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Which Equality?
How equal are equal human beings?

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ThinkArt Lab Glasgow

Abstract

"All human beings are equal". What does "equal" mean? What are the many definitions of "equal" and "equality"? From a Diamond perspective, concepts of sameness, from equality, similarity, bisimilarity to hetero-morphism and more are sketched in respect to their usage in ethical discourses, e.g Human Rights, of mono-, multi- and trans-cultural formations. What happens in such scenarios to the Golden Rule? The family of mankind? The brotherhood?

1. Interdependency of context and composition

Life under the regulation of *equality* has stopped to be funny. To do the same, which can have strictly different meanings and significance, can end up in prison, deportation or execution if judged by identity-trained forces and institutions of our free society.

The following short study might be wrong in time. Things are still sub-human. The human rights not realized at all. On the other hand, what do we understand by equality if this term is defined only in a negative way, i.e. by exclusion of non-equality. Despite the wrong timing a conceptual effort to achieve a positive and constructive understanding of equality, anticipating futures to come, appears to be a reasonable entertainment.

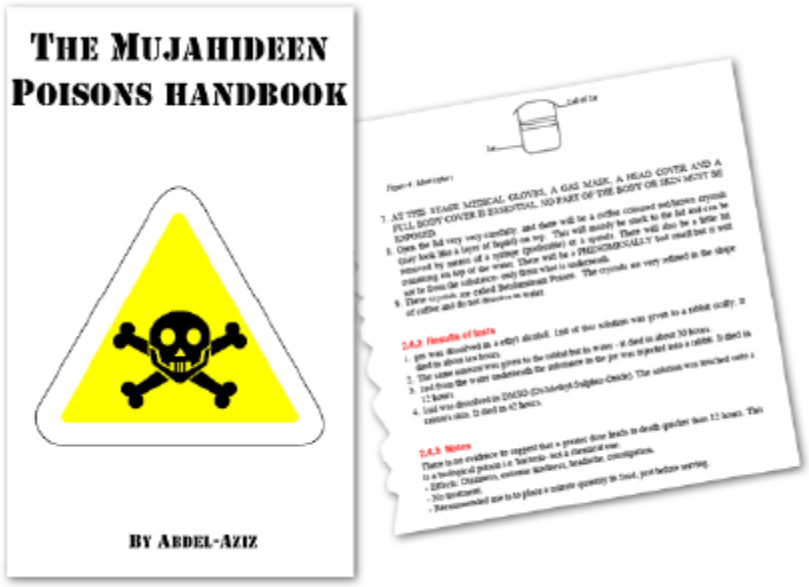
From Lyrical Babe to Lyrical Terrorist; first female victim of Terrorism Act 2000

How dangerous is **The Mujahadeen Poisons Handbook**, 23 pages long, written by Abdel-Aziz in 1996?

"Use 1.5 to 2 spatulas of fresh horse dropping (... cow dropping can be used if horse is not available.)"
"Leave the jar in a dark warm place . . . After ten days, if the preparation has been successful, and it won't have been, MEDICAL GLOVES, A MASK, A HEAD COVER AND A FULL BODY COVER IS ESSENTIAL." XX

http://freesaminamalik.blogspot.com/
Finaly: **'Lyrical terrorist' has conviction quashed'**
"However, other documents in her possession, including the al-Qaida Manual, the Terrorist's Handbook, the Mujahideen Poisons Handbook and several military manuals, clearly retain that potential. We therefore have no doubt that it was right to bring this prosecution." XX

The Handbook[3]. Courtesy to the FBI[4]. But beware of what you are doing! There are 8 chapters to download?



This had been the Dark Ages in Britain at 2005. Evolved from untrained poets to certified scientists, today's enemies of our society are demanding for much brighter advanced surveillance.

"It's extremely upsetting." Hicham Yezza

The Home Office has said it does not comment on individual cases.[5]

"The 30-year-old was detained by police for possessing a copy of the al-Qaida training manual that he had been given to print by a friend researching the terrorist group's techniques for his MA."

"A minute goes like an hour and an hour like a day inside a cell ...You lose all concept of day or night. There are no emotions: you can't cry, you can't laugh..." Rizwaaan Sabir
For six days, he was kept in prison without charge, under 24-hour surveillance and interrogated daily about his views on al-Qaida and Islamic literature.

Students today have not only to learn how to avoid plagiarism[7] but much more efficiently, how to self-censor their own thoughts and writings.

On the sixth day, without realising his freedom was imminent, he was told by a female police officer that the document he had looked at was deemed illegitimate for research purposes by the university, and if he ever looked at it again he could face further detention.[6]

When the same is different

If an action happens we have to ask in which context it happens. A diamond context is not pre-given as it is the case for Context Logic, it is *co-created* within the action which happens in the context the action happens. This is not a circular interdependency of *action* and *context* but hints to the *complementarity* of action and context.

That is, composition and context of composition are defined *interdependently* as acting complementarily to each other. There is no context without composition and there is no composition without context. In contrast to the concept of duality in formal systems, the concept of

complementarity is not yet well understood.

