Cindynics essentials for coders and power users : MRC as a Description-Oriented Language

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As the neosituationist manifesto was recently released, some readers may be interested in a deeper understanding of the way its concepts are constructed. Neosituationism is the underlying thinking of Relativized Cindynics, whose kernel models are constructed with MRC. Although MRC is a conceptualization method originally designed for Quantum Mechanics, its scope of application is actually quite broad. While it may seem difficult to grasp at first glance, coders familiar with object-oriented languages will easily recognize many similarities. By analogy, comparing some of the basic tenets of MRC with those of object-oriented languages could speed up their adoption.

1 Background

Neosituationism is a post-Cold War strategic thinking, grounded in universal values and action-oriented. The idea of developing Neosituationism was first raised by Georges-Yves Kervern – founder of Cindynics – in 2002. It was then described as a philosophical interface between Sustainable Development and Cindynics research. Cindynics, the science of danger, initially addressed risk in general, whatever the issue : technological risk, environmental protection, natural hazard and disaster prevention… They evolved to deal specifically with intentional threats, which was particularly needed to take account of informational threats in cyberspace, for instance to privacy or freedom of information. This has led to Relativized Cindynics, which address risks and conflicts, and provide a common language enabling actors from different fields or cultures to tackle complex situations, where risks, conflicts and development are interwoven issues. The *raison d'être* of Cindynics is thus the protection of life, human beings, the environment, fundamental rights, peace, freedom and the principles of democracy. They are grounded in the values of the Universal Declaration of Human Rights and seek to protect these rights, providing instruments for strategic analysis and the conduct of operations.

These instruments are concepts, models and descriptions, constructed with the method of relativized conceptualization (MRC), that Mioara Mugur-Schächter initially designed for the field of Quantum Mechanics. Neosituationism is the thinking underpinning the construction of these descriptions, and focuses on values, fields of application and their practical issues, and decisive epistemological choices. Although axiologically non-neutral, Neosituationism is not prescriptive, only proscriptive, in the sense that it only proscribes transformations that do not comply with universal values and lets users prescribe. Hence the practical importance of cindynic kernel descriptions, which are tools that actors can freely use together to co-prescribe the protective transformations they seek, as they see fit, and which are even tools that they can no less freely extend and adapt to their specific situations or issues, with MRC.

Thus, although most of users do not need to master MRC to use neosituationist concepts and cindynic kernels, power users need to grasp its basics, as this will enable them, if need be, to freely extend these kernels to better fit their strategic and operational needs. MRC is a unique method, and is indeed the result of an exceptionally deep scientific thinking, and as such is actually quite difficult to comprehensively understand, nevertheless, using MRC for constructing or extending

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cindynic kernels only requires some basics, which are in some ways similar to those of object-oriented languages (OOL). In what follows, we therefore outline it as a 'description-oriented language' that can be likened to object-oriented languages, which is obviously an oversimplification, but will probably sound familiar to many librists and coders.

2 MRC chaining vs object-oriented languages

2.1 Inheritance : classes vs base descriptions and meta-descriptions

MRC enables the construction of descriptions : a description is analogue to a class of objects. The first step is to construct initial descriptions, called basic transferred descriptions or basic descriptions. Then, many basic descriptions can be combined to construct new descriptions, called meta-descriptions. This process is analogue to inheritance, which enables a new class to be based on previously defined classes. Thus, MRC considers two layers, or strata, of relativized descriptions : the basic descriptions and all the 'inherited' meta-descriptions constructed on these basic descriptions.

2.2 Objects and entity-objects

OOLs enable the manipulation of objects like software elements. In Palo Alto, OOLs were initially designed to deal with interacting objects, and to simulate the human understanding of real-world phenomena. MRC also deals with phenomena, literally and epistemologically, since it is actually rooted in phenomenological thinking, which is why it is a 'relativized' method. Thus, MRC describes real entity-objects, which can be material or logical entities : an entity can be a car, a human being, a corporation, a law or bill, an idea, an historical fact, data, a model or theory, or even anything you could feed a brain in a vat, or not, with. Like material entities, immaterial entities are considered real : ACTA or DSA or EMFA are real entities in the MRC sense.

2.3 Defining classes vs generating entities.

While defining a class is a straightforward process, MRC adds a decisive specific step, which is the generation of an entity, hence the notion of generator : a generator is what enables the generation of an experimental object, for instance a Higgs boson, or a startle reflex, or the selection of an existing entity in your environment, for instance an individual. At first glance, this step may seem unnecessary. But if you consider an entity such as a collective actor, it makes perfect sense. For instance, let's consider terrorist armed groups in the Sahelian region : some observers consider this collective actor to be composed of Sahelian fundamentalist terrorists, but others, such as the Malian military junta or Russian actors, consider that Tuareg rebels are also part of this collective actor, which they see as justifying the military repression of the Tuareg people. From an MRC standpoint, this means that different actors use different generators to select this collective actor, and illustrates that a description is relative to the generator used by an observer to select a phenomenon or entity to describe. And, incidentally, this is why Mioara Mugur-Schächter is said to be Husserlian.

2.4 Classes and instantiation, cindynic instances and MRC specimens

Just as an OOL class allows the instantiation of an object, the MRC description of an entity allows the instantiation of an entity, for example the description of an entity 'individual actor' allows the instantiation of a Robin actor or a Batman actor : Robin and Batman are two instances of the individual actor cindynic description because they are unique, non-fungible individuals.

Cindynic instances should not be confused with MRC specimens : Mioara Mugur-Schächter described the notion of specimen in MRC 2022, following a discussion with Jean-Pierre Dendrieux about Mr Palomar, a novel by Italo Calvino, describing how challenging it can be to provide a general description of a wave, given that one wave is always different from another one. In a nutshell : in MRC terms, this led to consider an entity as a set of specimens, resulting from multiple uses of a given generator : for instance, using multiple times a generator of an entity photon enable the progressive constitution of a set of specimens, i.e. of real photon objects, enabling the general description of the concept of photon.

This is allowed since photons are fungible entities. On the other hand, cindynic entities like actors are not fungible : Cindynics see actors descriptions as a class of description. Instantiating this class allows the description of a specific actor, a non-fungible instance of an actor, selected with a specific generator. This specific generator can be used repeatedly, providing a set of specimens of that instance. Non-fungible cindynic entities are therefore sets of specimens of an instance of a description class, analogue to the different states of an OOL instance whose values of variables evolve. This analogy remains however limited, since we could conceive of several observers simultaneously using the same generator to describe a given instance of actor, thus providing a set of synchronous specimens that hardly has an equivalent in classical programming, perhaps unless particularly tailored examples are crafted.

2.5 Instance variables vs views and aspect-views

The three last MRC descriptional elements are aspects, aspect-views, and views. Aspects are analogue to instance variables defined in a class. An aspect, also called semantic dimension or dimension of qualification, is an observable element : a characteristic of an entity that can be measured quantitatively or described qualitatively, for instance the profits of a corporation, or its name. At each examination, an aspect can take on a value which must fall within a discrete set of values. An aspect and its corresponding set of values together constitute an aspect-view. An aspect-view, also called a grid of qualification, is therefore equivalent to an instance variable and the set of values it can take. A view is a set of aspect-views, and is more or less analogue to the set of instance variables of a class.

2.6 Description elements and notations

A description is in some ways analogue to a class, and is composed of a generator, an entity, and a view which is a set of freely selectable aspect-views, which are analogue to instances variables. By convention, a description is designated by θ or D , a generator by G , an entity by $æ$, and a view by V . A description, consisting of a generator, an entity, and a view, is thus symbolized by $D/G,æ,V/$.

An aspect-view is designated by Vg , and is composed of an aspect g and the set of values gk it can take $(gk, k=1,2,...n)$, thus $Vg \equiv \{g,(gk, k=1,2,...n)\}$ and a view composed of p aspect-views is designated by $V \equiv \{Vg_1, Vg_2, ... Vg_p\}$

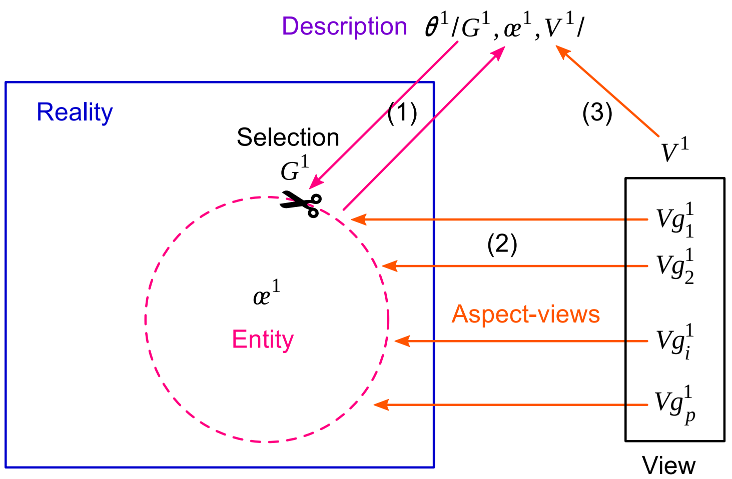

Figure 1: MRC description process

2.7 Inheritance and chaining order

Each descriptional element, be it a description, generator, entity, view or view-aspect, has a chaining order : elements of a basic description have chaining order 1, subsequent meta-descriptions have chaining order 2, and so on.

The chaining order of a descriptional element is indicated by a superscript, hence the notations $D^1/G^1,\ae^1,V^1/$ for a basic description, and $D^2/G^2,\ae^2,V^2/$, $D^3/G^3,\ae^3,V^3/$ … $D^p/G^p,\ae^p,V^p/$ for the following consecutive meta-descriptions.

2.8 What can play an entity role in a meta-description, non arborescent topology

Whereas a child class inherits the properties of a class, to which new instance variables can be added, MRC inheritance is quite different, and offers more possibilities : once some basic entity descriptions are defined, a meta-description is built on these basic descriptions to describe a new entity, which can be any descriptional element of the previous basic descriptions. It can be a complete description or many descriptions, an entity or set of entities, or a view or combination of views. This also explains why MRC considers that reality is not only made up of material entities, but also of logical or immaterial entities, and in particular of descriptions : this enables meta-descriptions, whose entities are descriptions (or descriptive elements). The entire stratum of meta-descriptions describes description entities, enabling the progressive construction and emergence of formalized concepts.

The same principle holds for any meta-description that is a child of previous meta-descriptions. In other words, any descriptional element can 'play the role' of an entity to be described. And since many descriptional elements can be combined to play the role of an entity, this means that child descriptions do not necessarily follow an arborescent topology, and that their topology can be meshed.

2.9 Reverse chaining

OOL inheritance enables the construction of a tree of child classes inheriting from an initial class. MRC shares this generative principle, but equally allows the construction of parent descriptions from an existing initial description. In this case the chaining order decreases as each parent is described, which leads to negative chaining indices. The last parent description thus becomes a basic description : by convention, basic descriptions have a chaining order 1, which entails renumbering all chaining indices each time a parent is described. However, for practical reasons, Cindynics descriptions follow a different convention : whatever the number of parent descriptions, first actors' elements descriptions (cf. infra) keep a chaining index of 0, meaning that their parent descriptions keep negative indices.

