

# **TOOLKIT FOR SUSTAINABLE DEVELOPMENT**

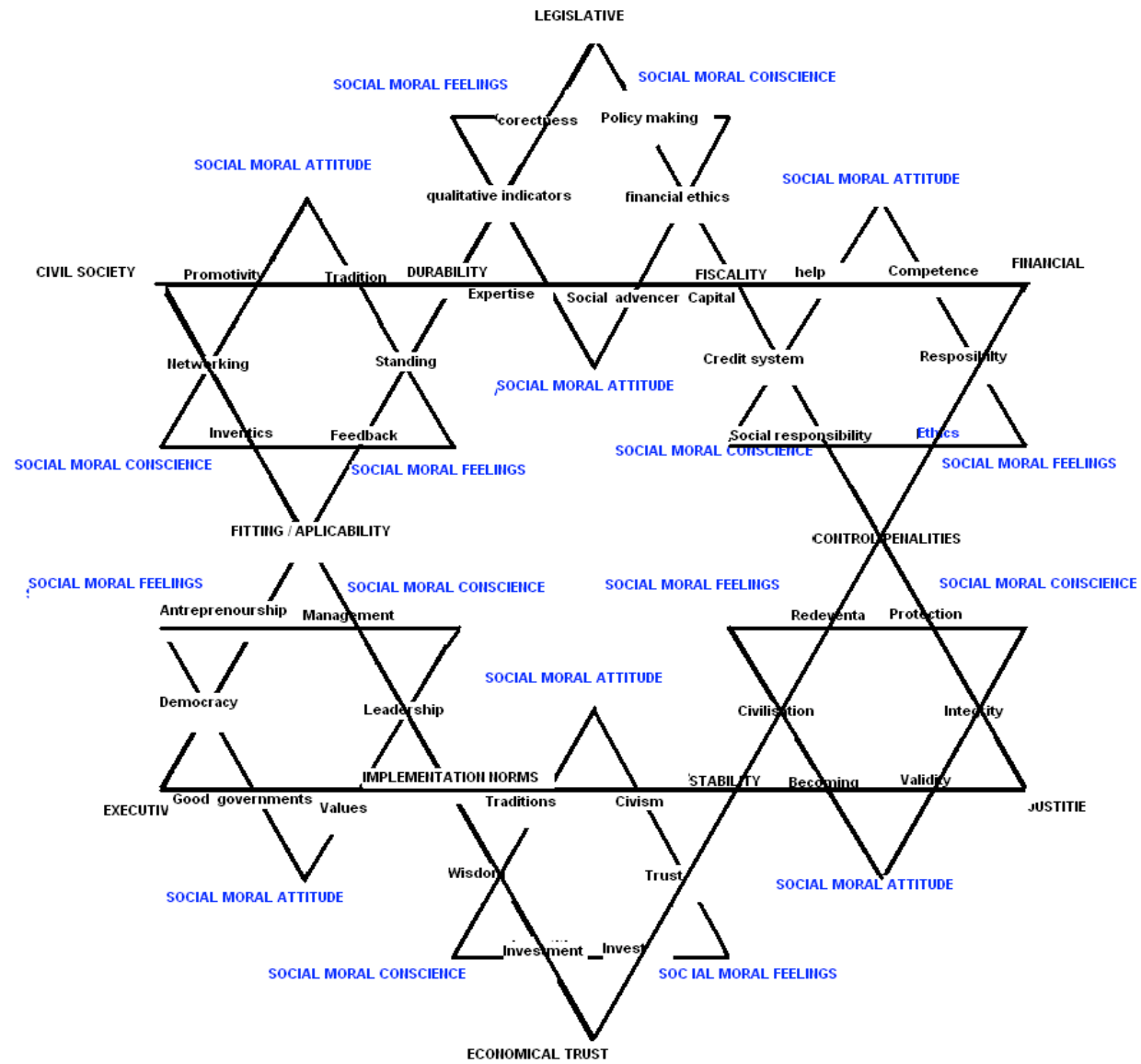
## **Sustainable development and self-adjustment**

A sustainable development can turn into a durable one only if it respects the mechanisms of self-adjustment of the natural ecosystem. This requires a certain number of mechanisms capable of ensuring the feedback and the optimization of relationships among all the partners involved, as well as the integration of environment not as a resource, but as an active factor in the process of self-adjustment of the system comprising Man-Economic Society-Technology-Natural Environment.

These mechanisms must generate:

***Functional niches able to satisfy the needs generated by other niches;***

- These niches can be created only when it exists a universal language able to assure communication among various niches, and inside these niches among various inhabitants of each niche. These requirements presume possibility to structure the universal language on different levels of complexity related to different levels of structuring for niches (*see application java 1*), (*see fractal developing model*).

