _{4,2,1} (A(I(A))))		

Qualitative action

 $\begin{array}{c} ((I(A(I(A))) (A(I(A)))_{2,4}) & ((A(I(A)) (A(I(A)))_{4,2,1}) \\ ((I(A) (I(A(I(A))))_{3,4}) \gg \gamma > (A^*I(A(I(A)))_{2,3}) \times & (I(A(I(A)))^*A_{3,2}) \gg \gamma > \\ ((I(A(I(A))) (I(A))_{4,3}) & ((A(I(A)))_{1,2,4}) & ((A(I(A)) (I(A(I(A))))_{4,2}) \end{array}$

$\begin{array}{l} ((A(I(A)) \ (A(I(A)))_{1,2,4}) \\ ((I(A) \ (I(A(I(A))))_{3,4}) \ \gg \ Y \ > (A^*I(A(I(A)))_{2,3}) \times \\ ((I(A(I(A))) \ (I(A))_{4,3}) \end{array}$	$((A(I(A)) (I(A(I(A))))_{4,2}))$ $(I(A(I(A)))^*A_{3,2}) \gg \gamma >$
((I(A(I(A))) (A(I(A))) _{2,4})	((A(I(A)) (A(I(A))) _{4,2,1})
$((I(A(I(A))) (A(I(A)))_{2,4}) \\ ((A(I(A)) (A(I(A)))_{1,2,4}) \gg Y > (A^*I(A(I(A)))_{2,3}) \\ \times ((A(I(A)) (A(I(A)))_{2,4}))$	$((I(A(I(A))) (I(A))_{4,3}))$ $(I(A(I(A)))^*A_{3,2}) \gg Y$
$\succ ((A(I(A)) (A(I(A)))_{4,2,1}) ((I(A) (I(A(I(A)))))_{3,4})$	((I(A(I(A))) (A(I(A))) _{4,2})
$((I(A) (I(A(I(A)))))_{3,4})$ $((A(I(A)) (A(I(A)))_{1,2,4}) \gg Y > (A^*I(A(I(A)))_{2,3}) \times$	((A(I(A)) (I(A(I(A)))) _{4,2}) (I(A(I(A)))*A₃₂) ≫ Y
$((A(I(A)) (A(I(A)))_{1,2,4}) \implies Y \implies (A \cap (A(I(A)))_{2,3}) \land \\ ((A(I(A)) (A(I(A)))_{4,2,1}) ((I(A(I(A))) (A(I(A)))_{2,4})) \land ((I(A(I(A))))_{2,4}) \land ((I(A)))_{2,4})$	((I(A(I(A))) A _{3,2}) // Y ((I(A(I(A))) (I(A)) _{4,3})
$((I(A) (I(A(I(A))))_{3,4}) \\ ((I(A(I(A))) (A(I(A)))_{2,4}) \gg Y > (A^*I(A(I(A)))_{2,3}) \times \\ > ((A(I(A)) (I(A(I(A))))_{4,2})$	$((A(I(A)) (A(I(A)))_{4,2,1})$ $(I(A(I(A)))^*A_{3,2}) \gg Y$
$((A(I(A)) (A(I(A)))_{1,2,4}))$	((I(A(I(A))) (I(A)) _{4,3})
$\begin{aligned} & ((A(I(A)) (A(I(A)))_{1,2,4}) \\ & ((I(A(I(A))) (A(I(A)))_{2,4}) \gg \Upsilon > (A^*I(A(I(A)))_{2,3}) \times \\ & > ((A(I(A)) (I(A(I(A))))_{4,2}) \end{aligned}$	$((I(A(I(A))) (I(A))_{4,3})$ $(I(A(I(A)))^*A_{3,2}) \gg Y$
((I(A) (I(A(I(A))))) _{3,4})	((A(I(A)) (A(I(A))) _{4,2,1})
Medial action	
$\begin{array}{c} ((I(A(I(A))) (A(I(A)))_{2,4}) \\ (A^*I(A(I(A)))_{2,3}) \gg Y > ((I(A) (I(A(I(A))))_{3,4}) \times \\ > (I(A(I(A)))^*A_{3,2}) \end{array}$	$((A(I(A)) (A(I(A)))_{4,2,1}))$ $((I(A(I(A))) (I(A))_{4,3}) \gg Y$
((A(I(A))) (A(I(A))) _{1,2,4})	((A(I(A)) (I(A(I(A)))) _{4,2})
$((A(I(A)) (A(I(A)))_{1,2,4}) (A^*I(A(I(A)))_{2,3}) \gg Y > ((I(A) (I(A(I(A))))_{3,4}) \times$	((A(I(A)) (I(A(I(A)))) _{4,2}) ((I(A(I(A))) (I(A)) _{4,3})≫ Y
$\succ (I(A(I(A)))*A_{3,2}) \\ ((I(A(I(A)))*(A(I(A)))) (A(I(A)))_{2,4})$	((A(I(A))) (A(I(A))) _{4,2,1})