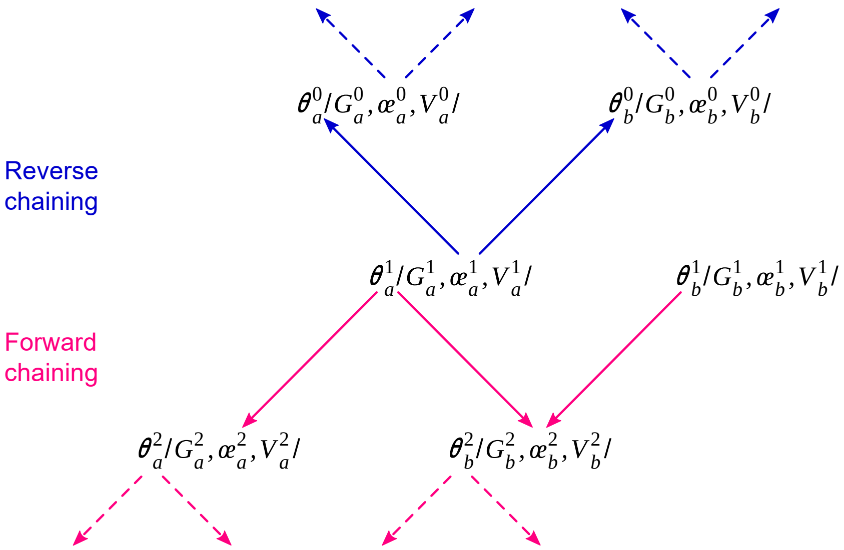

Figure 2: Description chaining and reverse chaining

3 Cindynic kernels

3.1 Kernels purposes, and extensibility

Cindynic MRC descriptions are organized as a set of (at least) three kernels, corresponding to first-order, second-order, and-third order Cindynics, which form the skeleton of cindynic concepts. These kernel orders should not be confused with the chaining order of descriptions.

The first kernel corresponds to the first historical cindynic model, describing situations, which allows users to deal with consensual situations, for instance in the filed of risk prevention or resilience building. The second kernel describes a set of relative or subjective situations, called a spectrum, and allow users to tackle non-consensual situations and conflicts, where actors seek different or antagonistic changes of a situation. This second kernel is useful in strategic analysis, as it provides a synoptic view of the field of transformations (legislative, informational, technological,…) sought by actors, and their relative power. The third kernel is a consequence of spectrum relativization, and describes a set of relative or subjective spectrums, called a matrix. It is required in non-consensual situations where the dynamics of subjective perception of power is pivotal, for instance when building a mobilization or a collective actor, or when attempting a putsch. Thus, users are free to choose a kernel according to the kind of situation they face (cf. Figure 3). And the reason why a kernel is called a kernel is that it is designed in such a way that users can freely extend it if needed. Hence this paper.

Each kernel embeds specific concepts, which have different operational purposes : the first kernel defines deficits and dissonances, and is used to craft resilience (i.e. reduce vulnerability). The second kernel defines divergences and disparities, and can be used for conflictuality reduction or to increase operational efficiency. The third kernel is more complex, and notably enables the visualization of power dynamics.

3.2 Notation conventions

When crafting cindynic descriptions, any descriptional element X (view V, aspect-view Vg, aspect value gk, entity œ) follows a canonical notation $X_i^{y\lambda/h}$, where : y is the chaining order, i is the index of an actor in first-order kernels, h is the index of an observer in second-order kernels, and λ is the index of a spectrum observer (or 's-observer') in third-order kernels. Any ideal descriptional element corresponding to a real descriptional element X is designated by X'.

Each dimension of the cindynic space is indicated by a subscript ω, which can take the following values : s, e, t, n, a (statistics/data, epistemic/models, teleological/goals, nomic/rules, axiological/ethical values).

An aspect-view Vg or an aspect gk of an element (instance) n of a dimension ω of a cindynic space has an index ω_n. For typographic reasons, if an element n is composed of N sub-elements and if N depends on n, in an enumeration using subscript such as : $n_1, n_2,\dots n_N$, the last sub-index N is designated N(n), not N_n.

To facilitate reading, the different types of indices use distinct sets of characters where possible:
- indices for an element of one dimension ω (which can be s, e, t, n, or a) use the letters n, m, p
- when comparing elements of two different ω dimensions, ω is replaced by α and β
- actor indices use the letters i, j
- observer indices use the letters h, k, (or even i, j) and are preceded by /: /h, /k, (or even /i, /j)
- s-observer indices use the letters λ, μ.

Specific cases : to lighten notation, an element aspect-view Vg_ω^0 can be designated by ω , or, to designate a specific dimension : s,e,t,n or a . And the entity $œ_i^1$, of an actor i can be designated by A_i .

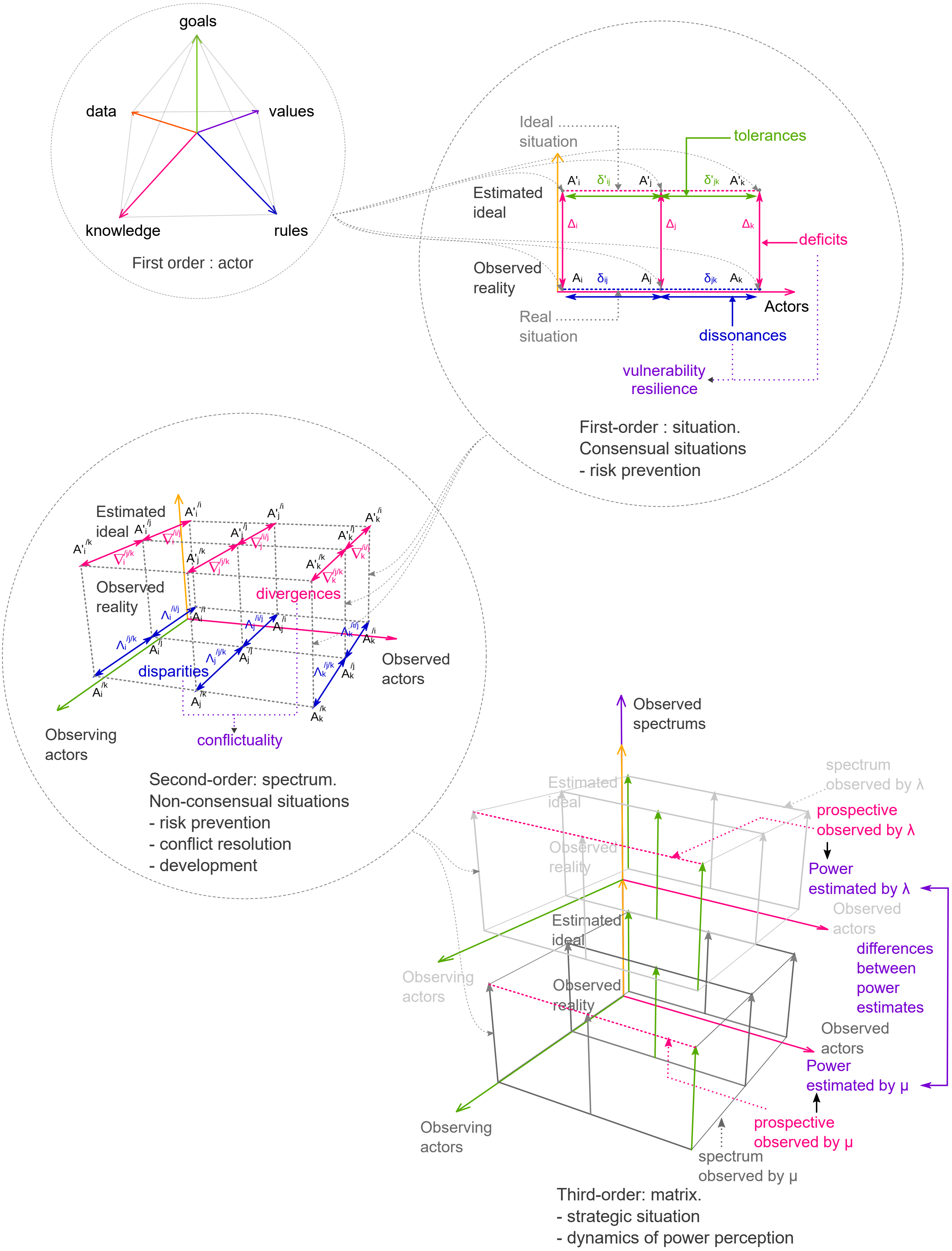

Figure 3: Cindynic kernels and purposes

4 Construction of minimal kernels

In the following, minimal versions of the cindynic kernels are described, in which only the basic aspect views are detailed. Since these basic initial descriptions were published, many other aspect views (cf. Table 2) have gradually emerged, as new concepts were needed, but these minimal kernels facilitate a didactic presentation.

4.1 First-order kernel

Infra-actor element

The first basic descriptions, from which all child meta-descriptions inherit, describe basic immaterial elements. We use a generator G_ω^0 to select an entity $æ_\omega^0$ whose nature can fall into five categories designated by ω, which can be : data/facts (s), models/knowledge (e), goals (t), rules(n), or values(a).

Once an entity of a given nature ω is selected, we define aspect-views : in this minimal version, we choose to observe only the value of an element Vg_ω^0 , analogue to an instance variable. Thus, the view on $æ_\omega^0$ is $V_\omega^0 \equiv \{Vg_\omega^0\}$.

■ We now have five descriptions, analogue to five classes : $\theta_s^0 / G_s^0, æ_s^0, V_s^0 /$, $\theta_e^0 / G_e^0, æ_e^0, V_e^0 /$, $\theta_t^0 / G_t^0, æ_t^0, V_t^0 /$, $\theta_n^0 / G_n^0, æ_n^0, V_n^0 /$ and $\theta_a^0 / G_a^0, æ_a^0, V_a^0 /$. These descriptions are called Infra-actor **elements** and can be designated with a parametric notation: $\theta_\omega^0 / G_\omega^0, æ_\omega^0, V_\omega^0 /$ (*0*).

These descriptions can be extended : for instance it is possible to create a new category or nature of elements to take psycho-affective factors (p) into account, hence a new 'class' of immaterial elements $\theta_p^0 / G_p^0, æ_p^0, V_p^0 /$, which could be useful for describing catastrophes like that of Germanwings Flight 9525.

Or, we could add an aspect-view to the view, for instance an aspect-view 'priority' $Vg_{\omega\pi}^0$ to each element, hence an extended view $V_\omega^0 \equiv \{Vg_\omega^0, Vg_{\omega\pi}^0\}$. This could be useful to describe a disorder between elements priorities, called degeneracy : for example, if we consider the values underpinning the Universal Declaration of Human Rights, we could thus make it clear that the right to life should actually prevail over intellectual property and pharmaceutical patents.

Real actor

Elements basic descriptions now allow the meta-description of an actor, or, more precisely of his behavior or objectives, which depend on his knowledge, data, values and the rules he should comply with. Thus, we select an entity actor $æ^1$ as a set of elements instances $\theta_{\omega_n}^0$ for each of these five categories, this sets being specific to each actor :

$$æ^1 \equiv ((\theta_{s_1}^0, \dots \theta_{s_{N(s)}}^0), (\theta_{e_1}^0, \dots \theta_{e_{N(e)}}^0), (\theta_{t_1}^0, \dots \theta_{t_{N(t)}}^0), (\theta_{t_1}^0, \dots \theta_{t_{N(t)}}^0), (\theta_{a_1}^0, \dots \theta_{a_{N(a)}}^0))$$

or, with parametric condensed notation : $æ^1 \equiv (\theta_{\omega_1}^0, \dots \theta_{\omega_{N(\omega)}}^0)$. One limit to the analogy between MRC and OOLs is that the precise composition of $æ^1$ is specific to each actor instance.