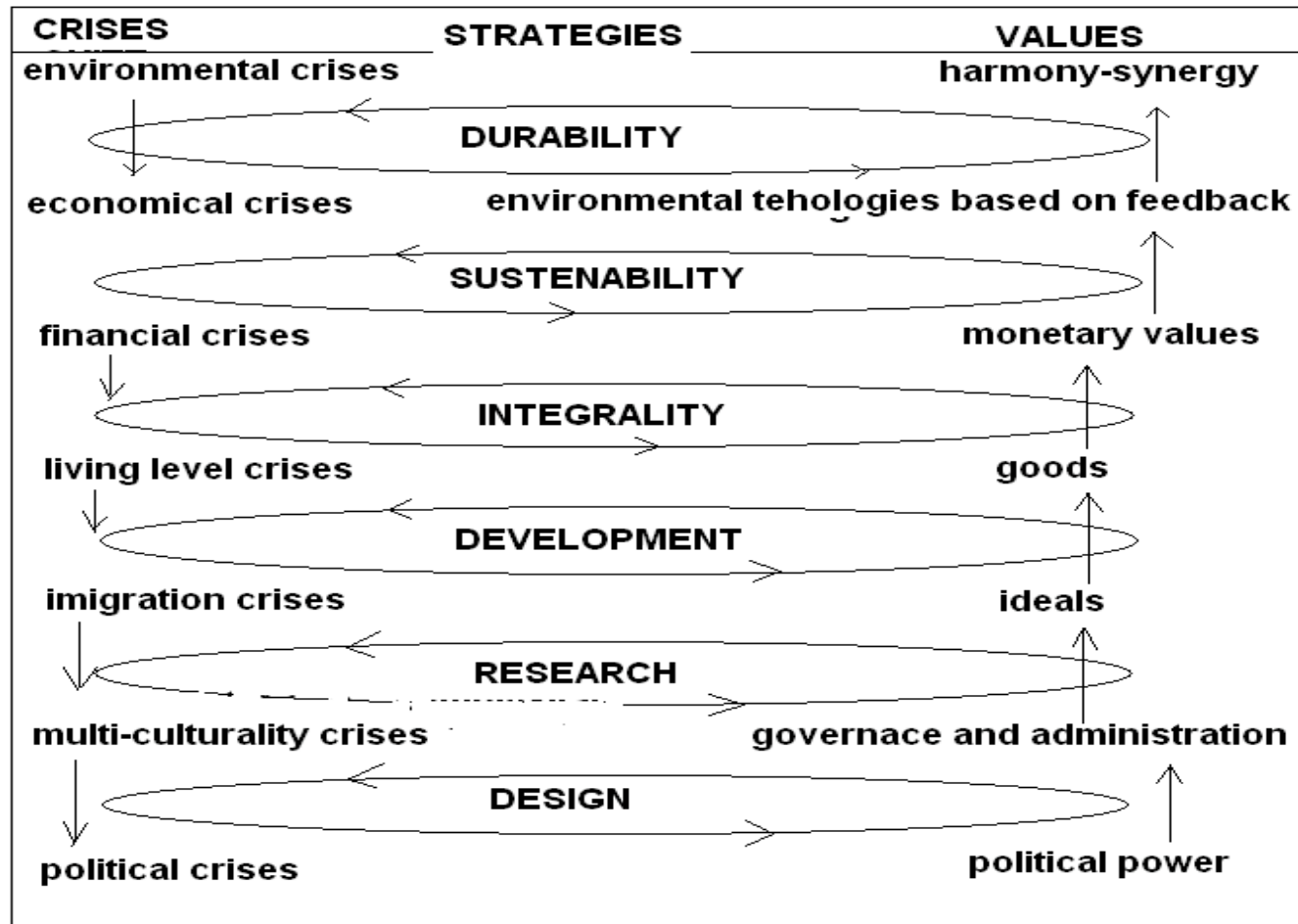


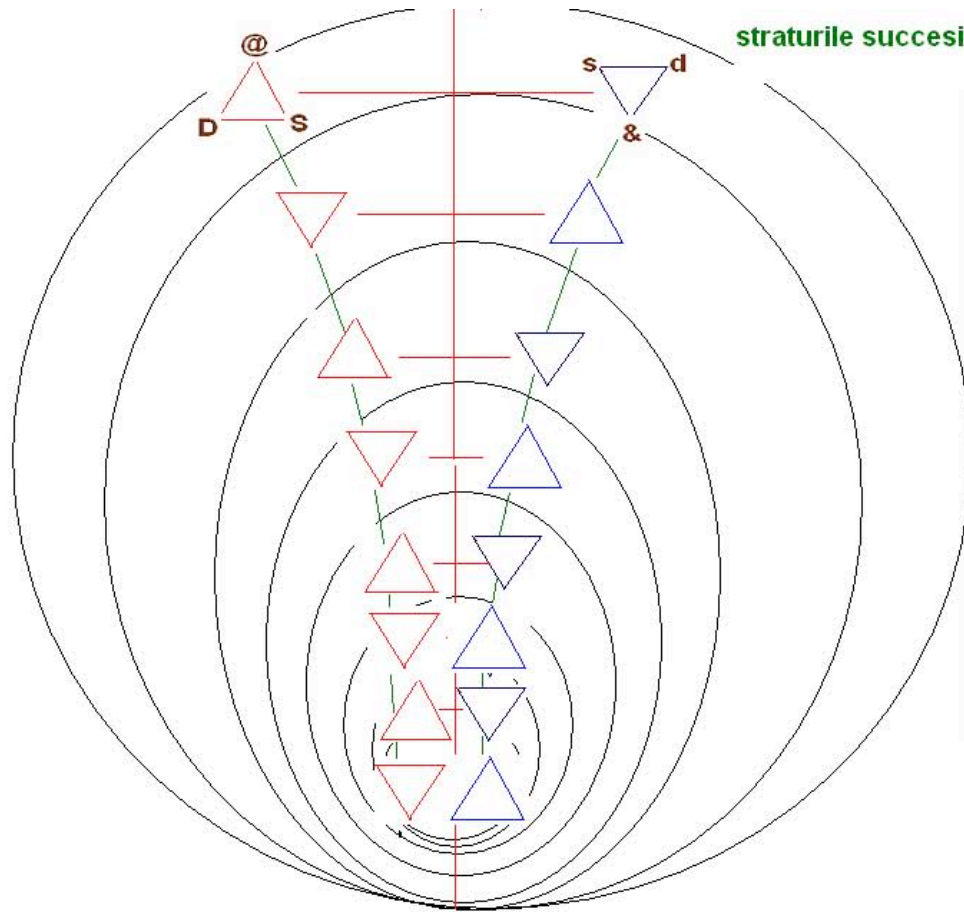
*Fractal Developing Model*

# Inter-correlations

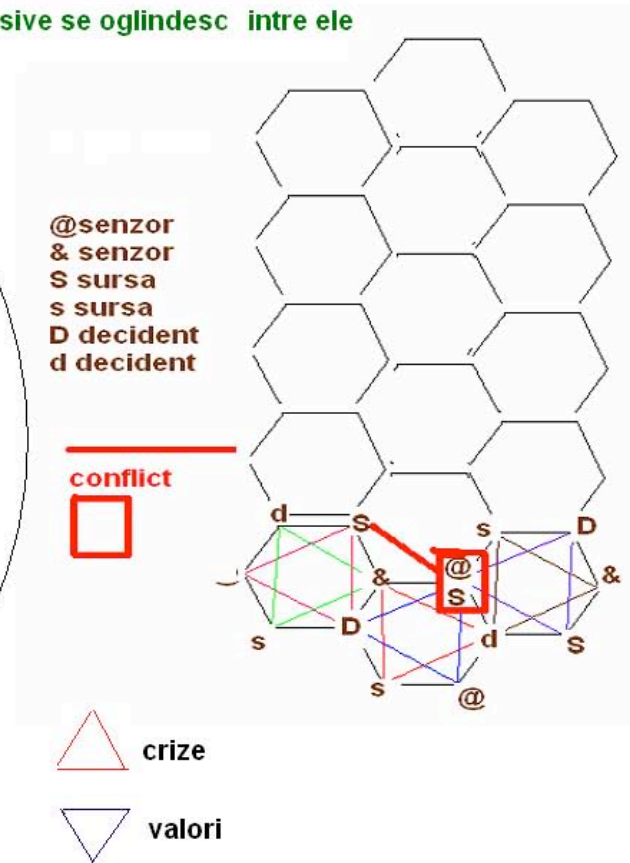
- Another issue required by the functional niches is an instrument able to give possibility to obtain functional cooperation among inhabitants. That can be obtained also due to specific affinities created within the universal language (see *application java 2*), (see *functional feedback inter-correlated cycles*)

# GAIA : a multi-dissipative system





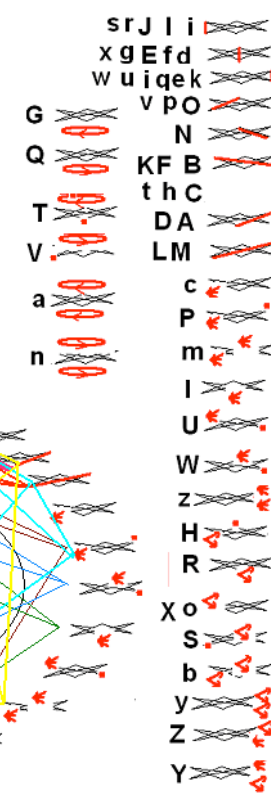