$\begin{array}{l} (A^*I(A(I(A)))_{2,3}) \\ ((A(I(A)) (A(I(A)))_{1,2,4}) \gg Y > ((I(A) (I(A(I(A)))))_{3,4}) \\ Y > ((A(I(A)) (A(I(A)))_{4,2,1}) \\ ((I(A(I(A))) (A(I(A)))_{2,4}) \end{array}$	$((A(I(A)) (I(A(I(A))))_{4,2}) \times ((I(A(I(A))) (I(A))_{4,3}) \gg (I(A(I(A))) * A_{3,2}))$
$\begin{array}{l} ((I(A(I(A))) (A(I(A)))_{2,4}) \\ ((A(I(A)) (A(I(A)))_{1,2,4}) \implies \forall > ((I(A) (I(A(I(A)))))_{3,4}) \\ \forall > ((A(I(A)) (A(I(A)))_{4,2,1}) \\ (A^*I(A(I(A)))_{2,3}) \end{array}$	$(I(A(I(A)))^*A_{3,2}) \times ((I(A(I(A))) (I(A))_{4,3}) \gg ((A(I(A)) (I(A(I(A))))_{4,2}))$
$\begin{array}{l} (A^*I(A(I(A)))_{2,3}) \\ ((I(A(I(A))) (A(I(A)))_{2,4}) \gg Y > ((I(A) (I(A(I(A)))))_{3,4}) \\ Y > ((A(I(A)) (I(A(I(A))))_{4,2}) \\ ((A(I(A)) (A(I(A)))_{1,2,4}) \end{array}$	$((A(I(A)) (A(I(A)))_{4,2,1}) \times ((I(A(I(A))) (I(A))_{4,3}) \gg (I(A(I(A))) (I(A))_{4,3}) \times (I(A(I(A)))^*A_{3,2}))$
$\begin{array}{l} ((A(I(A)) (A(I(A)))_{1,2,4}) \\ ((I(A(I(A))) (A(I(A)))_{2,4}) \gg \gamma > ((I(A) (I(A(I(A)))))_{3,4}) \\ \gamma > ((A(I(A)) (I(A(I(A))))_{4,2}) \\ (A^*I(A(I(A)))_{2,3}) \end{array}$	$(I(A(I(A)))^*A_{3,2}) \\ \times ((I(A(I(A))) (I(A))_{4,3}) \gg \\ ((A(I(A)) (A(I(A)))_{4,2,1})$
Objectal action	
$\begin{array}{c} ((I(A(I(A))) (A(I(A)))_{2,4}) \\ (A^*I(A(I(A)))_{2,3}) & \gg Y & > ((A(I(A)) (A(I(A)))_{1,2,4}) \\ & \gg Y & > (I(A(I(A)))^*A_{3,2}) \\ & ((I(A) (I(A(I(A))))_{3,4}) \end{array}$	$((I(A(I(A))) (I(A))_{4,3}) \times ((A(I(A))) (A(I(A)))_{4,2,1}) ((A(I(A)) (I(A(I(A))))_{4,2}))$
$\begin{array}{l} ((I(A) (I(A(I(A))))_{3,4}) \\ (A^*I(A(I(A)))_{2,3}) & \gg \gamma \ \succ \ ((A(I(A)) (A(I(A)))_{1,2,4}) \times \\ \gamma \ \succ \ (I(A(I(A)))^*A_{3,2}) \\ ((I(A(I(A))) (A(I(A)))_{2,4}) \end{array}$	$((A(I(A)) (I(A(I(A))))_{4,2})$ $((A(I(A)) (A(I(A)))_{4,2,1}) \gg$ $((I(A(I(A))) (I(A))_{4,3})$
$\begin{array}{l} (A^*I(A(I(A)))_{2,3}) \\ ((I(A) (I(A(I(A))))_{3,4}) \gg Y > ((A(I(A)) (A(I(A)))_{1,2,4}) \times \\ Y > ((I(A(I(A))) (I(A))_{4,3}) \\ ((I(A(I(A))) (A(I(A)))_{2,4}) \end{array}$	$((A(I(A)) (I(A(I(A))))_{4,2}) \\ ((A(I(A)) (A(I(A)))_{4,2,1}) \gg \\ (I(A(I(A)))^*A_{3,2})$
$\begin{array}{l} ((I(A(I(A))) (A(I(A)))_{2,4}) \\ ((I(A) (I(A(I(A))))_{3,4}) \gg Y > ((A(I(A)) (A(I(A)))_{1,2,4}) \times \\ Y > ((I(A(I(A))) (I(A))_{4,3}) \\ (A^*I(A(I(A)))_{2,3}) \end{array}$	$(I(A(I(A)))^*A_{3,2})$ $((A(I(A)))(A(I(A)))_{4,2,1}) \gg$ $((A(I(A)))(I(A(I(A))))_{4,2})$