Context Logic is introducing contexts secondarily to compositions, hence as special attributes of propositions and logical operations. (Goddard[9])

Legal systems, which are not depending on extra-terrestrial sources, i.e. religion, metaphysics or similar, or on biologist speculations, like genetics or brain science, have to take the irreducible interdependency of *composition* and *context* of actions into account.

A very general and strong model of *composition* is realized with the mathematical Category Theory. Compositions of actions, regarded as mappings or morphisms, are defined by matching conditions of morphisms, commutativity and axioms of identity and associativity.

There is no conceptual space left by such a definition of composition for the *context* of categorical composition. That is, the conditions of the possibility of composition, its context, is not given with the composition but is pre-ordered to compositions as their axiomatic pre-conditions of compositions. Everything needed, like contexts, have to be introduced as a secondary step in the theory as an application of the theory on the base of the introduced definition of composition. But such a secondary concept of contexts has, as a second-level context, another systematic status than the primordial context of the pre-conditions of the axiomatics of compositions.

Context Logic, a hint

"A context is defined by a set of descriptions which give the time and place of utterance, the topic of conversation, the identifications made, and similar detailed information. Hence the context variables range over such sets." (Goddard)

Based on classical sentential logic, with its negation, conjunction, disjunction and implication connectives, a new context symbol θ, ranging over the classical symbols, is introduced. If p is a sentence, then p(c) is a sentence in context c, or "*p with respect to context c*."

To get a working formalism, a *world assumption* has to be accepted. Otherwise, the neat interchangeability of contexts in composed formulas wouldn't work. A context-formula like $(p(c) \vee q(c))$ couldn't export its context to $(p \vee q)(c)$.

The formula $(p(c) \vee q(c))(p(c) \vee q(c))$ is interchangeable with the formula $(p \vee q)(c)$, or as a formula:

$$(p(c) \vee q(c)) \equiv (p \vee q)(c).$$

$$(A(\theta) \circ B(\theta)) \rightleftharpoons (A \circ B)(\theta),\ \circ = \{\wedge, \vee, \Longrightarrow\}$$

$$\neg (A(\theta)) \rightleftharpoons (\neg A(\theta))$$

The rules for the sentential context logic are requiring the interchangeability of the context of the parts with the context of the whole of the composition.
In this situation, the single world assumption has to be introduced. Otherwise, formulas with mixed context symbols, cannot be treated in a direct intuitive and simple way. Hence the idea of context of this context logic is working on the base of a *general standard* context, only.

This hint should make it clear enough that the operation of composition, represented as a meta-variable, $\odot$, for the logical connectives, is, as such, not touched at all. That is, the logical operators, connectives, are not involved in any kind of environments or contexts. They are dealing, context-free, with contextualized sentences. Only in this respect, they are connected with anything like contexts. And even this is, again, restricted to a general standard context as the general notion of all

specific contexts.

Obviously, context logic is supposing a single world and a plurality of contextualized logics restricted to this single world, hence based on classical logic. The hierarchy is clearly established: first is logic, second context; both covered by a single contexture.

From a logical point of view the introduction of a context, local or global, is circular. A context is defined by attributes of a logic that is defined by the attributes of this logic that is defined by the context of this logic.
Today, such an approach to contexts is covert, more or less, by Modal Logic.

As far as I know, there is no other theory than the Diamond Category Theory, that is introducing composition as an irreducible and basic *complementarity* of context and composition. The context of composition and the composition of the context are in an interdependency interplay. Such an interplay is escaping the annoyance of logical circularity.

If we give up the single world hypothesis and are accepting a multitude of interacting worlds, represented as contextures, situations of sameness (equality), hence, have to be studied inside contextures, as *intra-contextural* morphisms, between contextures of a polycontextural constellation, as *trans-contextural* mappings, and between acceptional and rejectional configurations of contextures, as *diamondal* interactions.

next

2. Laws in mono-, poly- and transcultural formations

2.1. Mono-cultural formation

2.1.1. A message of equality

The Golden[10]Rule of Ethics is well placed in a mono-cultural setting. It even could be taken as a definition of mono-culturality along its rule of reciprocity.
In technical terms, reciprocity could be regarded as an isomorphism between two entities, relations or mappings.
But first, we learn from the tale of equality as it is given to us by Him.
Let's this story being told by one who knows and writes it well, John K. Williams[11]from the Acton Institute:

Before exploring this question, a prior question must be addressed. What is meant by the noun "equality," the adjective "equal," and other cognates?

*"Simply, the word "*equality*" and its cognates indicate a relationship between some quality or feature, two or more entities, or states of affairs. In respect of this quality or feature, the realities being compared are identical. Two pieces of wood might be equal in length.*
Suppose someone were to assert that "All human beings are equal." *Such a person is claiming that in terms of some quality or property or characteristic, all people are identical and thus* interchangeable. *But what quality, what property, what characteristic?*

I submit that it is impossible to specify any single physical, intellectual, or emotional characteristic that all human beings possess to the same degree. What strikes one about human beings is, surely, the uniqueness of each, not the sameness of all. [...]