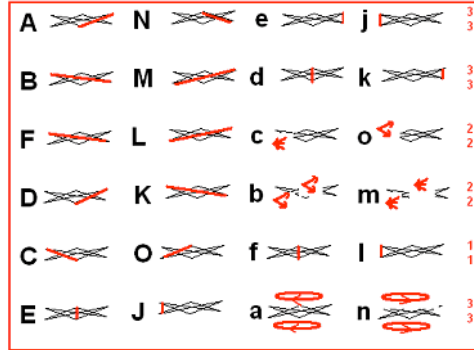
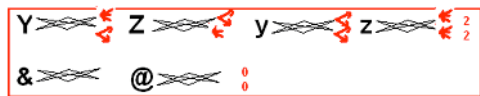
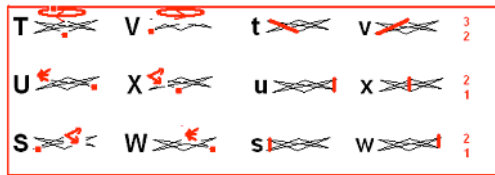
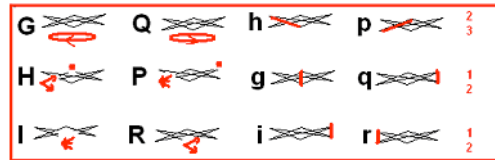
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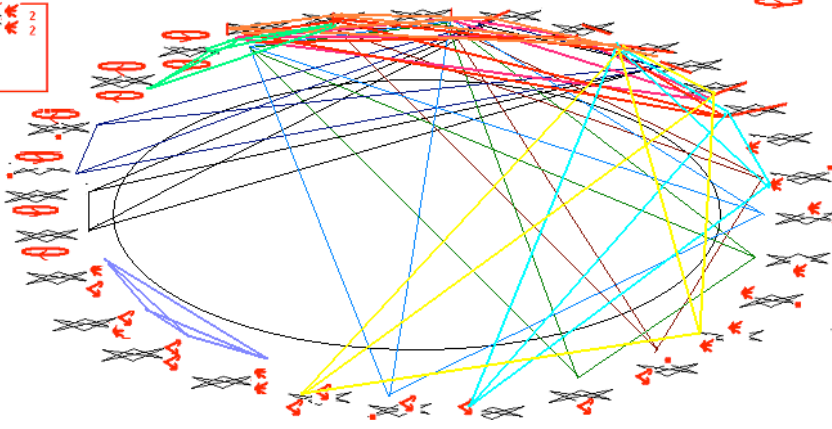
***Rules of behavior that ensure the stability of the system;***

- These rules must be considered as parts of a graph of possibilities, ensuring adaptable behavior. The main criterion to obtain these rules is given by the informational distance among niches (*see application java 3*), (*see inference engine*).