$\begin{array}{l} (A^*I(A(I(A)))_{2,3}) \\ ((I(A(I(A)))(A(I(A)))_{2,4}) \gg \gamma > ((A(I(A))(A(I(A)))_{1,2,4}) \times \\ \gg \gamma > ((A(I(A))(I(A(I(A))))_{4,2}) \end{array}$	((I(A(I(A))) ((A(I(A))	,	
$((I(A)))(I(A(I(A))))_{4,2})$ $((I(A))(I(A(I(A)))))_{3,4})$	(I(A(I(A)))*A _{3,2})		
$\begin{array}{c} ((I(A) (I(A(I(A)))))_{3,4}) \\ ((I(A(I(A))) (A(I(A)))_{2,4}) \gg \gamma > ((A(I(A)) (A(I(A)))_{1,2,4}) \times \\ \gg \gamma > ((A(I(A)) (I(A(I(A))))_{4,2}) \end{array}$.)))*A _{3,2}) (A(I(A))) _{4,2,1})	
$(A*I(A(I(A)))_{2,3})$	((I(A(I(A))) (I(A)) _{4,3})		
Interpretative action			
$\begin{array}{l} ((A(I(A)) \ (A(I(A)))_{1,2,4}) \\ (A^*I(A(I(A)))_{2,3}) \gg \ Y \succ ((I(A(I(A))) \ (A(I(A)))_{2,4}) \times \\ Y \succ \ (I(A(I(A)))^*A_{3,2}) \end{array}$		(((A))) (((A)) _{4,3}))))) _{4,2}) ≫	
((I(A) (I(A(I(A))))) _{3,4})	((A(I(A))) (A(I(A))) _{4,2,1})	
$\begin{array}{l} ((I(A) (I(A(I(A))))_{3,4}) \\ (A^*I(A(I(A)))_{2,3}) & \gg Y > ((I(A(I(A))) (A(I(A)))_{2,4}) \\ Y & > (I(A(I(A)))^*A_{3,2}) \end{array}$)) (A(I(A))) _{4,2,1}))))) _{4,2}) ≫	
$((A(I(A))) (A(I(A)))_{1,2,4})$	((I(A(I(A))) (I(A)) _{4,3}		
$\begin{array}{l} (A^*I(A(I(A)))_{2,3}) \\ ((I(A) (I(A(I(A))))_{3,4}) \gg \Upsilon > ((I(A(I(A))) (A(I(A)))_{2,4}) \times \\ \gg \Upsilon > ((I(A(I(A))) (I(A))_{4,3}) \end{array}$		A(I(A))) _{4,2,1}) (I(A(I(A)))) _{4,2})	
$((A(I(A)) (A(I(A)))_{1,2,4}))$	(I(A(I(A)))*A _{3,2})		
$\begin{array}{l} ((A(I(A)) \ (A(I(A)))_{1,2,4}) \\ ((I(A) \ (I(A(I(A))))_{3,4}) \ \gg \ \gamma \ > ((I(A(I(A))) \ (A(I(A)))_{2,4}) \ \times \\ \gg \ \gamma \ > ((I(A(I(A))) \ (I(A))_{4,3}) \end{array}$	(I(A)) ((A(I(A))	[I(A)))*A _{3,2}) (I(A(I(A)))) _{4,2})	
$(A*I(A(I(A)))_{2,3})$	((A(I(A)) (/	A(I(A))) _{4,2,1})	
$(A^{*}I(A(I(A)))_{2,3})$ ((A(I(A)) (A(I(A)))_{1,2,4}) $\gg Y > ((I(A(I(A))) (A(I(A)))_{2,4}))$ $\gg X = ((A(I(A)) (A(I(A)))_{2,4}))$	((I(A(I(A))) × ((A(I(A))	(I(A)) _{4,3}) (I(A(I(A)))) _{4,2})	
$ > Y > ((A(I(A)) (A(I(A)))_{4,2,1}) ((I(A) (I(A(I(A))))_{3,4})) $	(I(A(I(A	.)))*A _{3,2})	
$((I(A) (I(A(I(A)))))_{3,4})$ $((A(I(A)) (A(I(A)))_{1,2,4}) \gg Y > ((I(A(I(A))) (A(I(A)))_{2,4}))$ $(A(I(A))) (A(I(A)))_{3,4})$.)))*A _{3,2}) (I(A(I(A)))) _{4,2})	
$ > Y > ((A(I(A)) (A(I(A)))_{4,2,1}) (A*I(A(I(A)))_{2,3}) $	((I(A(I(A)))	(I(A)) _{4,3})	

14. Pre-semiotic dual system ((I(A(I(A))) (A(I(A))) _{2,4} (A(I(A)) (I(A(I(A)))) _{2,4} (I(A) (I(A(I(A))))) _{3,4} A*I(A(I(A))) _{2,3}) × (I(A(I(A)))*A _{3,2} (I(A(I(A))) (I(A)) _{4,3} (I(A(I(A))) (A(I(A))) _{4,2} (A(I(A)) (I(A(I(A)))) _{4,2})				
Qualitative action				
$\begin{array}{l} ((I(A(I(A))) (A(I(A)))_{2,4}) \\ ((I(A) (I(A(I(A))))_{3,4}) \gg \Upsilon > (A^*I(A(I(A)))_{2,3}) \times \\ ((I(A(I(A))) (I(A))_{4,3}) \\ ((A(I(A)) (I(A(I(A))))_{2,4}) \end{array}$	$((I(A(I(A))) (A(I(A)))_{4,2}))$ $(I(A(I(A)))^*A_{3,2}) \gg \gamma >$ $((A(I(A)) (I(A(I(A))))_{4,2}))$			
((^('(^)) ('(^('))))2,4)	((~('(~)) ('(~('(~))))4,2)			
$\begin{array}{l} ((A(I(A)) (I(A(I(A))))_{2,4}) \\ ((I(A) (I(A(I(A))))_{3,4}) \gg \Upsilon > (A^*I(A(I(A)))_{2,3}) \times \\ ((I(A(I(A))) (I(A))_{4,3}) \end{array}$	$((A(I(A)) (I(A(I(A))))_{4,2}))$ $(I(A(I(A)))^*A_{3,2}) \gg \gamma >$			
((I(A(I(A))) (A(I(A))) _{2,4})	((I(A(I(A))) (A(I(A))) _{4,2})			
$\begin{array}{l} ((I(A(I(A))) (A(I(A)))_{2,4}) \\ ((A(I(A)) (I(A(I(A))))_{2,4}) \gg \gamma > (A^*I(A(I(A)))_{2,3}) \times \\ > ((I(A(I(A))) (A(I(A)))_{4,2}) \\ ((I(A) (I(A(I(A))))_{3,4}) \end{array}$	$((I(A(I(A))) (I(A))_{4,3}) (I(A(I(A)))^*A_{3,2}) \gg \gamma$ $((A(I(A)) (I(A(I(A))))_{4,2})$			
$\begin{array}{l} ((I(A) (I(A(I(A)))))_{3,4}) \\ ((A(I(A)) (I(A(I(A))))_{2,4}) \implies \forall \qquad \succ (A^*I(A(I(A)))_{2,3}) \times \\ \succ ((I(A(I(A))) (A(I(A)))_{4,2}) \end{array}$	$((A(I(A)) (I(A(I(A))))_{4,2}))$ $(I(A(I(A)))^*A_{3,2}) \gg Y$			
$((I(A(I(A))) (A(I(A)))_{2,4}))$	((I(A(I(A))) (I(A)) _{4,3})			
$\begin{array}{l} ((I(A) (I(A(I(A)))))_{3,4}) \\ ((I(A(I(A))) (A(I(A)))_{2,4}) \gg \Upsilon > (A^*I(A(I(A)))_{2,3}) \times \\ > ((A(I(A)) (I(A(I(A))))_{4,2}) \end{array}$	$((I(A(I(A))) (A(I(A)))_{4,2}))$ $(I(A(I(A)))^*A_{3,2}) \gg Y$			
$((A(I(A)))(I(A(I(A))))_{2,4})$	((I(A(I(A))) (I(A)) _{4,3})			
$\begin{aligned} & ((A(I(A)) (I(A(I(A))))_{2,4}) \\ & ((I(A(I(A))) (A(I(A)))_{2,4}) \gg \Upsilon > (A^*I(A(I(A)))_{2,3}) \times \\ & > ((A(I(A)) (I(A(I(A))))_{4,2}) \end{aligned}$	((I(A(I(A))) (I(A)) _{4,3}) (I(A(I(A)))*A _{3,2}) ≫ Y			
((I(A) (I(A(I(A))))) _{3,4})	((I(A(I(A))) (A(I(A))) _{4,2})			

