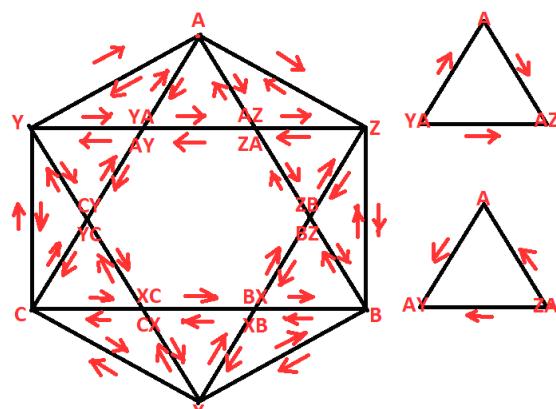


0.TRIVALENT LOGIC AND HEXAVALENT LOGIC

The trivalent logic is applied to the triangular type structures and contains the generation operation, to which the vector senses are added. This logic is complemented by the semantics of nodes and vectors related to their meaning. For example, if A = intelligence and B = plants, then AB will be "plant intelligence", while BA will be "plants of intelligence", with completely different semantic contents. We can write this property as BA is non AB.

A similar property exists for vectors and becomes visible at the semantic level as well:

The intelligence of the plants "A to B", has as opposite the synthesis of psychogenic substances for plant protection, which generates hallucinatory behaviors "B to A", the plants of intelligence.



$A*B=C$ $B*A=C'$ $\Rightarrow A \& B$ GENERATE C ; $B \& A$ GENERATE $NON C$
 $B*C=A$ $C*B'=A'$ $\Rightarrow B \& C$ GENERATE A ; $C \& B$ GENERATE $NON A$
 $C*A=B$ $A*C'=B'$ $\Rightarrow C \& A$ GENERATE B ; $A \& C$ GENERATE $NON B$

 $X*Y=Z$ $Y*X=Z'$ $\Rightarrow X \& Y$ GENERATE Z ; $Y \& X$ GENERATE $NON Z$
 $Y*Z=X$ $Z*Y=X'$ $\Rightarrow Y \& Z$ GENERATE X ; $Z \& Y$ GENERATE $NON X$
 $Z*X=Y$ $X*Z=Y'$ $\Rightarrow Z \& X$ GENERATE Y ; $X \& Z$ GENERATE $NON Y$

MUTUAL GENERATION OF BEHAVIOURS

$AZ=Z'A'$ \Rightarrow (FROM A TO Z) IS THE OPPOSITE OF (FROM Z TO A)
 $ZB=B'Z'$ \Rightarrow (FROM Z TO B) IS THE OPPOSITE OF (FROM B TO Z)
 $BX=X'B'$ \Rightarrow (FROM B TO X) IS THE OPPOSITE OF (FROM X TO B)
 $XC=C'X'$ \Rightarrow (FROM X TO C) IS THE OPPOSITE OF (FROM C TO X)
 $CY=Y'C'$ \Rightarrow (FROM C TO Y) IS THE OPPOSITE OF (FROM Y TO C)
 $YA=A'Y'$ \Rightarrow (FROM Y TO A) IS THE OPPOSITE OF (FROM A TO Y)

THE DIRECTIONS OF THE VECTORS

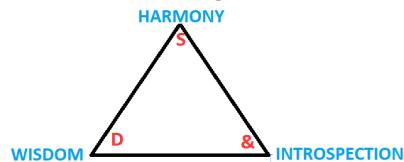
These properties differ in the case of trivalent or hexavalent logic by generating new nodes in the network, depending on the commutative diagrams and their path to the accumulation point. For example if A is "intelligence", Y is "behavior", YA is "behavioral intelligence", Z is "manifestation", and AZ is "the intelligence of manifestation", then the commutative diagram YA, A, AZ which closes in YA- AZ, translates as follows:

"Behavioral intelligence (YA), is seen in intelligent manifestations (AZ)"

In the case of the cycles, where the diagram does not close anywhere, the structure of the cycle generates debates without clear conclusions.

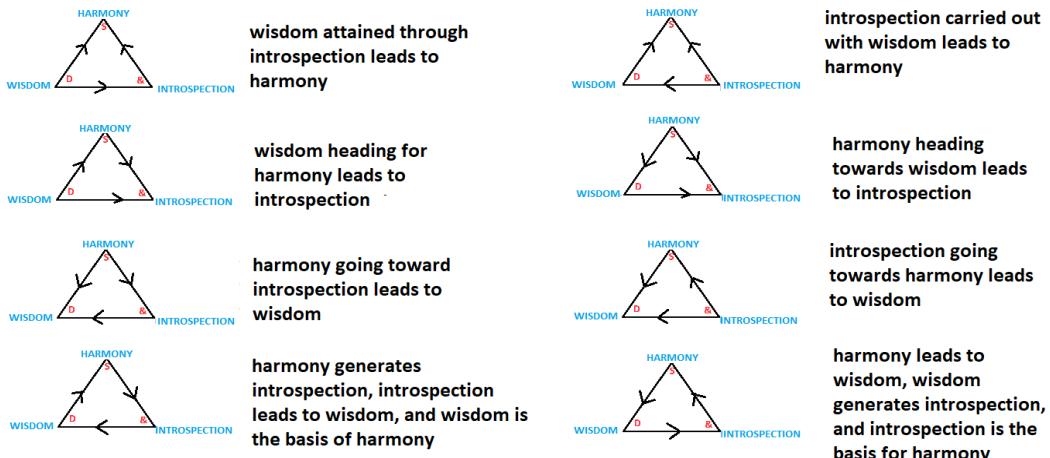
The semantic variants of the three semantic content structures consisting of a trivalent structure are multiple. For example, if we take the source "harmony", the sensor "introspection", and the decider "wisdom" we will have the following semantic interpretation steps:- step

1 consistency check.



In step 1, any two contents generate the third content; wisdom and harmony generate introspection; harmony and introspection generate wisdom, and introspection and wisdom generate harmony.

- step 2 translation of the meanings and contents of the vectors from the commutative diagrams



The refined differentiation of the semantics of the circuits creates the possibility of a consistent and automatic logical interpretation of the information that enters the system, both on the forms of artificial intelligence and especially on the ones of human intelligence, which can be helped to recover the balance and the sustainability of the thinking with the help of the artificial intelligence equipped with the trivalent or hexavalent logic device.

Trivalent and hexavalent logics can be present by default in all structures consisting of hexagons or pentagons, regardless of their

external structures. These logics can be used to decipher bacterial or viral intelligence, as the complex symbiosis between the microbiome and living beings clearly has a complex semantic logic behind it and means of information exchange.

Particular is the application of these types of logic in the appearance of the functionalities of fractolons and in the consistency of the information on the nodes, which appear through the same generating algorithms.

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