motorul de inferente

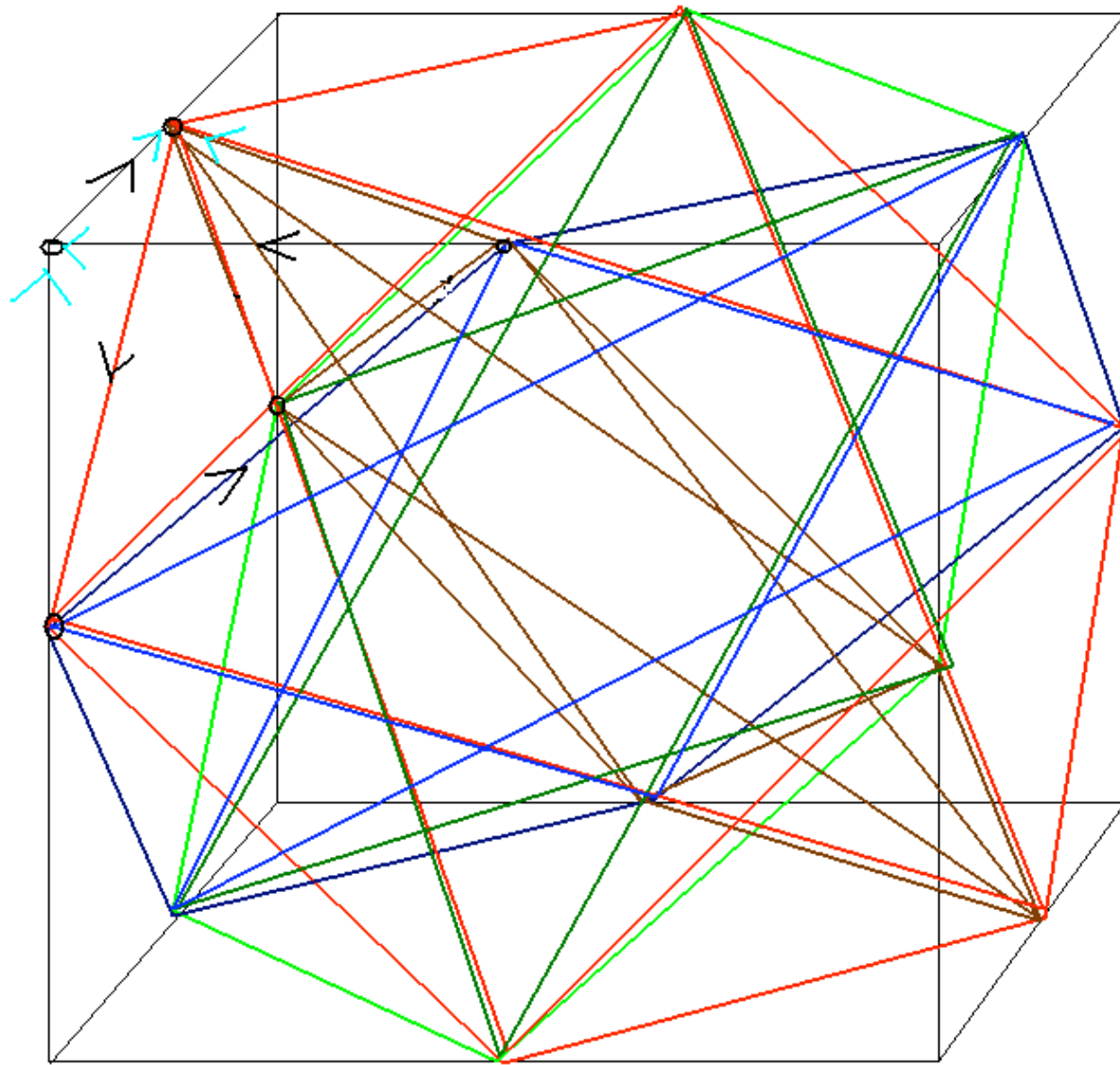


- glosar
- varf de arc orientat simplu
  - ciclu descendent autoinhibitor
  - ciclu ascendent autostimulativ
  - dubla radacina
  - dubla iesire
  - | simetrie structurala
  - ◁ ▷ transport informatie pe doua etaje de complexitate intre doua noduri succesive



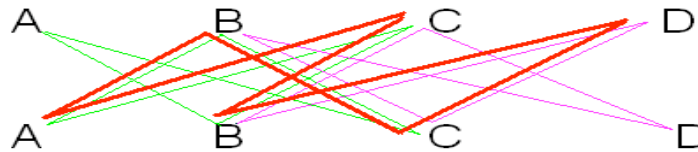
***Mechanisms that regulate consumption, communication protocols, technologies with environmental feedback and error correction mechanisms;***

- These mechanisms are based on the feedback theory, and on the algebraic fractals theory. In these mechanisms are fixed parts and mobile adapting parts. The fixed parts are given by organising general patterns (*see governance model*), the adapting parts are connected with networking (*see cubic feedback model*)



***Portfolios of solutions able to provide flexible answers to complex situations;***

- These solutions must consider various kinds of pieces of information as indicators of collected data, quantitative, qualitative, correlating, statistic, norming indicators (see *indicators for crisis management and sustainable development*).



- All these pieces of information will be considered as entrance data for a computation of the optimum solution to a given problem (see *coloured feedback correlated cycles*).

# Political structure for integrated and inter-correlated policies

These types of mechanisms must be reflected by the international environment policies, by future technologies, social programs, good governance, sustainable development policies, the use of resources and the conservation of a multicultural balance.

○	reliability	applicability	International consultancy	harmonisation	sustainability	validity	Competency market	Crisis management	Policy making	Individual protection	Environment protection	Propriety protection	Derivated financial instruments	Value stability
reliability	validity	International consultancy	sustainability	applicability	harmonisation	reliability	Environment protection	Individual protection	Propriety protection					
applicability	harmonisation	validity	Reliability	sustainability	International consultancy	applicability	Propriety protection	Environment protection	Individual protection	VA				
International consultancy	applicability	sustainability	International consultancy	validity	Reliability	harmonisation	Environment protection	Propriety protection	Individual protection					

International consultancy	applicability	sustainability	International consultancy	validity	Reliability	armonisation	Environment protection	Propriety protection	Individual protection					
armonisation	sustainability	Reliability	validity	armonisation	applicability	International consultancy	Propriety protection	Individual protection	Environment protection					
sustainability	International consultancy	armonisation	applicability	Reliability	validity	sustainability	Individual protection	Propriety protection	Environment protection	VB				
validity	Reliability	applicability	armonisation	International consultancy	sustainability	validity	Individual protection	Environment protection	Propriety protection					

Compe tency market			VI							sus tain abil ity vali dity	Re lia bili ty Int er nat ion al co ns ult an cy	apl i cab ili ty	Envir onme nt protec tion Propri ety protec tion	Indivi dual protec tion
Crisis manag ement										Reli abil ity arm oni sati on	apl i cab ili ty	Inte rnat iona l con sult anc y sus tain abili ty	Indivi dual protec tion Propri ety protec tion	Envir onme nt protec tion
Policy making										apl i cab ili ty	ar mo nis ati on su sta ina bili ty	Reli abili ty  vali dity	Indivi dual protec tion Envir onme nt protec tion	Propri ety protec tion

Individual protection	Crisis management	Policy making	Policy making	Crisis management	Competency market	Competency market	Values stability	Derivate financial instruments	Derivate financial instruments		III B			IIB
Environment protection	Competency market	Crisis management	Competency market	Policy making	Policy making	Crisis management	Derivate financial instruments		Derivate financial instruments					
Propriety protection	Policy making	Competency market	Crisis management	Competency market	Crisis management	Policy making	Derivate financial instruments	Derivate financial instruments	Values stability		IIA		I	