$((I(A(I(A))) (A(I(A)))_{2,4}) (A^*I(A(I(A)))_{2,3}) \gg Y > ((I(A) (I(A(I(A))))_{3,4}) \times ((I(A)))_{3,4}) $	((I(A(I(A))) (A(I(A))) _{4,2}) I(A(I(A))) (I(A)) _{4,3})≫ Y
≻ (I(A(I(A)))*A _{3,2}) ((A(I(A)) (I(A(I(A)))) _{2,4})	((A(I(A)) (I(A(I(A)))) _{4,2})
$((A(I(A)) (I(A(I(A))))_{2,4}) (A^*I(A(I(A)))_{2,3}) \gg Y > ((I(A) (I(A(I(A)))))_{3,4}) \times ((I(A))_{3,4}) = 0$	((A(I(A)) (I(A(I(A)))) _{4,2}) I(A(I(A))) (I(A)) _{4,3})≫ Y
$(I(A(I(A))))^{2,3} \sim I \sim (I(A)(I(A)))^{3,4} \sim (I(A))^{3,4} \sim (I(A))^{3,4}$	
((I(A(I(A))) (A(I(A))) _{2,4})	((I(A(I(A))) (A(I(A))) _{4,2})
(A*I(A(I(A))) _{2,3})	((A(I(A)) (I(A(I(A)))) _{4,2})
$((A(I(A))(I(A(I(A))))_{2,4}) \gg \Upsilon > (I(A)(I(A(I(A))))_{3,4})$	× ((I(A(I(A))) (I(A)) _{4,3})
$ > Y > ((I(A(I(A))) (A(I(A)))_{4,2}) ((I(A(I(A))) (A(I(A)))_{2,4}) $	(I(A(I(A)))*A _{3,2})
((I(A(I(A))) (A(I(A))) _{2.4})	(I(A(I(A)))*A _{3.2})
$((A(I(A)) (I(A(I(A))))_{2,4}) \gg Y > ((I(A) (I(A(I(A)))))_{3,4}) \times$	$((I(A(I(A))) (I(A))_{4,3}) \gg$
$\Upsilon > ((I(A(I(A))) (A(I(A)))_{4,2}))$ (A*I(A(I(A)))_{2,3})	((A(I(A)) (I(A(I(A)))) _{4,2})
(A*I(A(I(A))) _{2,3})	((I(A(I(A))) (A(I(A))) _{4,2})
$((I(A(I(A))) (A(I(A)))_{2,4}) \gg ((I(A) (I(A(I(A))))_{3,4}) \times ((A(I(A))) (I(A(I(A))))_{3,4}) \times ((A(I(A))))_{3,4}) \times ((A(I(A))) (I(A(I(A))))_{3,4}) \times ((A(I(A))))_{3,4}) \times ((A(I(A))) (I(A(I(A))))_{3,4}) \times ((A(I(A))))_{3,4}) \times ((A(I(A)))) $	$((I(A(I(A))) (I(A))_{4,3}) \gg$
$Y > ((A(I(A)) (I(A(I(A))))_{4,2}) ((A(I(A)) (I(A(I(A))))_{2,4})$	(I(A(I(A)))*A _{3,2})
((A(I(A)) (I(A(I(A)))) _{2,4})	(I(A(I(A)))*A _{3,2})
$((I(A(I(A))) (A(I(A)))_{2,4}) \gg Y \succ ((I(A) (I(A(I(A))))_{3,4}) \times ((A(I(A))) (I(A(I(A))))_{2,4})) \times ((A(I(A))) (I(A(I(A))))) \times ((A(I(A))))) \times ((A(I(A))))) \times ((A(I(A))))) \times ((A(I(A))))) \times ((A(I(A)))) \times ((A(I(A))))) \times ((A(I(A))))) \times ((A(I(A)))) \times ((A(I(A))))) \times ((A(I(A)))) \times ((A(I(A))))) \times ((A(I(A)))) \times ((A(I(A))))) \times ((A(I(A)))) \times ((A(I(A))))) \times ((A(I(A)))) \times ((A(I(A)))) \times ((A(I(A)))) \times ((A(I(A)))$	$((I(A(I(A))) (I(A))_{4,3}) \gg$
$\Upsilon > ((A(I(A)) (I(A(I(A))))_{4,2}))$ (A*I(A(I(A)))_{2,3})	((I(A(I(A))) (A(I(A))) _{4,2})
Objectal action	