We then construct a view V^1 on the actor entity $æ^1$ by first considering five sets of aspect-views, (or five ‘subviews’) composed of aspect-views elements $V^1_{Hs}\equiv\{Vg^0_{s_1}...Vg^0_{s_N(s)}\}$, $V^1_{He}\equiv\{Vg^0_{e_1}...Vg^0_{e_N(e)}\}$, $V^1_{Ht}\equiv\{Vg^0_{t_1}...Vg^0_{t_N(t)}\}$, $V^1_{Hn}\equiv\{Vg^0_{n_1}...Vg^0_{n_N(n)}\}$, $V^1_{Ha}\equiv\{Vg^0_{a_1}...Vg^0_{a_N(a)}\}$. Each of these subviews is a dimension of a space (called cindynic ‘hyperspace’ since it has five dimensions). This cindynic (real) space can be designated by $V^1_H\equiv\{Vg^0_{\omega_n},\forall\omega,n\}$ or $V^1_H\equiv\{V^1_{H\omega},\forall\omega\}$ (1.1)

We then add set of aspect-views V^1_ρ composed of any possibly relevant relationships between an element $Vg^0_{\alpha_n}$ of a dimension and an element $Vg^0_{\beta_m}$ of another dimension, hence the subview $\rho\equiv V^1_\rho\equiv\{\rho(Vg^0_{\alpha_n},Vg^0_{\beta_m})\}\forall\alpha,\beta,n\sim m$ (1.2).

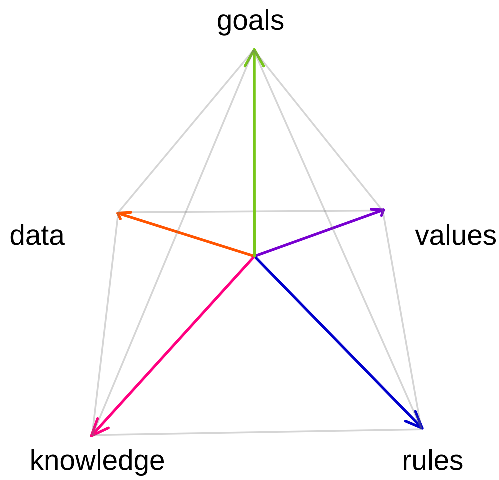

Figure 4: Cindynic dimensions describing an actor

■ Hence the description of a **Real actor** $\theta^1/G^1,æ^1\equiv(\theta^0_{\omega_1},...\theta^0_{\omega_{N(\omega)}}),V^1/$ (1) where the view $V^1\equiv\{V^1_H,V^1_\rho\}$ is composed of two sets of aspect-views : a real space V^1_H , and inter-aspect relationships designated by $\rho\equiv V^1_\rho$ or $V^1_\rho\equiv\{Vg^1_{\alpha_n/\beta_m}\}$.

Real situation

We can now select a set of actor descriptions as a real situation entity: $æ^2\equiv(\theta^1_1,...,\theta^1_p)$. Then again, this set set of actors is specific to each situation instance. In this minimal kernel, we then simply select one set of aspect-views composed of the differences $V^2_\delta\equiv\{\delta(Vg^0_{\omega_n i},Vg^0_{\omega_m j}),i\neq j,\forall n\sim m,\omega\in\{s,e,t,n,a\}\}$ – called dissonances (2.1) – that are considered to be factors of danger (or cindynogenic differences), and *only* these ones, between any element of a dimension ω of an actor i, and its counterpart in the corresponding dimension ω of another actor j of this real situation entity.

■ Hence the description of a real situation, or **perspective** : $\theta^2/G^2,æ^2\equiv(\theta^1_1,...,\theta^1_p),V^2/$, (2) where the view $V^2\equiv\{V^2_\delta\}$ is only composed of dissonances.

Ideal actor

The description of an ideal actor is identical to that of a real actor, but its ideal basic elements are not actual observed elements, but an estimate of what these elements should ideally be so that a situation is not vulnerable.

■ Hence the description of an **Ideal actor** $\theta'^1/G'^1,æ'^1\equiv(\theta'^0_{\omega_1},...\theta'^0_{\omega_{N(\omega)}}),V'^1/$ (1’), where the view $V'^1\equiv\{V'^1_H,V'^1_\rho\}$ is composed of two subviews :

- ideal hyperspace $V'^1_H\equiv\{V'^1_{H\omega}\}$, where $V'^1_{H\omega}\equiv\{Vg'^0_{\omega_n}\}$ (1.1’)
- ideal relationships designated by $\rho'\equiv V'^1_\rho\equiv\{\rho(Vg'^0_{\alpha_n},Vg'^0_{\beta_m})\}$ (1.2’) or $V'^1_\rho\equiv\{Vg'^1_{\alpha_n/\beta_m}\}$.

Ideal situation

Likewise, the description of an ideal situation is identical to that of a real situation, except its entity is composed of ideal elements instead of real elements, and its view is not composed of cindynogenic differences between elements, but of non-cindynogenic differences – called tolerances – that should exist and be protected.

■ Hence the description of an ideal situation or **prospective** : $\theta'^2/G'^2, æ'^2 \equiv (\theta'^1_1, \dots, \theta'^1_p), V'^2/$, (*2'*) where the view $V'^2 \equiv \{V'^2_\delta\}$ is a set *(2.1')* of aspect-views tolerances $\delta' \equiv V'^2_\delta \equiv \{\delta(Vg'^0_{\omega_n i}, Vg'^0_{\omega_m j})\}$ between non-cindynogenic counterpart basic elements of two ideal actors i and j of this ideal situation.

Situation

Unlike child classes that have a unique parent, meta-descriptions can have many parents : a real or ideal actor inherits from many basic elements, and a real or ideal situation inherit from many actors. In the same way, a situation inherit from a real situation and an ideal situation since an entity situation $æ^3$ is generated by selecting a real situation description and an ideal situation description : $æ^3 \equiv (\theta^2, \theta'^2)$.

To construct its view V^3 , we first consider a subview Δ_s composed of a set of aspect-views called systemic deficits, defined as the differences between any element of a dimension ω of a real actor i and its counterpart in the dimension ω of the corresponding ideal actor i : $\Delta_s \equiv \{\delta(Vg^0_{\omega_n i}, Vg'^0_{\omega_n i}), \forall \omega, n, i\}$.

A second subview Δ_ρ is a set of aspect-views called systemic relational deficits, or relational deficits, defined as the differences between any real inter-aspect relationship between two dimensions α and β of a real actor i, and its ideal counterpart in the ideal space of its corresponding ideal actor :
$\Delta_\rho \equiv \{\delta(\rho(Vg^0_{\alpha_n i}, Vg^0_{\beta_m i}), \rho(Vg'^0_{\alpha_n i}, Vg'^0_{\beta_m i})), \forall i, \alpha \neq \beta, n \sim m\}$.

This leads to the definition of two pivotal aspect-views : the vulnerability of this situation V and its resilience R . This vulnerability is defined as the propensity of this situation to generate damage, disaster or catastrophic changes. Vulnerability is increasing with systemic and relational deficits, and with dissonances : $V \equiv f(\Delta_s, \Delta_\rho, \delta)$, which can be seen as an instance variable calculated from other instance variables. And the resilience is defined as the inverse of this vulnerability : $R \equiv 1/V$.

■ Hence the description of a **Situation** $\theta^3/G^3, æ^3 \equiv (\theta^2, \theta'^2), V^3/$ (*3*), where the view $V^3 \equiv \{\Delta_s, \Delta_\rho, V, R\}$ is composed of two subviews and two aspect-views :

- Systemic deficits $\Delta_s \equiv \{\delta(Vg^0_{\omega_n i}, Vg'^0_{\omega_n i}), \forall \omega, n, i\}$ *(3.1)*,
- Relational deficits $\Delta_\rho \equiv \{\delta(\rho(Vg^0_{\alpha_n i}, Vg^0_{\beta_m i}), \rho(Vg'^0_{\alpha_n i}, Vg'^0_{\beta_m i})), \forall i, \alpha \neq \beta, n \sim m\}$ *(3.2)*, or $\Delta\rho \equiv \{\delta(Vg^1_{\alpha_n/\beta_m i}, Vg'^1_{\alpha_n/\beta_m i})\}$,
- Vulnerability (of a situation) $V \equiv f(\Delta_s, \Delta_t, \Delta_\rho, \Delta_\varphi, \delta, \delta_\rho)$ and Resilience (of a situation) $R \equiv 1/V$ *(3.5)*.

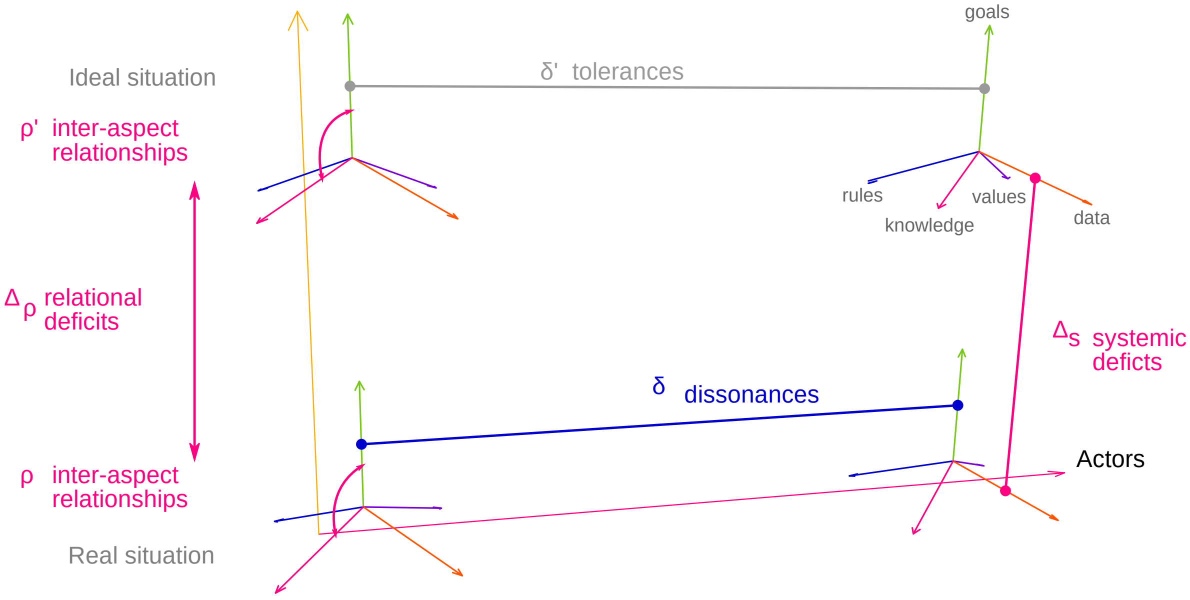

Figure 5: Cindynic situation : deficits and dissonances

With the formal description of a situation, we have now constructed the concept of vulnerability, as a propensity increasing with deficits and dissonances. Thus, operationally, reducing deficits and dissonances enables us to reduce vulnerability and craft resilience. In other words, we have described the pivotal cindynic concept of mastery of propensities, which stems straight from the Art of War.

4.2 Second-order kernel

The next chaining description in our hierarchy, $\theta^4/G^4,\theta^4,V^4/$, has an MRC chaining order 4, but from a cindynic standpoint we now enter the second-order modelizations, which is a significant conceptual leap. If we consider a situation $\theta^3/G^3,æ^3\equiv(\theta^2,\theta'^2),V^3/$ we can notice that its ideal situation $\theta'^2/G'^2,æ'^2,V'^2/$ is not an observation, but an estimate, and that different observers could have different estimates. Thus, a situation is subjective, or relative, hence the notion of spectrum, defined as a set of relative situations : we generate an entity spectrum $æ^4$ by selecting N relative situations $æ^4\equiv(\theta^{3/1},\ldots\theta^{3/N})$.