<b>Derivat ed financi al instru ments</b>		<b>IVb</b>			<b>IV A</b>				<b>III A</b>		<b>Cri sis ma nag em ent Poli cy ma kin g</b>	<b>Co mp ete nc y ma rke t Poli cy ma kin g</b>	<b>Co mpe tenc y mar ket Cris is man age men t</b>	<b>Derivat ed financi al instru ments Value s stabili ty</b>	<b>Derivat ed financi al instru ments</b>
<b>Values stabilit y</b>											<b>Co mp ete ncy mar ket</b>	<b>Cri sis ma na ge me nt</b>	<b>Poli cy mak ing</b>	<b>Derivat ed financi al instru ments</b>	<b>Value s stabili ty</b>

## Sustainable development indicators in crises management context

The generating rules of these mechanisms follow the feedback structure, quantified in a universal language on various levels of complexity, and can be modelled logically through sets of applications that permit quantitative, qualitative, correlative, normative or statistic evaluations and support. These applications permit creation of computer programs able to assess the complexity of relationships and provide optimum solutions in order to solve crisis situations, provide crisis management and avoid catastrophes.

Connected crisis	Strategies	Connected values	Aggregated indicators	
Environment crisis-economic crisis	durability	Technologies with environment feedback – harmony synergy	Source	Direct material input (tonnes); Used Internal extraction; DMI – direct material input; Unused internal extraction; Imports; Exports; Internal use of materials (tonnes); Physical balance of international trading (tonnes) ; TMI - total material input; Proportion of forested lands; Bioxide emissions per capita, <b>level of feedback utilisation in environment crisis; understanding of the equilibriums, use of them and production or maintenance of them; understanding / production or destruction of the stability of environment conditions; the balance of the trofic chain; stability of functional niches; feedback for the occupied territory (through ecological print); sharing the auto – tuning of the populations on areas of trust and professionalism; populations' auto-tunning on niches; the degree of respectign the behavioral patterns of the trofic niches</b>
			Sensor	Financial efficiency (thousands of lei prices of the year 1990 / tonne); Financial productivity (thousands of lei prices of the year 1990 / tonne); Financial intensity (tonnes/ thousands of lei prices of the year 1990); <b>harmony synergy technology with environment feedback; using creativity for new products / imposing some regulations / fixed standards; raportarea stimulating / inihating fiscality for different activities; efficiency by all means, related to efficiency and respect to certain rules of protection; proportion of economic static / dinamic equilibrium; level of utilisation of an angel capital, stimultated / inihated by internal economical policies; relationship among new products and maintenance or improvementof the market balances; relationship between rising of production efficiency and conservation of markets' stability; relationship betweenw the size of fiscality and stimulation or inihation of the angel capital; relationship between quality of certain products / services and the accepted, recognised performance indicators; relationship between prosperity and success in personal development; relationship between the aplicability of one product and the devolpment of that product</b>
			Decident	<b>Protected lands for biodiveristy conservation; proportion between natural land with biodiversity / natural exploited land and land used or infrastucture and constructions; proportion between the goods' value and the goods' ecological print; proportion between exploiting and utilisation of primary resources and exploitation and recycling of waste; proportion between primary consumption and colateral consumption triggered by primary consumption; proportion between capital investment and rigor of the environment regulations; proportion between the direct print on environment and the colateral one, given by the industrial infrastructure, transportation, constructions; proportion between use of resources by taking into account the specific parameters of exploitation and adaptation of the exploitation at the specific of the resources / degree of consumption of resources; proportion between distruction of biodiversity and rise of consum; proportion between the rising number of professions – the type of professions – and protected land for biodiversity</b>

Economical crisis – financial crisis	sustainability	Monetary values – technologies with environment feedback	Source	Subventions for agriculture at internal production and exports; guaranteed public debt; medium and long term deposits; short term external debt; official valutory reserve; relationship between increasing the productivity and rise of consumption; relationship between the decisions of hierarchy and the prices policy; relationship between the stability / instability o professions and the derivated financial instruments; relation o stimulation / inhibition of professionalism through tax instruments; relationshipbetween the ethics of decisions and the colateral advantages; relationship between the consumption criteria and the recovery of secondary resources
			Sensor	Gross Domestic Product *) – milliards o euro; Real increase of GDP - %; The enpmloyment rate BIM, age group 15-24; Number of personal computers at 100 families' rate; relationship between creations' qualities and size of consumption; relationship between hierarchy and size of the angel capital; relationship between efficiency and orientation to certain proffesions; relationship between developing new markets and new inventions; relationship between developing businesses and awarding the producer / client; relationship between education level and leading positions
			Decident	Number of large band internet connections; deficit of current account; direct foreign investments; financing the current account deficit; current transfers; ponderi in deficitul contului curent; total external debt; public debt; exchange rate; relationship between crediting level and financial balance; relationship between fiscality level and mechanisms of financial feedback; relationship between level of debt obligation nivelul de indatorare and economical stability; relationships between business / business relationships ethics and size of partners' coparticipation; relationship between corectness in activity and prosperity; relationship between professional trust and acceptance of medium and long term planning

Financial crisis – living standard crisis	completeness	Goods – monetary values	Source	Circulation of cash; nominal variation; real variation; relationship between the level of production and productivity and services; relationship between price policy and people's degree of satisfaction; relationship between the comfort degree and the offer of derived financial instruments; relationship between good administration and policy of fidelity; relationship between good work conditions and motivation of human resources; relationship between number of offers and prosperity.
			Sensor	Final consumption - %; Gross fixed capital formation - %; the medium inflation rate - %; the Euro/RON exchange rate; the medium monthly gross salary; - % of wages; M2 (the intermediate monetary aggregate); the relationship between productivity and and the credits granted in order to increase productivity; the relation between fiscality and prices policy ; the relation between the degree of indebtness and the offer of derivative financial instruments; the relation between the development of needs and the increase of consumption; the relation between economic development and the import/export balance; the relation between the interest rate and the diversity of financial services;
			Decider	Overnight deposits **; M3 (Broad monetary aggregate); raportul dintre indicatorii de creditare si cantitatea si calitatea muncii; the relation between the credit indicators and the quantity and quality of work; the relation between the level and the orientation of fiscality and the level and the quality of production; the relation between product utility and the degree of indebtness; the balance between the level of wages and the leasing policies; the relation between the level of taxes and the venture capital; the relation between stock levels and budget size.