 $\begin{array}{ccc} ((I(A(I(A))) (A(I(A)))_{2,4}) & ((I(A(I(A))) (I(A))_{4,3}) \\ (A^*I(A(I(A)))_{2,3}) & \gg Y & \succ ((A(I(A)) (I(A(I(A))))_{2,4}) & \times & ((I(A(I(A))) (A(I(A)))_{4,2}) \\ Y & \succ (I(A(I(A)))^*A_{3,2}) & ((I(A(I(A))))^*A_{3,2}) & ((I(A(I(A))) (I(A(I(A))))_{4,2}) \end{array}$

84

$\begin{array}{l} ((I(A) (I(A(I(A))))_{3,4}) \\ (A^*I(A(I(A)))_{2,3}) \implies Y > ((A(I(A)) (I(A(I(A))))_{2,4}) \\ Y > (I(A(I(A)))^*A_{3,2}) \\ ((I(A(I(A))) (A(I(A)))_{2,4}) \end{array}$	$((A(I(A)) (I(A(I(A))))_{4,2}) \\ ((I(A(I(A))) (A(I(A)))_{4,2}) \gg \\ ((I(A(I(A))) (I(A))_{4,3})$
(A*I(A(I(A))) _{2,3})	((A(I(A)) (I(A(I(A)))) _{4,2})
$((I(A) (I(A(I(A)))))_{3,4}) \gg Y > ((A(I(A)) (I(A(I(A))))_{2,4}) \times$	$((I(A(I(A))) (A(I(A)))_{4,2})$
$ > Y > ((I(A(I(A))) (I(A))_{4,3}) ((I(A(I(A))) (A(I(A)))_{2,4}) $	(I(A(I(A)))*A _{3,2})
((I(A(I(A))) (A(I(A))) _{2,4})	(I(A(I(A)))*A _{3,2})
$((I(A) (I(A(I(A)))))_{3,4}) \gg Y > ((A(I(A)) (I(A(I(A))))_{2,4}) \times$	-
$\gg Y > ((I(A(I(A)))) (I(A))_{4,3})$	(((((((((((((((((((((((((((((((((((((((
(A*I(A(I(A))) _{2,3})	((A(I(A)) (I(A(I(A)))) _{4,2})
$(A*I(A(I(A)))_{2,3})$	((I(A(I(A))) (I(A)) _{4,3})
$((I(A(I(A))) (A(I(A)))_{2,4}) \gg Y > ((A(I(A)) (I(A(I(A))))_{2,4})$	× ((I(A(I(A))) (A(I(A))) _{4,2})
$\gg \Upsilon > ((A(I(A)) (I(A(I(A))))_{4,2}))$	
((I(A) (I(A(I(A))))) _{3,4})	(I(A(I(A)))*A _{3,2})
((I(A) (I(A(I(A))))) _{3,4})	(I(A(I(A)))*A _{3,2})
$((I(A(I(A))) (A(I(A)))_{2,4}) \gg Y > ((A(I(A)) (I(A(I(A))))_{2,4})$	
$\gg \gamma > ((A(I(A)) (I(A(I(A))))_{4,2}))$	
$(A^*I(A(I(A)))_{2,3})$	((I(A(I(A))) (I(A)) _{4,3})
Interpretative action	
((A(I(A)) (I(A(I(A)))) _{2.4})	((I(A(I(A))) (I(A)) _{4.3})

((A(I(A)) (I(A(I(A)))) _{2,4})		((I(A(I(A))) (I(A)) _{4,3})
$(A^*I(A(I(A)))_{2,3}) \gg Y > ((I(A(I(A)))(A(I(A)))_{2,4}))$	Х	$((A(I(A)) (I(A(I(A))))_{4,2}) \gg$
$\Upsilon > (I(A(I(A)))^*A_{3,2})$		
$((I(A) (I(A(I(A)))))_{3,4})$		((I(A(I(A))) (A(I(A))) _{4,2})
		···· · · · · · · · · · · · · · · · · ·
((I(A) (I(A(I(A))))) _{3,4})		((I(A(I(A))) (A(I(A))) _{4,2})
$(A^*I(A(I(A)))_{2,3}) \gg Y > ((I(A(I(A)))(A(I(A)))_{2,4}))$	×	$((A(I(A)) (I(A(I(A))))_{4,2}) \gg$
$\Upsilon > (I(A(I(A)))^*A_{3,2})$		
((A(I(A)) (I(A(I(A)))) _{2,4})		((I(A(I(A))) (I(A)) _{4,3})
(V: V:V: 77 V:V: ((V: 77772,4)		((((''''))) (('''')))

 $\begin{array}{ll} (A^*I(A(I(A)))_{2,3}) & ((I(A(I(A)))(A(I(A)))_{4,2}) \\ ((I(A)(I(A(I(A))))_{3,4}) \gg Y > ((I(A(I(A)))(A(I(A)))_{2,4}) \times & ((A(I(A)))(I(A(I(A))))_{4,2}) \\ \gg Y > ((I(A(I(A)))(I(A))_{4,3}) & (I(A(I(A)))(I(A))_{4,3}) \\ & ((A(I(A))(I(A(I(A))))_{2,4}) & (I(A(I(A)))^*A_{3,2}) \end{array}$