Then we consider a set ∇_s of aspect-views called systemic divergences, defined as the differences between any element of a dimension ω of an ideal actor i observed by an observer h and its counterpart in the dimension ω of the corresponding ideal actor i observed by an observer k: $\nabla_s\equiv\{\delta(Vg'^{0/h}_{\omega_n i},Vg'^{0/k}_{\omega_n i})\forall i,j,\omega,k,n\}$.
From a strategic standpoint, this subview is pivotal, since it describes the transformations that each observer (be it an idividual, or a collective : lobby, state…) seek to impose on other observers.

In the same way, different observers can have different perceptions of a real situation : therefore, we consider a set of aspect-views Λ_s called systemic disparities, defined as the differences between any element of a dimension ω of a real actor i observed by an observer h and its counterpart in the dimension ω of the corresponding real actor i observed by an observer k: $\Lambda_s \equiv \{\delta(Vg^{0/h}_{\omega_n i}, Vg^{0/k}_{\omega_n i})\}$. These perceptions are in particular targetted by hybrid warfare operations.

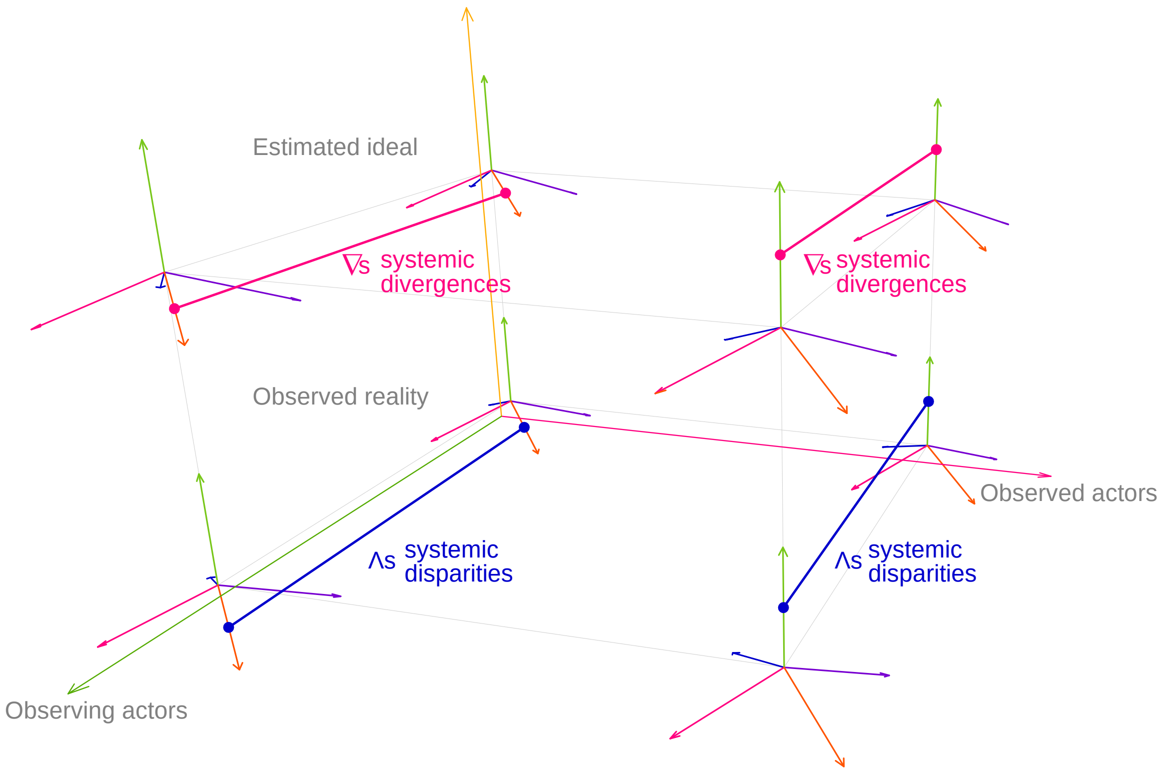

Figure 6: systemic disparities and systemic divergences

These two sets of aspect-views enable the construction of an aspect-views conflictuality C , defined as the propensity of a spectrum to spark or fuel antagonistic transformations, in other words : conflicts. Just as vulnerability increases with deficits and dissonances, conflictuality increases with divergences and disparities : $C \equiv f(\Lambda_s, \nabla_s)$

Finally, we consider a subview power P , composed of the aspect-views power of each observer k in the spectrum : $P \equiv \{P^{/k}\} \equiv \{V^{4/k}_p\}$. An observer's power is defined as his ability to impose his prospective on other observers : this definition is only a general one, as power factors depend on each specific type of situation.

■ Hence the description of a **spectrum** $\theta^4/G^4,(\theta^{3/1},...\theta^{3/N}),V^4/$, whose view $V^4 \equiv \{\Lambda_s, \nabla_s, C, P\}$ is composed of : systemic divergences $\nabla_s \equiv \{\delta(Vg'^{0/h}_{\omega_n i}, Vg'^{0/k}_{\omega_n i}) \forall i,j,\omega,k,n\}$ (4.1.1), systemic disparities $\Lambda_s \equiv \{\delta(Vg^{0/h}_{\omega_n i}, Vg^{0/k}_{\omega_n i})\}$ (4.2.1), Conflictuality $C \equiv f(\Lambda_s, \nabla_s,)$ (4.3), and Power $P \equiv \{P^{/k}\}$ (4.4).

This second-order kernel should be used in place of the first-order kernel in any non-consensual situation, i.e. when conflictuality is non-null. Conflictuality must be seen as a continuum, which means that spectrums are useful in a wide variety of cases : to reduce friction (including internally) and increase operational efficiency in prevention operations, for any project, notably development actions, to build collectives or mobilizations, and to manage conflicts, whatever their nature : legislative influence, military or informational conflicts,…

4.3 Third-order kernel

When I observe a spectrum, I visualize a field of transformations (cf. Figure 10) sought by different observers, and I observe in particular the power of each observer. But others could have different estimates or perceptions of these powers. Thus, each spectrum observer (or 's-observer') observes/estimates a relative spectrum, hence the notion of matrix, defined as a set of relative spectrums : we generate an entity spectrum $\oe^5$ by selecting M relative situations $\oe^5 \equiv (\theta^{4\ 1},\ldots\theta^{4\ M})$.

In this minimal kernel, we only consider the power perception issue, hence a set ∂_P of aspect-views called power distortions, defined as the difference, for any observer k, between his power estimated by an s-observer λ, and his power estimated by an s-observer μ : $\partial_P \equiv \{\delta(P^{\lambda/k}, P^{\mu/k})\} \equiv \{\delta(V_D^{4\,\lambda/k}, V_D^{4\,\mu/k}), \forall k, \lambda \neq \mu\}$

■ Hence the description of a **Matrix** $\theta^5/G^5,(\theta^{4\ 1},\ldots\theta^{4\ M}),V^5/$, whose view $V^5 \equiv \{\partial_P\}$ is composed solely of the sub-view power distortions $\partial_P \equiv \{\delta(P^{\lambda/k}, P^{\mu/k})\}$ (5.1).

This minimal third kernel is mainly used in situations where the dynamics of power perception is pivotal. For example during mobilization efforts or collective building, or during coup attempts, where it is the main mechanism explaining their success or failure : any putschist perceived as weak is doomed to fail.

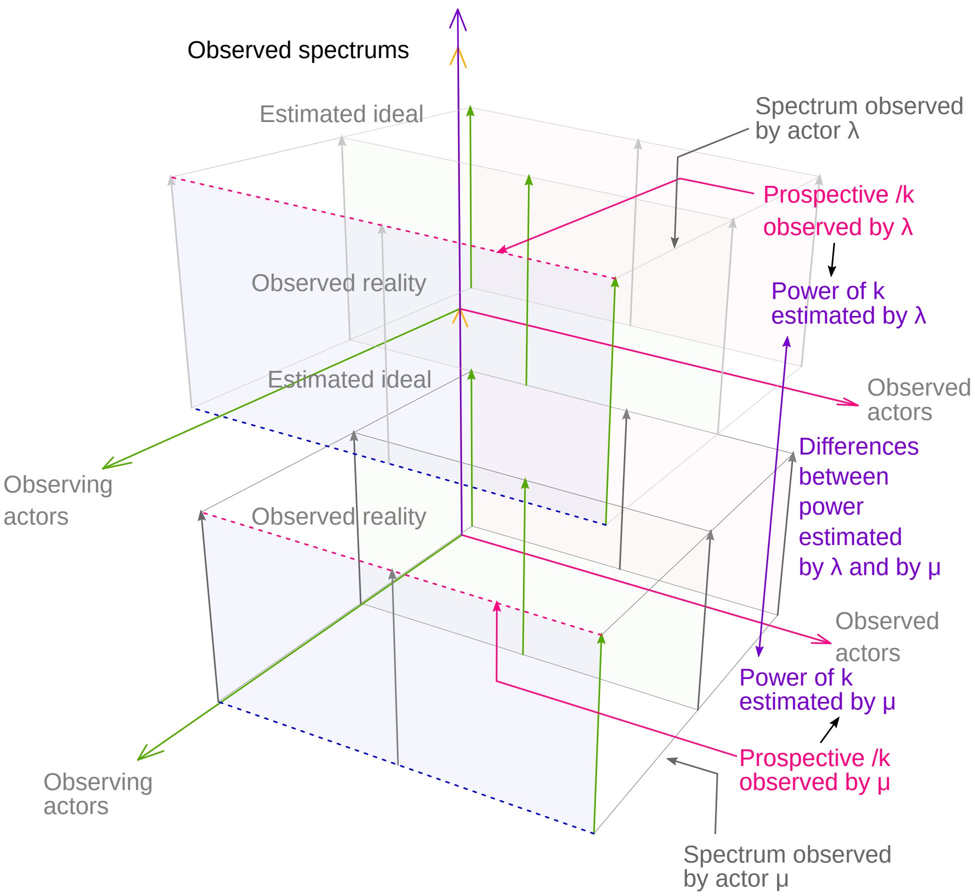

Figure 7: Matrix, power perception and distortions

Epilogue

Even if comparing MRC basic chaining to object hierarchies is outrageously simplifying, coders and users familiar with OOL concepts should now be able to manipulate cindynic kernels, which could be seen as a kind of conceptual Rubik's cube they can freely use in a wide variety of situations, consensual or not, for strategic analysis and conducting operations, in any field or situation where fundamental values are at stake.

The following annexes provide in particular the descriptions of first- to third-order extended kernels, including the description of informational flows dynamics between actors, like information flows or legislative flows, and the formal description of basic element analysis, collective actor structure, and the concepts of diversity and *pouvoir* (power in the sense *potestas*).

Mastering MRC chaining will enable users to freely and rigorously extend kernel models, which can increase operational efficiency by better fitting specific contexts and cultures, while the original kernels remain a common transversal language that can be used across different domains, sectors, disciplines and cultures, thereby helping to tackle complex situations, where transverse teamwork is an imperative.