Living standards crises – labor and emmigration crises	Development	Ideals-goods	Source	The severe poverty rate; the gross enrolment rate in compulsory education; the infant mortality rate for children with ages between 1 and 4 (per 1000 inhabitants); the maternal mortality ratio (per 100.000 live births); the perinatal mortality rate; prevalence and death rates associated with tuberculosis (per 100.000 population); Gonorrhoea incidence in men; <b>the relation between the structure of the labor market and the structure of services; the relation between the supply and demand balance and individual job stability; the relation between buying power and the degree of comfort; the relation between decisional stability and personal satisfaction; the relation between the quality of products and the advantages of buyers; the relation between the modernization and the vitality of production.</b>
			Sensor	BIM unemployed persons – thousands of persons; the rate of occupancy (for the age of 15-64) - %; the BIM unemployment rate - %; the registered unemployment rate; the severe poverty threshold; the prevalence of height and weight deficit for an age; the rate of school abandonment; the number of women deaths attributed to domestic violence; infant mortality (per 1000 live births); HIV/AIDS incidence; the prevalence of syphilis infection in pregnant women; the relation between the working level and bonus services; <b>the relation between the market balance and the production level; the relation between product utility and the degree of comfort; the relation between the working conditions and job continuity; the relation between job appeal and work efficiency; the relation between labor absorption and job continuity and stability.</b>
			Decider	the rate of alphabetization of Roma population;;the rate of employment of elder women; the smallpox vaccination proportion in 1 year old children; the use of modern contraception; the recognition of foreign qualifications; <b>the relation between working levels and life expectancy; the relation between production levels and production excellence; the relation between product motivation and the degree of utility; the relation between continual qualification and work performance; the relation between hierarchical promotion and prototype solutions; the relation between inventics and the organization of current problems; the relation between market opening and economic growth;</b>

Labor and emmigration crises – cultural integration crises	Research	Governance administration-ideals	Source	The absorption of graduates into the job market related to their fields of specialization; the rate of successful careers based on professional merits; the employment of specialists in the various domains of the labor market; <b>the relation between the area of economic trust and the labor market; the relation between the respect for customs and supply and demand; the relation between buying power and economic fluxes; the relation between discrimination and markets; the relation between decisions and integration policies; the relation between adaptation levels and cultural pressures;</b>
			Sensor	The rate of brain drainage /regain/reintegration; the percent of salary growth given by quality and efficiency indicators; the percent of administration workers that hold postuniversity degrees in their respective specialities; <b>the relation between life expectancy and the labor market; the relation between personal success and supply/demand; the relation between the buying power and motivation; the relation between diligence and pay motivation; the relation between the quality of initiatives and trust; the relation between the respect for values and job stability;</b>
			Decider	The percent of adequation to responsibility of the effector/decider; the level of decentralisation; coverage and compliance with quality norms and standards; the degree of cultural tolerance; the capacity to integrate other cultures on the labor market through concrete programs; <b>the relation between monetary power and the hope of individual accomplishment; the relation between personal success and power/ leadership; the relation between the quality of rules and regulations and population motivation; the relation between business and career options; the relation between the involvement of large fortunes in the elaboration of policies; the relation between competitiveness and development strategies;</b>

Cultural integration crises – political crises	Projection	Political power - governance administration	Source	The degree of legislative adaptation with respect to special characteristics groups; the degree of tolerance to multiculturalism; the religious diversity of a culture; the relation between the area and the degree of trust and granted power; the relation between the respect for customs and decision-making; the relation between market representation and fluxes; the relation between prestige and decision-making freedom; the relation between legislative adequation and the respect for laws; the relation between the degree of tolerance and the selection of personnel on the labor market.
			Sensor	The degree of integration on the labor market of immigrants in relation with their initial specialization; the degree of cultural diversity of the social decision-making body; the relation between the areas of economic trust and the movement of capital; the relation between the respect for customs and power; the relation between the quality of regulations and the economic flux; the relation between the level of investments and peace/stability; the relation between the level of tourism and good governance; the relation between multicultural stability and democracy efficiency.
			Decider	The degree of cultural and linguistic tolerance; the degree of ghetto isolation of members of the newly arrived cultures; the relation between fortune and political representation; the relation between negotiating capacities and political power; the relation between the quality of regulations and population confidence; the relation between decisional compliance with values and the respect for central administration; the relation between the absorption of capital through local development programs and confidence in local administration; the relation between diplomatic capacity and the number of votes cast.

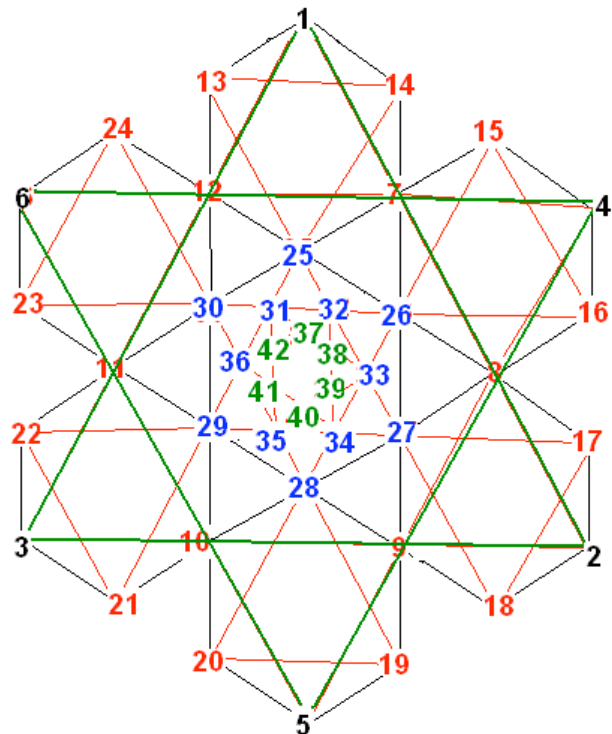
Political crises –armed aggression	Domination	Territory-political power	Source	Economic capacity; population age, the system level, the political regime and its degree of openness; the political structure; the relation between the political regime and the respect for political power; the relation between the capacities value and the decision-making level; the relation between internal stability and the level of representation; the relation between the level of centralization and the political struggle; the relation between the manipulation capacity and the level of armament; the relation between the level of military structures and the degree of enforcement.
			Sensor	Internal instability; the duration of the political regime; the relation between political programs and the strength of the political power; the relation between the level of negotiation and the decision making process; the relation between the level of confidence and the level of representation; the relation between the level of cooperation and the quality of administration; the relation between the level of syndication and the quality of public policies; the relation between lobby and the quality of leadership.
			Decider	Geographic distance, territory size, military capacity; the relation between the quality of programs and the area of support; the relation between the proportion of common customs and the level of negotiation; the relation between the level of confidence and the level of benevolent support; the relation between the quality of social programs and the extent of commercial networks; intercultural relations and the level of alliance formation; the relation between the areas of trust and the level of volunteer work; the relation between the political regime and the area of policies support; the relation between common customs and the development of capacities; the relation between internal stability/instability and benevolent support; the relation between the level of regionalism and popularity; the relation between the level of regionalism and the level of pressure; the relation between the level of support and the degree of autonomy.