$\begin{array}{l} ((A(I(A)) (I(A(I(A))))_{2,4}) \\ ((I(A) (I(A(I(A))))_{3,4}) \gg \gamma \succ ((I(A(I(A))) (A(I(A)))_{2,4}) \\ \gg \gamma \succ ((I(A(I(A))) (I(A))_{4,3}) \end{array}$.) ×		(I(A)))*A _{3,2}) (I(A(I(A)))) _{4,2})
$(A*I(A(I(A)))_{2,3})$		((I(A(I(A)))) (A(I(A))) _{4,2})
$\begin{array}{l} (A^*I(A(I(A)))_{2,3}) \\ ((A(I(A)))(I(A(I(A))))_{2,4}) \gg Y > ((I(A(I(A)))(A(I(A)))_{2,4})) \\ \gg Y > ((I(A(I(A)))(A(I(A)))_{4,2})) \\ ((I(A)(I(A(I(A))))_{3,4})) \end{array}$) _{2,4}) ×) (I(A)) _{4,3}) (I(A(I(A)))) _{4,2}) ()))*A _{3,2})
$\begin{array}{l} ((I(A) (I(A(I(A)))))_{3,4}) \\ ((A(I(A)) (I(A(I(A))))_{2,4}) \gg \forall \succ ((I(A(I(A))) (A(I(A)))_{3,4})) \\ \gg \forall \succ ((I(A(I(A))) (A(I(A)))_{4,2})) \end{array}$) _{2,4}) ×		A)))*A _{3,2}) (I(A(I(A)))) _{4,2})
$(A^{(I(A))})(A^{(I(A))})_{2,3})$		((I(A(I(A))) (I(A)) _{4,3})
15. Pre-semiotic dual system ((I(A(I(A))) (I(A(I(A)))) _{2,3,4} (A(I(A)) (I(A(I(A)))) _{2,4} (I(A) (I((I(A(I(A)))*A _{3,2} (I(A(I(A))) (I(A)) _{4,3} (I(A(I(A))) (A(I(A))) _{4,2}			
Qualitative action			
$\begin{array}{l} ((I(A(I(A))) (I(A(I(A))))_{2,3,4}) \\ ((I(A) (I(A(I(A)))))_{3,4}) \gg Y \succ (A^*I(A(I(A)))_{2,3}) \times \\ ((I(A(I(A))) (I(A))_{4,3}) \end{array}$	(I(A(I(A	((I(A(I(A))) (/)))*A _{3,2}) ≫	
((A(I(A))) (I(A))4,3) ((A(I(A)) (I(A(I(A)))) _{2,4})		((I(A(I(A))) (I((A(I(A)))) _{4,3,2})
$\begin{array}{l} ((A(I(A)) \ (I(A(I(A))))_{2,4}) \\ ((I(A) \ (I(A(I(A))))_{3,4}) \ \gg \ Y \ \succ \ (A^*I(A(I(A)))_{2,3}) \times \\ ((I(A(I(A))) \ (I(A))_{4,3}) \end{array}$	(I(A(I(A	((I(A(I(A))) (I()))*A _{3,2}) ≫	
(((A((A)))) ((A))4,3) ((I(A(I(A)))) (I(A(I(A)))) _{2,3,4})		((I(A(I(A))) (A	(I(A))) _{4,2})
$\begin{array}{l} ((I(A(I(A))) (I(A(I(A))))_{2,3,4}) \\ ((A(I(A)) (I(A(I(A))))_{2,4}) \gg Y > (A^*I(A(I(A)))_{2,3}) \times \\ Y > ((I(A(I(A))) (A(I(A)))_{4,2}) \end{array}$	(I(A(((I(A(I(A))) (I(I(A)))*A _{3,2})	(A)) _{4,3}) ≫
((I(A) (I(A)))) _{3,4})	((I(A(I(A))) (I(A(I	(A)))) _{4,3,2})
$\begin{array}{l} ((I(A) (I(A(I(A)))))_{3,4}) \\ ((A(I(A)) (I(A(I(A))))_{2,4}) \gg Y > (A^*I(A(I(A)))_{2,3}) \times \\ > ((I(A(I(A))) (A(I(A)))_{4,2}) \end{array}$		I(A(I(A))) (I(A(I I(A)))*A _{3,2})	(A)))) _{4,3,2}) ≫ Y
$((I(A(I(A))) (I(A(I(A))))_{2,3,4}))$		((I(A(I(A))) (I((A)) _{4,3})