Pascal Cohet
V1a October 6, 2023

Download links

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This paper : https://www.ifrei.org/tiki-download_file.php?fileId=188

Annexes

1 Extended Kernels

1.0 Basic elements and their structuration

(0) Infra-actor **element** $\theta^0_{\omega_n}/G^0_{\omega_n},\text{æ}^0_{\omega_n},V^0_{\omega_n}/$, where :

- $\text{æ}^0_{\omega_n}$ is an element n whose nature ω can be : data/facts (s), models/knowledge (e), goals (t), rules(n), or values(a),
- $V^0_{\omega_n}\equiv\{Vg^0_{\omega_n}\}$ a view composed of only one aspect-view receiving the measure of the element n of nature ω,

(-1) **Sub-element** $\theta^{-1}_{\omega_{n_m}}/G^{-1}_{\omega_{n_m}},\text{æ}^{-1}_{\omega_{n_m}},V^{-1}_{\omega_{n_m}}/$, a view $V^0_{\omega_{n_m}}\equiv\{Vg^0_{\omega_{n_m}}\}$ composed of only one aspect-view receiving the measure of the sub-element m of the element n of nature ω.

Analysis of an element $\theta^0_{\omega_n}/G^0_{\omega_n},\text{æ}^0_{\omega_n},V^0_{\omega_n}/$ into sub-elements :

- $\text{æ}^0_{\omega_n}\equiv\{\theta^{-1}_{\omega_{n_1}},\theta^{-1}_{\omega_{n_2}},\ldots\theta^{-1}_{\omega_{n_{N(n)}}}\}$ if this element is *composed* of N(n) sub-elements,
- or $\text{æ}^0_{\omega_n}\equiv\{\text{æ}^0_{\omega_n asc},\theta^{-1}_{\omega_{n_1}},\theta^{-1}_{\omega_{n_2}},\ldots\theta^{-1}_{\omega_{n_{N(n)}}}\}$ if this ancestor element $\text{æ}^0_{\omega_n asc}$ *contains* N(n) sub-elements.

Recursively, this analysis enables the description of arborescent structures in Hyperspace dimensions.

1.1 First order

(1) **Real actor** $\theta^1/G^1,\text{æ}^1\equiv(\theta^0_{\omega_1},\ldots\theta^0_{\omega_{N(\omega)}}),V^1/$ where $\omega\in\{s,e,t,n,a\}$, a view $V^1\equiv\{V^1_H,V^1_\rho,\ldots\}$ is composed of sub-views :

- *(1.1)* Real Hyperspace V^1_H , composed of five subviews $V^1_{H\omega}\equiv\{Vg^0_{\omega_n},\forall n\}$ (Hyperspace dimensions),
- *(1.2)* Inter-aspect relationships (real) $\rho\equiv V^1_\rho\equiv\{\rho(Vg^0_{\alpha_n},Vg^0_{\beta_m})\}\forall\alpha,\beta,n\sim m$ between elements $Vg^0_{\alpha_n}$ and $Vg^0_{\beta_m}$ in dimensions α and β, or $V^1_\rho\equiv\{Vg^1_{\alpha_n/\beta_m}\}$.

(2) Real situation (**perspective**) $\theta^2/G^2,\text{æ}^2\equiv(\theta^1_1,\ldots,\theta^1_p),V^2/$, a view $V^2\equiv\{V^2_\delta,V^2_{\delta_\rho},V^2_\varphi\}$ is composed of subviews :

- *(2.1)* Dissonances $\delta\equiv V^2_\delta\equiv\{\delta(Vg^0_{\omega_n i},Vg^0_{\omega_m j}),i\neq j,\forall n\sim m,\omega\in\{s,e,t,n,a\}\}$ between cindynogenic counterparts of two real actors actors i and j,
- *(2.2)* Relational dissonances δ_ρ
- *(2.3)* Real flows $\varphi\equiv V^2_\varphi\equiv\{\varphi(Vg^0_{\omega_n i},Vg^0_{\omega_m j}),\forall i\neq j,n\sim m,\omega\in\{s,e,t,n,a\}\}$ composed of element flows from a dimension ω of a real actor i to that of a real actor j, or $V^2_\varphi\equiv\{Vg^2_{\omega_{n/m}i/j}\}$.

(1') **Ideal actor** $\theta'^1/G'^1,\text{æ}'^1\equiv(\theta'^0_{\omega_1},\ldots\theta'^0_{\omega_{N(\omega)}}),V'^1/$ **,** a view $V'^1\equiv\{V'^1_H,V'^1_\rho,\ldots\}$ is composed of subviews :

- (1.1') Ideal Hyperspace $V'^1_H\equiv\{V'^1_{H\omega}\}$, where $V'^1_{H\omega}\equiv\{Vg'^0_{\omega_n}\}$
- (1.2') Ideal Relationships $\rho'\equiv V'^1_\rho\equiv\{\rho(Vg'^0_{\alpha_n},Vg'^0_{\beta_m})\}$ or $V'^1_\rho\equiv\{Vg'^1_{\alpha_n/\beta_m}\}$.

(2') Ideal situation (**prospective**) $\theta'^2/G'^2,\text{æ}'^2\equiv(\theta'^1_1,\ldots,\theta'^1_p),V'^2/$, a view $V'^2\equiv\{V'^2_\delta,V'^2_{\delta_\rho},V'^2_\varphi\}$ is composed of sub-views :

- *(2.1')* Tolerances $\delta' \equiv V'^2_\delta \equiv \{\delta(Vg'^0_{\omega_n i}, Vg'^0_{\omega_m j})\}$ between non-cindynogenic counterparts of two ideal actors i and j,

- *(2.2')* Relational tolerances δ'_ρ ,

- *(2.3')* Ideal flows $\varphi' \equiv V'^2_\varphi \equiv \{\varphi(Vg'^0_{\omega_n i}, Vg'^0_{\omega_m j})\}$ composed of element flow from the dimension ω of an ideal actor i to that of an ideal actor j, or $V'^2_\varphi \equiv \{V'g^2_{\omega_{n/m} i/j}\}$.

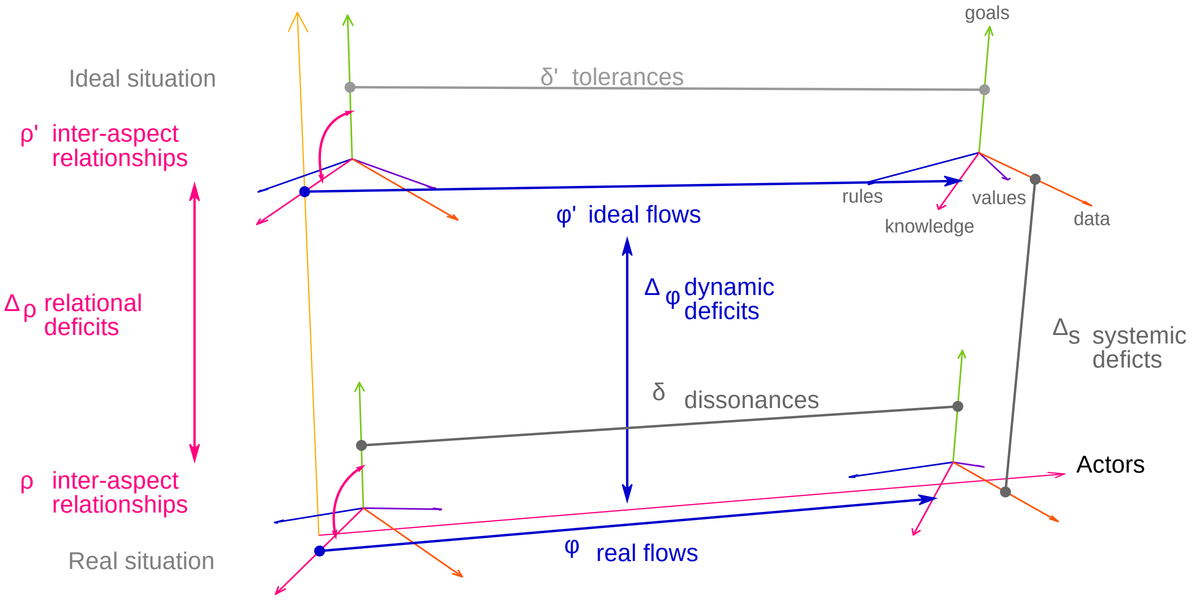

Figure 8: Cindynic situation : deficits and dissonances

(3) **Situation** $\theta^3/G^3, æ^3 \equiv (\theta^2, \theta'^2), V^3/$, a view $V^3 \equiv \{\Delta_s, \Delta_t, \Delta_\rho, \Delta_\varphi, V, \{V_i\}\}$ is composed of subviews :

- *(3.1)* Systemic deficits $\Delta_s \equiv \{\delta(Vg^0_{\omega_n i}, Vg'^0_{\omega_n i}), \forall \omega, n, i\} \equiv \{\Delta_{sk}, \Delta_{sa}\}$ composed of :

value deficits $\Delta_{sk} \equiv \{\delta(gk^0_{\omega_n i}, gk'^0_{\omega_n i})\}$, (*where 'value' means the measured value of an aspect whatever its nature*)

and aspectual deficits $\Delta_{sa} \equiv \{\delta_a(Vg^0_{\omega_n i}, Vg'^0_{\omega_n i})\}$,

- *(3.2)* Relational deficits $\Delta_\rho \equiv \{\delta(\rho(Vg^0_{\alpha_n i}, Vg^0_{\beta_m i}), \rho(Vg'^0_{\alpha_n i}, Vg'^0_{\beta_m i})), \forall i, \alpha \neq \beta, n \sim m\}$, or $\Delta\rho \equiv \{\delta(Vg^1_{\alpha_n/\beta_m i}, Vg'^1_{\alpha_n/\beta_m i})\}$,

- *(3.3)* Dynamic deficits $\Delta_\varphi \equiv \{\delta(\varphi(Vg^0_{\omega_n i}, Vg^0_{\omega_m j}), \varphi(Vg'^0_{\omega_n i}, Vg'^0_{\omega_m j})), \forall i, j, \omega, n \sim m\}$, or $\Delta_\varphi \equiv \delta(\{Vg^2_{\omega_{n/m} i/j}\}, \{Vg'^2_{\omega_{n/m} i/j}\})$,

(*3.3.1*) Disclosing flows $(\exists\{Vg^2_{\omega_{n/m} i/j}\}, \nexists\{Vg'^2_{\omega_{n/m} i/j}\})$ harming the source

(3.3.2) Suppressed flows $(\nexists\{Vg^2_{\omega_{n/m} i/j}\}, \exists\{Vg'^2_{\omega_{n/m} i/j}\})$ where the suppression is harming the source or receiver

(*3.3.3*) Toxic flows $(\exists\{Vg^2_{\omega_{n/m} i/j}\}, \nexists\{Vg'^2_{\omega_{n/m} i/j}\})$ where the existing flow is deceptive or harming the target

- *(3.4)* Topological deficits, $\Delta_t \equiv \delta(G^2, G'^2) \equiv \delta(\{æ^1_i\}, \{æ'^1_i\})$

- *(3.5)* Vulnerability (of a situation) $V \equiv f(\Delta_s, \Delta_t, \Delta_\rho, \Delta_\varphi, \delta, \delta_\rho)$ and Resilience (of a situation) $R \equiv 1/V$.

- *(3.6)* Vulnerability of an actor i $V_i \equiv f_i(\Delta_s, \Delta_t, \Delta_\rho, \Delta_\varphi, \delta, \delta_\rho)$ and Resilience of an actor i $R_i \equiv 1/V_i$.