# Potential

The same rules allow the creation of new technologies with environmental feedback, social feedback, individual, cultural or economic feedback.

# Satisfaction Indicators

indicatori de satisfactie



- 1 siguranta viitorului
- 2 banii investiti
- 3 certitudini de viitor
- 4 mediu protectiv
- 5 echilibru general
- 6 oportunitati

- 7 investitii in dezvoltare
- 8 finantarea consumurilor
- 9 dezvoltare sustenabila
- 10 protectie personala
- 11 trasee de cariera
- 12 posibilitatea specializarii

- 25 standarde
- 26 noi tehnologii
- 27 impozitari orientate
- 28 controlul dezvoltarii anarhice
- 29 resurse secundare reciclate
- 30 piata muncii si a competentei

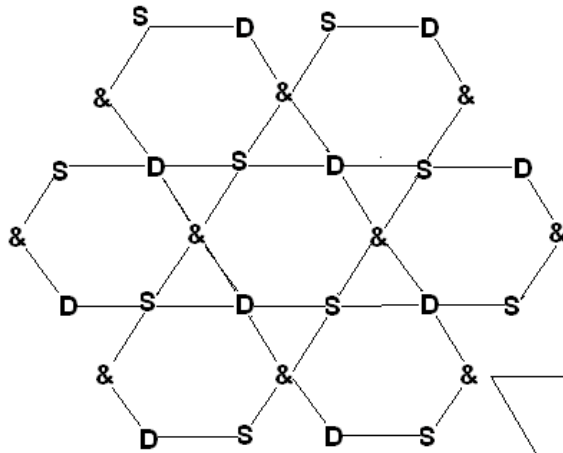
- 31 reabilitarea mediului
- 32 asigurari pe valoarea personala
- 33 venture & angel capital
- 34 stabilitatea mediului natural-social
- 35 managementul crizelor
- 36 economie micro-ecologica

- 13 educarea abilitatilor inalte
- 14 long life learning
- 15 redefinirea binelui general
- 16 dezvoltare personala
- 17 recuperarea echilibrelor
- 18 responsabilizarea consumurilor
- 19 economia generozitatii
- 20 educatia individualizata
- 21 etica in afaceri
- 22 spiritualizarea consumurilor
- 23 abordarea complexa a realitatii
- 24 emanciparea personalitatii

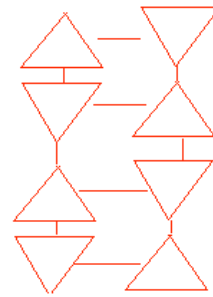
- 37 voluntariat
- 38 responsabilitate corporatista
- 39 responsabilitate sociala
- 40 politici publice
- 41 independenta energetica si administrativa  
micro-productie si nontangibile

# Sustainability & Dynamics

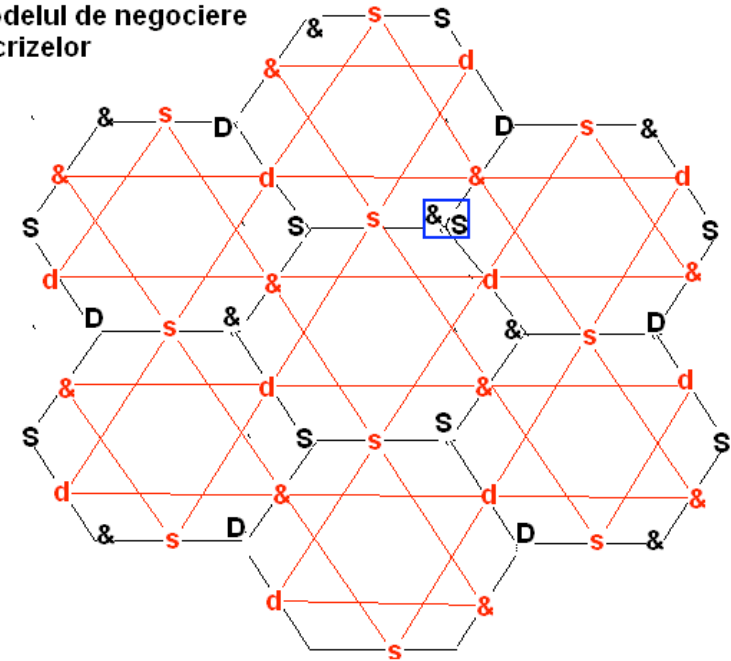
modelul sustenabilitatii de tip celular cu respectarea caracteristicilor locale