$\begin{array}{l} ((I(A) (I(A(I(A)))))_{3,4}) \\ ((I(A(I(A))) (I(A(I(A))))_{2,3,4}) \gg Y > (A^*I(A(I(A)))_{2,3}) \times \\ Y > ((I(A(I(A))) (I(A(I(A))))_{4,3,2}) \\ ((A(I(A)) (I(A(I(A))))_{2,4}) \end{array}$	$((I(A(I(A))) (A(I(A)))_{4,2})$ $(I(A(I(A)))^*A_{3,2}) \gg$ $((I(A(I(A))) (I(A))_{4,3})$
$\begin{array}{l} ((A(I(A)) (I(A(I(A))))_{2,4}) \\ ((I(A(I(A))) (I(A(I(A))))_{2,3,4}) \gg \Upsilon \qquad > (A^*I(A(I(A)))_{2,3}) \times \\ \Upsilon \ > ((I(A(I(A))) (I(A(I(A))))_{4,3,2}) \\ ((I(A) (I(A(I(A)))))_{3,4}) \end{array}$	$((I(A(I(A))) (I(A))_{4,3}) (I(A(I(A)))^*A_{3,2}) \gg ((I(A(I(A))) (A(I(A)))_{4,2}))$
Medial action	
$\begin{array}{l} ((I(A(I(A))) (I(A(I(A))))_{2,3,4}) \\ (A^*I(A(I(A)))_{2,3}) \gg \gamma > ((I(A) (I(A(I(A)))))_{3,4}) \times ((I(A(I(A))))^*A_{3,2}) \\ \qquad $	$((I(A(I(A))) (A(I(A)))_{4,2}))$ $(I(A))) (I(A))_{4,3}) \gg \gamma$ $((I(A(I(A))) (I(A(I(A))))_{4,3,2}))$
$\begin{array}{l} ((A(I(A)) (I(A(I(A))))_{2,4}) \\ (A^*I(A(I(A)))_{2,3}) \gg \gamma > ((I(A) (I(A(I(A)))))_{3,4}) \times ((I(A(I(A)))^*A_{3,2}) \\ ((I(A(I(A)))^*A_{3,2}) \\ ((I(A(I(A))) (A(I(A)))_{2,4}) \end{array}$	((A(I(A)) (I(A(I(A)))) _{4,2}) (I(A))) (I(A)) _{4,3})≫ Ƴ ((I(A(I(A))) (A(I(A))) _{4,2})
$\begin{array}{l} (A^*I(A(I(A)))_{2,3}) \\ ((A(I(A)))(I(A(I(A))))_{2,4}) \gg Y > ((I(A))(I(A(I(A))))_{3,4}) \times \\ Y > ((I(A(I(A))))(A(I(A)))_{4,2}) \\ ((I(A(I(A))))(A(I(A)))_{2,4}) \end{array}$	$\begin{array}{l} ((A(I(A)) (I(A(I(A))))_{4,2}) \\ ((I(A(I(A))) (I(A))_{4,3}) \gg \\ (I(A(I(A)))^*A_{3,2}) \end{array}$
$\begin{array}{l} ((A(I(A)) (I(A(I(A))))_{2,4}) \gg Y > ((I(A) (I(A(I(A)))))_{3,4}) \times \\ Y > ((I(A(I(A))) (A(I(A)))_{4,2}) \end{array}$	(A(I(A)))*A _{3,2}) ((I(A(I(A))) (I(A)) _{4,3}) ≫ I(A(I(A))) (I(A(I(A)))) _{4,3,2})
$\begin{array}{c} (A^*I(A(I(A)))_{2,3}) \\ ((I(A(I(A))))(I(A(I(A))))_{2,3,4}) \gg Y \qquad > ((I(A)(I(A(I(A)))))_{3,4}) \\ \gg Y \qquad > ((I(A(I(A)))(I(A(I(A))))_{4,3,2}) \\ ((A(I(A))(I(A(I(A))))_{2,4}) \end{array}$	$\times \begin{array}{l} ((I(A(I(A))) (A(I(A)))_{4,2}) \\ \times ((I(A(I(A))) (I(A))_{4,3}) \\ (I(A(I(A)))^* A_{3,2}) \end{array}$
$\begin{array}{c} ((A(I(A)) (I(A(I(A))))_{2,4}) \\ ((I(A(I(A))) (I(A(I(A))))_{2,3,4}) \gg Y \\ \gg Y \ > ((I(A(I(A))) (I(A(I(A))))_{4,3,2}) \\ (A^*I(A(I(A)))_{2,3}) \end{array} > (I(A(I(A)))_{2,3}) $	$(I(A(I(A)))*A_{3,2}) \times ((I(A(I(A))) (I(A))_{4,3}) ((I(A(I(A))) (A(I(A)))_{4,2})))$