1.2 Second order

(4) **spectrum** $\theta^4/G^4, (\theta^{3/1}, \ldots \theta^{3/N}), V^4/$, a view $V^4 \equiv \{\Lambda_s, \Lambda_\rho, \Lambda_t, \Lambda_\varphi, \nabla_s, \nabla_\rho, \nabla_t, \nabla_\varphi, C, P \equiv \{P^{/i}\}\}$ is composed of the following subviews :

- *(4.1)* Divergences :

  (4.1.1) systemic $\nabla_s \equiv \{\delta(Vg'^{0/h}_{\omega_n i}, Vg'^{0/k}_{\omega_n i}) \forall i, j, \omega, k, n\}$,

  (4.1.2) relational $\nabla_\rho \equiv \{\delta(\rho(Vg'^{0/h}_{\alpha_n i}, Vg'^{0/h}_{\beta_m i}), \rho(Vg'^{0/k}_{\alpha_n i}, Vg'^{0/k}_{\beta_m i})), \forall i, \alpha \neq \beta, n \sim m\}$

  (4.1.3) dynamic $\nabla_\varphi \equiv \{\delta(\varphi(Vg'^{0/h}_{\omega_n i}, Vg'^{0/h}_{\omega_m j}), \varphi(Vg'^{0/k}_{\omega_n i}, Vg'^{0/k}_{\omega_m j})), \forall h, i, j, k, \omega, n \sim m\}$ $\nabla_\varphi \equiv \{\delta(Vg'^{2/h}_{\omega_{n/m} i/j}, Vg'^{2/k}_{\omega_{n/m} i/j})\}$

  (4.1.4) topological $\nabla_t \equiv \{\delta(G'^{2/h}, G'^{2/k})\} \equiv \delta(\{æ'^{1/h}_i\}, \{æ'^{1/k}_i\}), \forall i, h, k$,

- *(4.2)* Disparities :

  - *(4.2.1)* systemic $\Lambda_s \equiv \{\delta(Vg^{0/h}_{\omega_n i}, Vg^{0/k}_{\omega_n i})\}$,

  - *(4.2.2)* relational $\Lambda_\rho \equiv \{\delta(\rho(Vg^{0/h}_{\alpha_n i}, Vg^{0/h}_{\beta_m i}), \rho(Vg^{0/k}_{\alpha_n i}, Vg^{0/k}_{\beta_m i})), \forall i, \alpha \neq \beta, n \sim m\}$,

  - *(4.2.3)* dynamic $\Lambda_\varphi \equiv \{\delta(\varphi(Vg^{0/h}_{\omega_n i}, Vg^{0/h}_{\omega_m j}), \varphi(Vg^{0/k}_{\omega_n i}, Vg^{0/k}_{\omega_m j}))\}$, or $\Lambda_\varphi \equiv \{\delta(Vg^{2/h}_{\omega_{n/m} i/j}, Vg^{2/k}_{\omega_{n/m} i/j})\}$

  - *(4.2.4)* topological $\Lambda_t \equiv \{\delta(G^{2/h}, G^{2/k})\} \equiv \delta(\{æ^{1/h}_i\}, \{æ^{1/k}_i\}), \forall i, h, k$,

- *(4.3)* *C*onflictuality $C \equiv f(\Lambda_s, \Lambda_\rho, \Lambda_t, \Lambda_\varphi, \nabla_s, \nabla_\rho, \nabla_t, \nabla_\varphi)$,

- *(4.4)* Power $P \equiv \{P^{/k}\} \equiv \{V^{4/k}_p\}$.

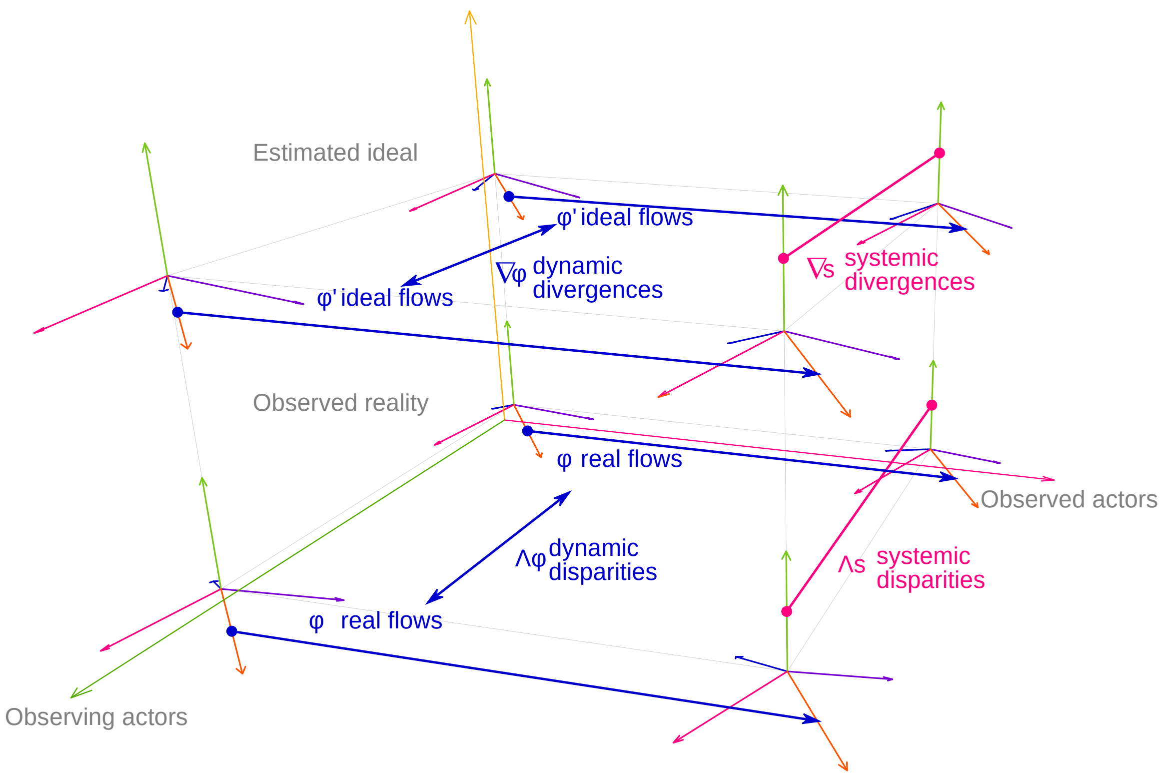

Figure 9: spectrum : disparities and divergences

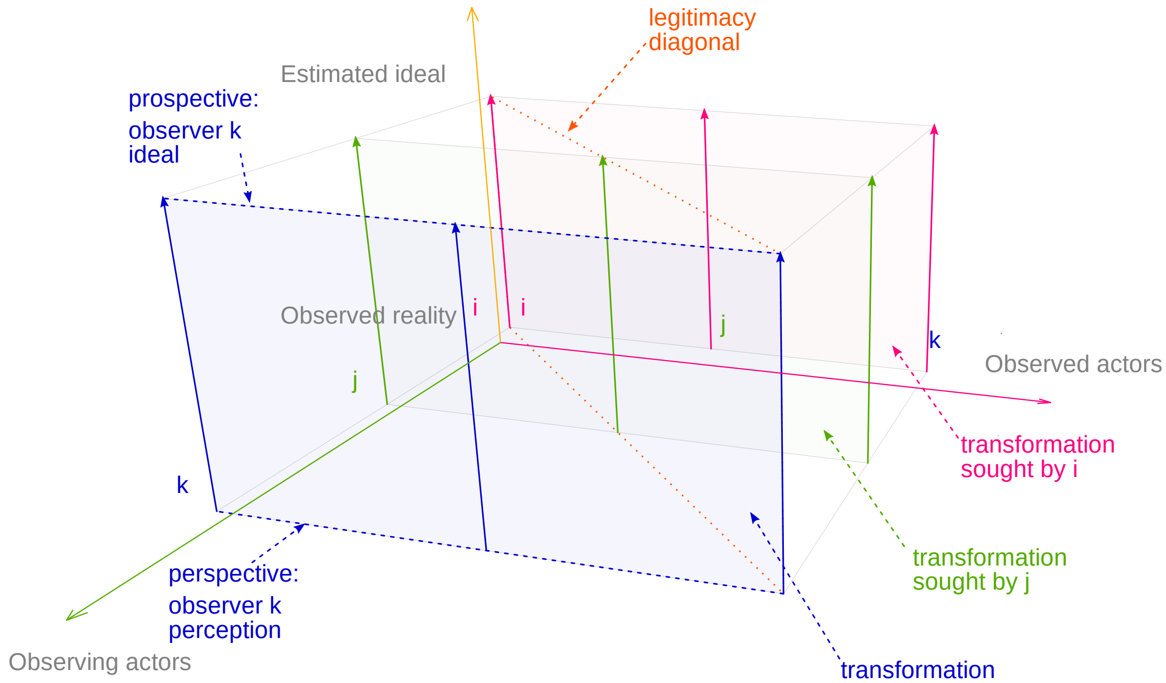

Figure 10: spectrum as a transformation field, and legitimacy diagonal

1.3 Third order

(5) **Matrix** $\theta^5/G^5,(\theta^{4\ 1},\ldots\theta^{4\ M}),V^5/$, a view $V^5\equiv\{\partial_P,\partial_{pr},\partial_{pe},\ldots\partial_C\}$ is composed of subviews :

- *(5.1)* *P*ower distortions $\partial_P\equiv\{\delta(P^{\lambda/k},P^{\mu/k})\}\equiv\{\delta(V_p^{4\,\lambda/k},V_p^{4\,\mu/k}),\forall k,\lambda\neq\mu\}$.
- *(5.2)* Prospective distortions $\partial_{pr}\equiv\{\delta(Vg'^{0\ \lambda/k}_{\omega_n i},Vg'^{0\ \mu/k}_{\omega_n i}),\forall\omega,n,i,\lambda,\mu,k\}$,
- *(5.3)* Perspective *d*istortions $\partial_{pe}\equiv\{\delta(Vg^{0\ \lambda/k}_{\omega_n i},Vg^{0\ \mu/k}_{\omega_n i}),\forall\omega,n,i,\lambda,\mu,k\}$,
- *(5.4)* Divergences distortions ∂_∇ :
    - *(5.4.1)* systemic $\partial_{\nabla_s}\equiv\{\nabla_s{}^\lambda,\nabla_s{}^\mu\}\forall\lambda,\mu$
    - *(5.4.2)* relational $\partial_{\nabla_\rho}\equiv\{\nabla_\rho{}^\lambda,\nabla_\rho{}^\mu\}\forall\lambda,\mu$
    - *(5.4.3)* dynamic $\partial_{\nabla_\varphi}\equiv\{\nabla_\varphi{}^\lambda,\nabla_\varphi{}^\mu\}\forall\lambda,\mu$
- *(5.5)* Disparities distortions ∂_Λ :
    - *(5.5.1)* systemic $\partial_{\Lambda_s}\equiv\{\Lambda_s{}^\lambda,\Lambda_s{}^\mu\}\forall\lambda,\mu$
    - *(5.5.2)* relational $\partial_{\Lambda_\rho}\equiv\{\Lambda_\rho{}^\lambda,\Lambda_\rho{}^\mu\}\forall\lambda,\mu$
    - *(5.5.3)* dynamic $\partial_{\Lambda_\varphi}\equiv\{\Lambda_\varphi{}^\lambda,\Lambda_\varphi{}^\mu\}\forall\lambda,\mu$
- *(5.6)* Topological distortions $\partial_t\equiv\{\partial_{t\ pr},\partial_{t\ pe}\}$:
    - *(5.6.1)* between prospectives $\partial_{t\ pr}\equiv\{\delta(\{œ'^{1\ \lambda/k}_i\},\{œ'^{1\ \mu/k}_i\}),\forall i,\lambda,\mu,k\}$
    - *(5.6.2)* between perspectives $\partial_{t\ pe}\equiv\{\delta(\{œ^{1\ \lambda/k}_i\},\{œ^{1\ \mu/k}_i\}),\forall i,\lambda,\mu,k\}$
- *(5.7)* Conflictuality distortions $\partial_C\equiv\{\delta(C^\lambda,C^\mu),\forall\lambda\neq\mu\}$.