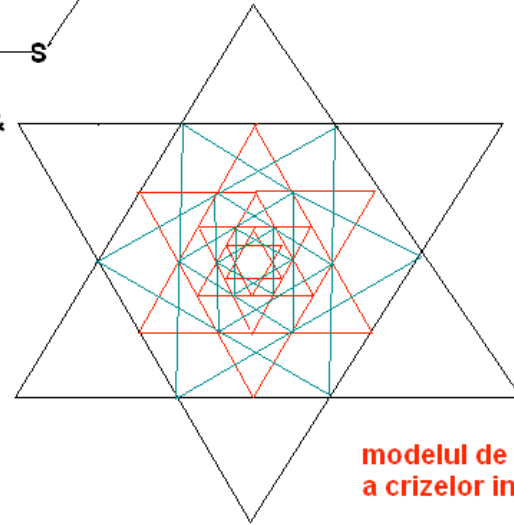
crize inlantuite



modelul de negociere al crizelor

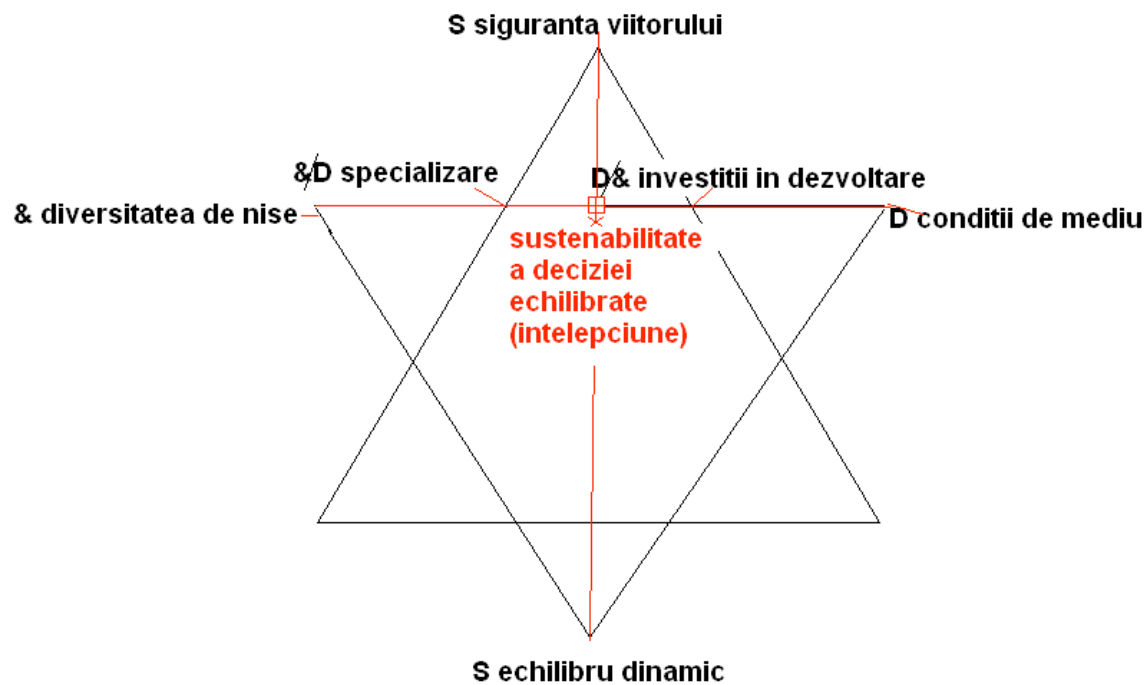


modelul de amplificare a crizelor inlantuite



# Spiritual Network

modelul de retea ne-conflictuala  
bazata pe spiritualitate



# Behavioural Packages

S--S--a avea  
 &--&--a fi  
 D--D--a face  
 S--&--a induce  
 S--D--a exploata  
 &--D--a manipula

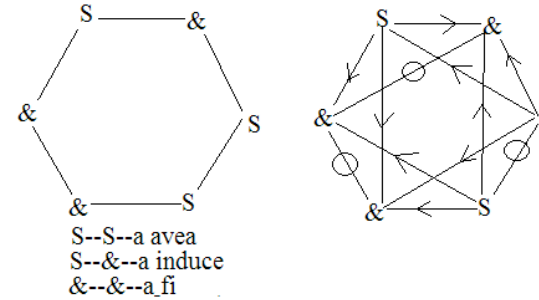
(SS--&&, a avea--a fi)--a deveni (a se adapta, a evolua)  
 (SS--DD, a avea--a face)--a crea  
 (&&--DD, a fi--a face)--a proteja

(&D--SD, a manipula, a exploata)--a eficientiza  
 (SD--S&, a exploata, a induce)--a fideliza (a subjuga, a crea nevoi)  
 (&D--S&, a manipula, a induce)--a organiza

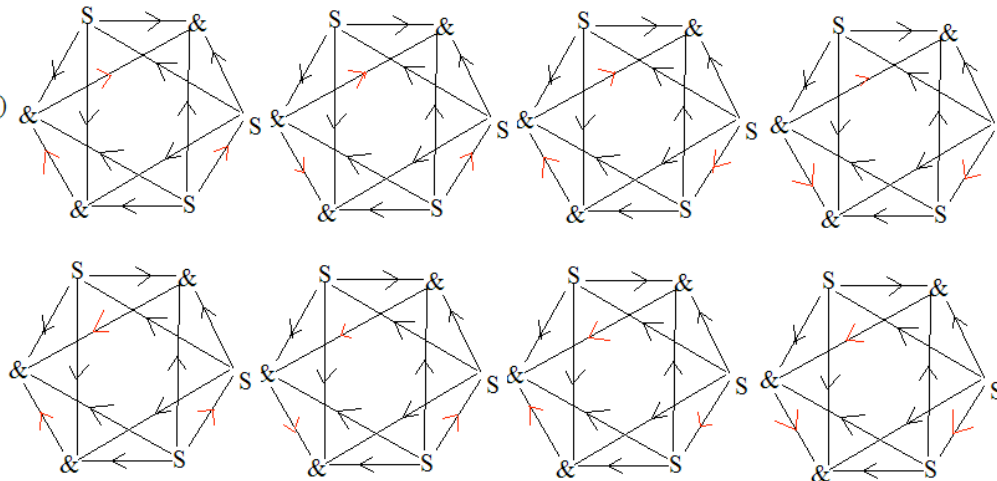
(SS--&D, a avea, a manipula)--a conduce  
 (SS--SD, a avea, a exploata)--a domina  
 (SS--S&, a avea, a induce)--a motiva

(DD--&D, a face, a manipula)--a cuceri  
 (DD--SD, a face, a exploata)--a munci (a fabrica, a distruge)  
 (DD--S&, a face, a induce)--a influenta

(&&--SD, a fi, a exploata)--a epuiza  
 (&&--&D, a fi, a manipula)--a tiraniza  
 (&&--S&, a fi, a induce)--a atrage



(SS--S&, a avea, a induce)--a motiva  
 (SS--&&, a avea--a fi)--a deveni (a se adapta, a evolua)



setul de comportamente induse