Objectal action

$((I(A(I(A))) (I(A(I(A))))_{2,3,4}) ((I(A(I(A))) (I(A))_{4,3}))$		
$(A^*I(A(I(A)))_{2,3}) \implies Y \succ ((A(I(A))(I(A(I(A))))_{2,4}) \times ((I(A(I(A)))(A(I(A)))_{4,2}) \gg$		
$ \begin{array}{l} \Upsilon > (I(A(I(A)))^*A_{3,2}) \\ ((I(A) (I(A(I(A))))_{3,4}) \\ \end{array} ((I(A(I(A))) (I(A(I(A)))_{4,3,2}) \\ \end{array}) $		
$((I(A) (I(A(I(A)))))_{3,4})$ $((I(A(I(A))) (I(A(I(A))))_{4,3,2})$		
$(A^*I(A(I(A)))_{2,3}) \implies Y \succ ((A(I(A))(I(A(I(A))))_{2,4}) \times ((I(A(I(A)))(A(I(A)))_{4,2}) \gg$		
$ \begin{array}{l} \gamma > (I(A(I(A)))^*A_{3,2}) \\ ((I(A(I(A))) (I(A(I(A))))_{2,3,4}) \\ \end{array} ((I(A(I(A))) (I(A))_{4,3}) \\ \end{array} $		
$(A*I(A(I(A)))_{2,3})$ $((I(A(I(A)))(I(A(I(A))))_{4,3,2})$		
$((I(A) (I(A(I(A)))))_{3,4}) \gg Y > ((A(I(A)) (I(A(I(A))))_{2,4}) \times ((I(A(I(A))) (A(I(A)))_{4,2}))_{3,4}) \otimes Y > ((I(A(I(A))) (I(A))_{4,3}))_{3,4})$		
$((I(A(I(A))) (I(A)))_{2,3,4}) (I(A(I(A))))_{2,3,4}) (I(A(I(A))) * A_{3,2})$		
$((I(A(I(A))) (I(A(I(A))))_{2,3,4}) (I(A(I(A)))^*A_{3,2}) ((I(A(I(A))))^*A_{3,2}) ((I(A))) (I(A(I(A)))) (I(A(I(A))))) (I(A(I(A)))) (I(A(I(A)))) (I(A(I(A)))) (I(A(I(A)))) (I($		
$\begin{array}{ll} ((I(A) (I(A(I(A))))_{3,4}) \gg Y > ((A(I(A)) (I(A(I(A))))_{2,4}) \times ((I(A(I(A))) (A(I(A)))_{4,2}))_{3,4}) \\ \gg Y > ((I(A(I(A))) (I(A))_{3,4}))_{3,4}) \end{array}$		
$((I(A(I(A)))_{2,3}) ((I(A(I(A))) (I(A(I(A))))_{4,3,2})$		
$\begin{array}{ccc} (A^*I(A(I(A)))_{2,3}) & ((I(A(I(A)))(I(A))_{4,3}) \\ ((I(A(I(A)))(I(A(I(A))))_{2,3,4}) \gg Y & \succ ((A(I(A))(I(A(I(A))))_{2,4}) \times ((I(A(I(A))))_{4,2}) \\ (A(I(A)))_{4,2}) \gg Y & \succ ((I(A(I(A)))(I(A(I(A))))_{2,3,4}) \end{array}$		
$((I(A) (I(A(I(A)))))_{3,4})$ $(I(A(I(A)))^*A_{3,2})$		
$\begin{array}{ccc} ((I(A) (I(A(I(A))))_{3,4}) & (I(A(I(A)))^*A_{3,2}) \\ ((I(A(I(A))) (I(A(I(A))))_{2,3,4}) \gg \Upsilon & \succ ((A(I(A)) (I(A(I(A))))_{2,4}) & \times & ((I(A(I(A)))) \\ (A(I(A)))_{4,2}) \gg \Upsilon & \succ ((I(A(I(A))) (I(A(I(A))))_{4,3,2}) \\ & (A^*I(A(I(A)))_{2,3}) & ((I(A(I(A))) (I(A))_{4,3}) \end{array}$		
Interpretative action		
$\begin{array}{ll} ((A(I(A)) (I(A(I(A))))_{2,4}) & ((I(A(I(A))) (I(A))_{4,3}) \\ (A^*I(A(I(A)))_{2,3}) & \gg \gamma > ((I(A(I(A))) (I(A(I(A))))_{2,3,4}) \times & ((I(A(I(A))) (I(A(I(A))))_{4,3,2}) \\ & \gg \gamma > (I(A(I(A)))^*A_{3,2}) \end{array}$		
$((I(A) (I(A(I(A)))))_{3,4})$ $((I(A(I(A))) (A(I(A)))_{4,2}))_{3,4})$		
$\begin{array}{ll} ((I(A) (I(A(I(A))))_{3,4}) & ((I(A(I(A))) (A(I(A)))_{4,2}) \\ (A^*I(A(I(A)))_{2,3}) & \gg Y > ((I(A(I(A))) (I(A(I(A))))_{2,3,4}) \times & ((I(A(I(A))) (I(A(I(A))))_{4,3,2}) \\ & \gg Y > (I(A(I(A)))^*A_{3,2}) \end{array}$		
$((A(I(A)) (I(A(I(A))))_{2,4}) ((I(A(I(A))) (I(A))_{4,3})$		

$\begin{array}{ll} (A^*I(A(I(A)))_{2,3}) \\ ((I(A) (I(A(I(A)))))_{3,4}) \gg \gamma > ((I(A(I(A))) (I(A(I(A))))_{2,3,4}) \times \\ (I(A(I(A))))_{4,3,2}) \gg \gamma > ((I(A(I(A))) (I(A))_{4,3}) \end{array}$	((I(A(I(A))) (A(I(A))) _{4,2}) ((I(A(I(A)))
$((A(I(A))))_{4,3,2}) \approx I = 2 (((A(I(A))))_{2,4})$ $((A(I(A))) (I(A(I(A))))_{2,4})$	(I(A(I(A)))*A _{3,2})
$\begin{array}{l} ((A(I(A)) (I(A(I(A))))_{2,4}) \\ ((I(A) (I(A(I(A))))_{3,4}) \gg Y \succ ((I(A(I(A))) (I(A(I(A))))_{2,3,4}) \times \\ (I(A(I(A))))_{4,3,2}) \gg Y \succ ((I(A(I(A))) (I(A))_{4,3}) \end{array}$	(I(A(I(A)))*A _{3,2}) ((I(A(I(A)))
$(A^*I(A(I(A)))_{2,3})$	((I(A(I(A))) (A(I(A))) _{4,2})
$\begin{array}{l} (A^*I(A(I(A)))_{2,3}) \\ ((A(I(A)) (I(A(I(A))))_{2,4}) \gg \gamma > ((I(A(I(A))) (I(A(I(A))))_{2,3,4}) \times \\ (I(A(I(A))))_{4,3,2}) \gg \gamma > ((I(A(I(A))) (A(I(A)))_{4,2}) \end{array}$	((I(A(I(A))) (I(A)) _{4,3}) ((I(A(I(A)))
((I(A) (I(A(I(A))))) _{3,4})	(I(A(I(A)))*A _{3,2})
$\begin{array}{c} ((I(A) (I(A(I(A)))))_{3,4}) \\ ((A(I(A)) (I(A(I(A))))_{2,4}) \gg \gamma > ((I(A(I(A))) (I(A(I(A))))_{2,3,4}) \times \\ (I(A(I(A))))_{4,3,2}) \gg \gamma > ((I(A(I(A))) (A(I(A)))_{4,2}) \end{array}$	(I(A(I(A)))*A _{3,2}) ((I(A(I(A)))
$(A^*I(A(I(A)))_{2,3})$	((I(A(I(A))) (I(A)) _{4,3})

Therefore, we have given all possible words of a vocabulary of a 4-contextural 4-adic negative language in semiotic-system theoretic form. This is the semiotic world according Günther we had to build by opening the curtain and enter the semiotic meontics, the reign of volition and semiotic action by the means of a semiotic theory of systems.

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