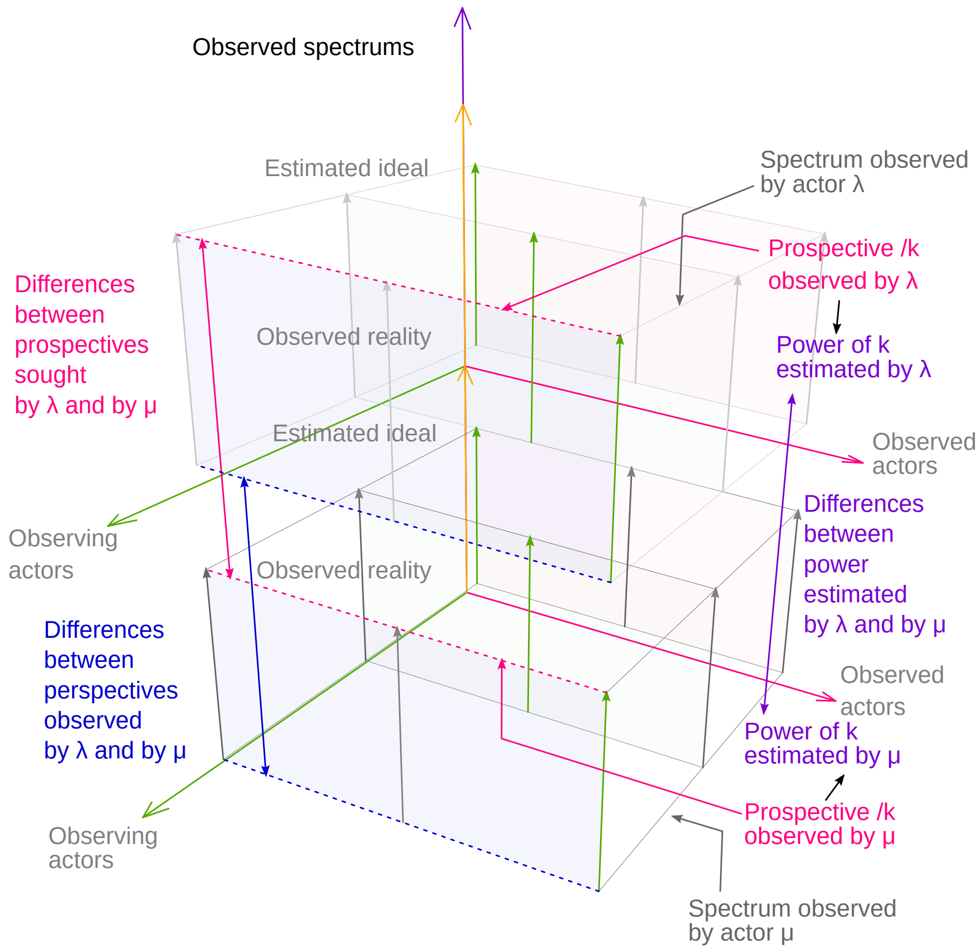

Figure 11: Matrix, power perception and distortions

2 Models extensions

2.1 Formalization of the notion of diversity

Perspective $\theta^2/G^2, \ae^2\equiv(\theta^1_1,...,\theta^1_p), V^2/$, a view $V^2\equiv\{V^2_\delta, V^2_\varphi, V^2_\sigma\}$ contains the subview :

- *(2.4)* Variances $\sigma\equiv V^2_\sigma\equiv\{\delta(Vg^0_{\omega_n i}, Vg^0_{\omega_m j}), i\neq j, \forall n,m,\omega\in\{s,e,t,n,a\}\}$ between non-cindynogenic counterparts of two real actors i and j,

Spectrum $\theta^4/G^4,(\theta^{3/1},...\theta^{3/N}),V^4/$, a view $V^4\equiv\{\Lambda_s,\Lambda_\rho,\Lambda_t,\Lambda_\varphi,\nabla_s,\nabla_\rho,\nabla_t,\nabla_\varphi,V^4_c,\{V^{4/k}_p\},\mathcal{D}\}$ including :

- *(4.5)* **Diversity** $\mathcal{D}\equiv f(\{\sigma^{/k}\},\{\delta'^{/k}\},1/\nabla),\forall k$, a function increasing with variances and tolerances, and decreasing with divergences.

2.2 bottom-up construction of collective actors

An individual actor i is described (with an arbitrary chaining index 0) as : $D^0_{A_i}/G^0_{A_i}, \ae^0_{A_i}...V^0_{A_i}/$,

(*1b*) A set of individual actors $\{D^0_{A_i}/G^0_{A_i}, \ae^0_{A_i}...V^0_{A_i}/\}$ enables the description of a **collective actor** :

$D^1_\Sigma/G^1_\Sigma, \ae^1_\Sigma=\{D^0_{A_1},D^0_{A_2},...D^0_{A_N}\},V^1_\Sigma/$, where V^1_Σ is composed of :

- a set of views for each individual actor $\{V^0_{A_1}, V^0_{A_2}, \ldots V^0_{A_N}\}$
- and V^1_C , a subview composed of view-aspects that does not exist in respect to each isolated individual actor.

A set of collective $\{D^1_{\Sigma_i}\}$ or individual $\{D^0_{A_i}\}$ actors enables the description of a collective actor in the same way : $D^2_\Sigma / G^2_\Sigma, æ^2_\Sigma = \{\{D^0_{A_i}\}, \{D^1_{\Sigma_i}\}\}, V^2_\Sigma /$, this process can be recursively applied.

2.3 Formalization of the notion of *pouvoir* over a collective actor

The relative situations $\theta^{3/\Sigma_i} / G^{3/\Sigma_i}, æ^{3/\Sigma_i}, V^{3/\Sigma_i} /$ (i=1… M) of a set collective actors $D^1_{\Sigma_i}$ compose a spectrum $\theta^4 / G^4, æ^4 = \{æ^3_{\Sigma_1}, \ldots æ^3_{\Sigma_M}\}, V^4 /$ where each actor has a power P^{4/Σ_i}

An individual actor (or infra-collective) D^0_{Ap} being part of a collective actor $D^1_{\Sigma_1}$ is called '*pouvoir* actor' (or '*pouvoir*') of $D^1_{\Sigma_1}$ if he is granted or has seized ***pouvoir***, defined as the ability to use or steer the power P^{4/Σ_1} of $D^1_{\Sigma_1}$.

The relative situation $\theta^{3/Ap} / G^{3/Ap}, æ^{3/Ap}, V^{3/Ap} /$ of a *pouvoir* actor D^0_{Ap} can be incorporated into a hybrid spectrum $\theta^4 / G^4, æ^4 = \{æ^3_{Ap}, æ^3_{\Sigma_1}, \ldots æ^3_{\Sigma_M}\}, V^4 /$ where he is endowed with the power P^{4/Σ_1} ,
which highlights divergences and disparities between D^0_{Ap} and $D^1_{\Sigma_1}$, these divergences being an important factor of insurrectional potential.

2.4 Constructions of powers estimates and aspectual disparities

The power estimated by an observer is an element of the epistemic dimension V^1_e of his Hyperspace V^1_H .

This element is described by : $D^0_{eP} / G^0_{eP}, æ^0_{eP}, V^0_{eP} /$, where V^0_{eP} is composed of only one view-aspect Vg^0_{eP} .

$æ^0_{eP}$ can be split into sub-elements $\{D^{-1}_{eP_j} / G^{-1}_{eP_j}, æ^{-1}_{eP_j}, V^{-1}_{eP_j}\}$, where :

each view $V^{-1}_{eP_j}$ is composed of only one view-aspect $Vg^{-1}_{eP_j}$, a set of such view-aspects is composed of:
- a view-aspect for the calculus formula,
- a view-aspects for each factor used in the calculus of power,
- and a view-aspect for the calculated power.

The power views on an observer k observed by an s-observer λ : $V^{0\ \lambda/k}_{eP} \equiv \{Vg^{-1\ \lambda/k}_{eP_1}, Vg^{-1\ \lambda/k}_{eP_2}, \ldots Vg^{-1\ \lambda/k}_{eP_{N(\lambda)}}\}$ and observed by an s-observer μ : $V^{0\ \mu/k}_{eP} \equiv \{Vg^{-1\ \mu/k}_{eP_1}, Vg^{-1\ \mu/k}_{eP_2}, \ldots Vg^{-1\ \mu/k}_{eP_{N(\mu)}}\}$ may change with selected factors and calculus formulas : an **aspectual disparity** is defined as this difference between the constructions of this view :

$\delta_a(V^{0\ \lambda/k}_{eP}, V^{0\ \lambda/k}_{eP}) \equiv \delta_a(\{Vg^{-1\ \lambda/k}_{eP_1}, Vg^{-1\ \lambda/k}_{eP_2}, \ldots Vg^{-1\ \lambda/k}_{eP_{N(\lambda)}}\}, \{Vg^{-1\ \mu/k}_{eP_1}, Vg^{-1\ \mu/k}_{eP_2}, \ldots Vg^{-1\ \mu/k}_{eP_{N(\mu)}}\})$.

3 Links between MCR and non MCR notations

MCR Notations		Non MCR notations
1.2	inter-aspect relationships $\rho \equiv V_\rho^1 \equiv \{\rho(Vg^0_{\alpha_n}, Vg^0_{\beta_m})\} \forall \alpha, \beta, n \sim m$	$\rho \equiv \{\rho(\alpha_n, \beta_m)\}$
2.1	dissonances $\delta \equiv V_\delta^2 \equiv \{\delta(Vg^0_{\omega_n i}, Vg^0_{\omega_m j}), i \neq j, \forall n \sim m, \omega \in \{s,e,t,n,a\}\}$	$\delta \equiv \{\delta(\omega_{n\,i}, \omega_{m\,j})\}$ cindynogenic
2.3	real flows $\varphi \equiv V_\varphi^2 \equiv \{\varphi(Vg^0_{\omega_n i}, Vg^0_{\omega_m j}), \forall i \neq j, n \sim m, \omega \in \{s,e,t,n,a\}\}$	$\varphi \equiv \{\varphi(\omega_{n\,i}, \omega_{m\,j})\}$
2.4	variance $\sigma \equiv V_\sigma^2 \equiv \{\delta(Vg^0_{\omega_n i}, Vg^0_{\omega_m j}), i \neq j, \forall n, m, \omega \in \{s,e,t,n,a\}\}$	$\sigma \equiv \{\delta(\omega_{n\,i}, \omega_{m\,j})\}$ non cindynogenic
1.2'	ideal relationships $\rho' \equiv V'^1_\rho \equiv \{\rho(Vg'^0_{\alpha_n}, Vg'^0_{\beta_m})\}$	$\rho' \equiv \{\rho(\alpha'_n, \beta'_m)\}$
2.1'	tolerances $\delta' \equiv V'^2_\delta \equiv \{\delta(Vg'^0_{\omega_n i}, Vg'^0_{\omega_m j})\}$	$\delta' \equiv \{\delta(\omega'_{n\,i}, \omega'_{m\,j})\}$ non cindynogenic
2.3'	ideal flows $\varphi' \equiv V'^2_\varphi \equiv \{\varphi(Vg'^0_{\omega_n i}, Vg'^0_{\omega_m j})\}$	$\varphi' \equiv \{\varphi(\omega'_{n\,i}, \omega'_{m\,j})\}$
	deficits	
3.1	systemic $\Delta_s \equiv \{\delta(Vg^0_{\omega_n\,i}, Vg'^0_{\omega_n\,i}), \forall \omega, n, i\} \equiv \{\Delta_{sk}, \Delta_{sa}\}$	$\Delta_s \equiv \{\delta(\omega_{n\,i}, \omega'_{n\,i})\}$
3.2	relational $\Delta_\rho \equiv \{\delta(\rho(Vg^0_{\alpha_n i}, Vg^0_{\beta_m i}), \rho(Vg'^0_{\alpha_n i}, Vg'^0_{\beta_m i})), \forall i, \alpha \neq \beta, n \sim m\}$	$\Delta_\rho \equiv \{\delta(\rho(\alpha_{n\,i}, \beta_{m\,i}), \rho(\alpha'_{n\,i}, \beta'_{m\,i}))\}$
3.3	dynamic $\Delta_\varphi \equiv \{\delta(\varphi(Vg^0_{\omega_n i}, Vg^0_{\omega_m j}), \varphi(Vg'^0_{\omega_n i}, Vg'^0_{\omega_m j})), \forall i, j, \omega, n \sim m\}$	$\Delta_\varphi \equiv \{\delta(\varphi(\omega_{n\,i}, \omega_{m\,j}), \varphi(\omega'_{n\,i}, \omega'_{m\,j}))\}$
3.4	topological $\Delta_t \equiv \delta(G^2, G'^2) \equiv \delta(\{æ^1_i\}, \{æ'^1_i\})$	$\Delta_t \equiv \delta(\{A_i\}, \{A'_i\})$
3.5	vulnerability $V \equiv f(\Delta_s, \Delta_t, \Delta_\rho, \Delta_\varphi, \delta, \delta_\rho)$ & $R \equiv 1/V$	$V \equiv f(\Delta_s, \Delta_t, \Delta_\rho, \Delta_\varphi, \delta, \delta_\rho)$ & $R \equiv 1/V$
3.6	actor vulnerability $V_i \equiv f_i(\Delta_s, \Delta_t, \Delta_\rho, \Delta_\varphi, \delta, \delta_\rho)$ & $R_i \equiv 1/V_i$	$V_i \equiv f_i(\Delta_s, \Delta_t, \Delta_\rho, \Delta_\varphi, \delta, \delta_\rho)$ & $R_i \equiv 1/V_i$
	divergences	
4.1.1	systemic $\nabla_s \equiv \{\delta(Vg'^{0/h}_{\omega_n i}, Vg'^{0/k}_{\omega_n i}) \forall i, j, \omega, k, n\}$	$\nabla_s \equiv \{\delta(\omega'^{/h}_{n\,i}, \omega'^{/k}_{n\,i})\}$
4.1.2	relational $\nabla_\rho \equiv \{\delta(\rho(Vg'^{0/h}_{\alpha_n i}, Vg'^{0/h}_{\beta_m i}), \rho(Vg'^{0/k}_{\alpha_n i}, Vg'^{0/k}_{\beta_m i})), \forall i, \alpha \neq \beta, n \sim m\}$	$\nabla_\rho \equiv \{\delta(\rho(\alpha'^{/h}_{n\,i}, \beta'^{/h}_{m\,i}), \rho(\alpha'^{/k}_{n\,i}, \beta'^{/k}_{m\,i}))\}$
4.1.3	dynamic $\nabla_\varphi \equiv \{\delta(\varphi(Vg'^{0/h}_{\omega_n i}, Vg'^{0/h}_{\omega_m j}), \varphi(Vg'^{0/k}_{\omega_n i}, Vg'^{0/k}_{\omega_m j})), \forall h, i, j, k, \omega, n \sim m\}$	$\nabla_\varphi \equiv \{\delta(\varphi(\omega'^{/h}_{n\,i}, \omega'^{/h}_{m\,j}), \varphi(\omega'^{/k}_{n\,i}, \omega'^{/k}_{m\,j}))\}$
4.1.4	topological $\nabla_t \equiv \{\delta(G'^{2/h}, G'^{2/k})\} \equiv \delta(\{æ'^{1/h}_i\}, \{æ'^{1/k}_i\}), \forall i, h, k$	$\nabla_t \equiv \delta(\{A'^{/h}_i\}, \{A'^{/k}_i\})$
	disparities	
4.2.1	systemic $\Lambda_s \equiv \{\delta(Vg^{0/h}_{\omega_n i}, Vg^{0/k}_{\omega_n i})\}$	$\Lambda_s \equiv \{\delta(\omega^{/h}_{n\,i}, \omega^{/k}_{n\,i})\}$
4.2.2	relational $\Lambda_\rho \equiv \{\delta(\rho(Vg^{0/h}_{\alpha_n i}, Vg^{0/h}_{\beta_m i}), \rho(Vg^{0/k}_{\alpha_n i}, Vg^{0/k}_{\beta_m i})), \forall i, \alpha \neq \beta, n \sim m\}$	$\nabla_\rho \equiv \{\delta(\rho(\alpha^{/h}_{n\,i}, \beta^{/h}_{m\,i}), \rho(\alpha^{/k}_{n\,i}, \beta^{/k}_{m\,i}))\}$
4.2.3	dynamic $\Lambda_\varphi \equiv \{\delta(\varphi(Vg^{0/h}_{\omega_n i}, Vg^{0/h}_{\omega_m j}), \varphi(Vg^{0/k}_{\omega_n i}, Vg^{0/k}_{\omega_m j})), \forall h, i, j, k, \omega, n \sim m\}$	$\Lambda_\varphi \equiv \{\delta(\varphi(\omega^{/h}_{n\,i}, \omega^{/h}_{m\,j}), \varphi(\omega^{/k}_{n\,i}, \omega^{/k}_{m\,j}))\}$
4.2.4	topological $\Lambda_t \equiv \{\delta(G^{2/h}, G^{2/k})\} \equiv \delta(\{æ^{1/h}_i\}, \{æ^{1/k}_i\}), \forall i, h, k$	$\Lambda_t \equiv \delta(\{A^{/h}_i\}, \{A^{/k}_i\})$
4.3	conflictuality $C \equiv f(\Lambda_s, \Lambda_\rho, \Lambda_t, \Lambda_\varphi, \nabla_s, \nabla_\rho, \nabla_t, \nabla_\varphi)$	$C \equiv f(\Lambda_s, \Lambda_\rho, \Lambda_t, \Lambda_\varphi, \nabla_s, \nabla_\rho, \nabla_t, \nabla_\varphi)$
4.4	Power $P \equiv \{P^{/k}\} \equiv \{V^{4/k}_p\}$	$P \equiv \{P^{/k}\}$
4.5	diversity $D \equiv f(\{\sigma^{/j}\}, \{\delta'^{/j}\}, 1/\nabla), \forall j$	$D \equiv f(\{\sigma^{/j}\}, \{\delta'^{/j}\}, 1/\nabla), \forall j$

	distortions	
5.1	Power $\text{ə}_P \equiv \{\delta(P^{\lambda/k}, P^{\mu/k})\} \equiv \{\delta(V_p^{4\,\lambda/k}, V_p^{4\,\mu/k}), \forall k, \lambda \neq \mu\}$	$\text{ə}_P \equiv \{\delta(P^{\lambda/k}, P^{\mu/k})\}$
5.2	prospectives $\text{ə}_{pr} \equiv \{\delta(Vg'^{0\,\lambda/k}_{\omega_n i}, Vg'^{0\,\mu/k}_{\omega_n i}), \forall \omega, n, i, \lambda, \mu, k\}$	$\text{ə}_{pr} \equiv \{\delta(\omega'^{\lambda/k}_{n\,i}, \omega'^{\mu/k}_{n\,i})\}$
5.3	perspectives $\text{ə}_{pe} \equiv \{\delta(Vg^{0\,\lambda/k}_{\omega_n i}, Vg^{0\,\mu/k}_{\omega_n i}), \forall \omega, n, i, \lambda, \mu, k\}$	$\text{ə}_{pe} \equiv \{\delta(\omega^{\lambda/k}_{n\,i}, \omega^{\mu/k}_{n\,i})\}$
5.6	topological $\text{ə}_t \equiv \{\text{ə}_{t\ pr}, \text{ə}_{t\ pe}\}$	$\text{ə}_t \equiv \{\text{ə}_{t\ pr}, \text{ə}_{t\ pe}\}$
5.6.1	between prospectives $\text{ə}_{t\ pr} \equiv \{\delta(\{æ'^{1\,\lambda/k}_i\}, \{æ'^{1\,\mu/k}_i\}), \forall i, \lambda, \mu, k\}$	$\text{ə}_{t\ pr} \equiv \{\delta(\{A'^{\lambda/k}_i\}, \{A'^{\mu/k}_i\})\}$
5.6.2	between perspectives $\text{ə}_{t\ pe} \equiv \{\delta(\{æ^{1\,\lambda/k}_i\}, \{æ^{1\,\mu/k}_i\}), \forall i, \lambda, \mu, k\}$	$\text{ə}_{t\ pe} \equiv \{\delta(\{A^{\lambda/k}_i\}, \{A^{\mu/k}_i\})\}$
5.7	between conflictualities $\text{ə}_C \equiv \{\delta(C^\lambda, C^\mu), \forall \lambda \neq \mu\}$	$\text{ə}_C \equiv \{\delta(C^\lambda, C^\mu)\}$

Table 1: Correspondence MCR / non MCR notations

4 A chronology of the emergence of Relativized Cindynics concepts

2010	2011a	2013b	2017	2022a	2023b	2023d	2023e	
	Meta-situation	Matrix Spectrum	Hybrid spectrum		Elements ρ, ρ' φ, φ'	Fields		
δ	Diversity			NCID			δ_ρ variances tolerances Ɗ	Dissonances, tolerances and diversity
Δ	Δ_t				Δ_φ Δ_ρ			Deficits
	∇_s ∇_t				∇_φ		∇_ρ	Divergences
		Λ Λ_t		Λ_a	Λ_φ		Λ_ρ	Disparities
			δP	δC		∂_P ∂_C ∂_{pe} ∂_{pr}		Distortions
	Power Conflictuality				*Pouvoir*		Factual and observational time Factual and observational horizon	

Table 2: Chronology of Relativized Cindynics concepts

5 References : articles describing or using the concepts listed in Table 2

2023e 10/08/23 COHET, Pascal. *Situations et mesures non consensuelles*. IFREI, 10 August 2023

2023d 11/07/23 COHET, Pascal. *Cindyniques Relativisées et lutte d'influence stratégique : champs d'influence et flux informationnels*. IFREI, 11 July 2023

2023b 21/06/23 COHET, Pascal. *Infracindynique et structuration fine des modélisations cindyniques*. IFREI, 21 June 2023

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2022c 30/11/22 COHET, Pascal. *Matrices SWOT et Cindyniques Relativisées : dynamiques opérationnelles et Art de la guerre*. IFREI, 30 November 2022

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2012 08/05/12 COHET, Pascal. *Approche infocindynique des crises financières et économiques : Lutte cognitive, étiologie des situations ante-crises et opérateurs de transformation pré-catastrophique*. IFREI, 8 May 2012

2011b 31/08/11 COHET, Pascal. *Cindyniques et Art de la guerre, Infocindynique et Ultraguerre : La convergence cachée des sciences du danger et de la pensée stratégique chinoise.* IFREI, 31 August 2011.

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