"It does not help matters if, instead of claiming that all human beings are equal, one insists instead that all human beings ought to be treated equally.

Actually, devotees of "equality" can never be satisfied. People are objectively speaking "unequal": There is no quality, property, or characteristic-physical, intellectual, or emotional-that all human

beings possess to the same degree. [..]

"Indeed, maybe the expression, "all human beings," itself enshrines that elusive "something." I suggest the following. Simply by virtue of their shared humanity, all human beings are actually or potentially capable of formulating their own vision of the "good life" and are striving to make that vision a reality. All, actually or potentially, can initiate self-directed, purposive behavior, the object of which is the creation of a "good life." All, that is to say, bear the imago Dei.[...]

Hence, all enjoy equal human rights. The God-like capacity of an individual to be, albeit within limits, self-directing and self-determining cannot morally be trespassed upon by any other human being, however wise or however powerful. [...]

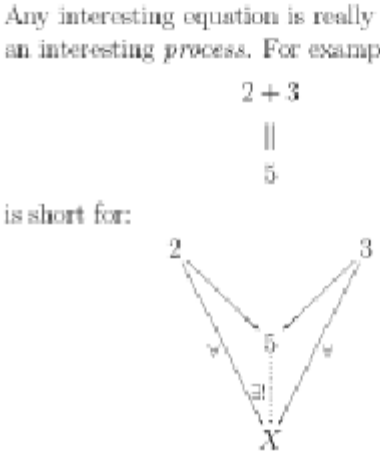
"This is the "equality" that matters, because this vision of human equality mirrors the equality that we human beings enjoy in the sight of God. He does not perceive us as identical clones. He knows each of us in his or her uniqueness.[...]

Is there any chance to define equality, or more generally, equivalence, in a mono-cultural environment without involving, as a *sine qua non* of conceptual consistency, God? Here the Christian God, obviously.
What happens to the poor guys, which are not equal and don't even believe in God?

2.1.2. A mathematical metaphor

Also in math, two entities are never equal, they are equal only up to isomorphism. And like in religion, the unique concept of the abstractness of isomorphism is guaranteeing diversity a unifying umbrella.

Take John Baez' example!



How is the arithmetical equation, 2+3=5, to read? The diagram gives an explanation of the processes involved into the addition. That is, for all numbers 2 of X and all numbers 3 of X there is exactly one number 5 of X representing the addition 2+3.
This is the classic operational or categorial approach to nummeric addition (Baez). It is contrasted to the equational formulation in axiomatic number theory.

Stripped off of the categorical arrows, the we get the arithmetic formula:

$$\forall n, m \in N, \exists ! l \in N : m + n = l$$
$$\forall 2, 3 \in N, \exists ! 5 \in N : 2 + 3 = 5$$
$$\forall 2, 3 \in N, \neg \exists ! 4 \in N : 2 + 3 = 4$$

Who is the lucky guy who has all these m's and n's in his pocket? Actual or potential?

Even with a very generous concept of togetherness as *equivalence*, the role of negation and the whole underlying logic of the argumentation and construction, is not offering enough negational complexity to deal with non-isomorphic situations properly.

There is still a clear logical symmetry, classical or intuitionist (constructivist), between the possible states of a statement. Morphisms are equivalent or they are not equivalent. That's it. Nothing more. This is obvious, if we consider the axiom of identity in category theory. Diamonds are based on

both, identity and difference, at once. Hence their objects are not self-identical units, i.e objects, but differential bi-objects.
Obviously, they are not covered by classical logic alone.
The classical mathematical metaphor for equality and equivalence is basically ruled by a single logical negation.
As we will see, multi-cultural formations are necessarily multi-negational systems.

2.2. Poly-cultural formation

2.2.1. From polysemy to polycontexturality

Was the mono-cultural formation clearly mono-centered, the multi-cultural formation is strictly pluri-centered. Multi-centered formations are first understood as polysemic, i.e. as having one reality but many different interpretations of it, depending on the point-view of observation.
This is the model, sociologists of post-modernism are mostly using. The problem is, that this model is running into difficulties to explain the interactions between different cultures. To solve the problem, the distinction of observer dependent objectivity and observer inaccessible objectivity, or simply between a plurality of societal cultures and a unique society independent nature is postulated.

Such a model is not much more than a secularized version of the theological model of the mono-cultural formation.
People of different culture are not only having different tastes or opinions, they have different world-views. But a world-view is including all cultural distinctions, from subjective opinions to the very understanding of nature.

But today, there is still no awareness into the consequences of such a multi-cultural formation for mathematical and logical studies, i.e. for math, logic and arithmetic as such.
We are still taught about the universal validity of mathematical thinking, and its independency from any cultural formation. This belief is well founded in Platonism or, the other way round, in dialectical materialism. Nevertheless, it is a belief for which no mathematical proof exists.
Hence, there is no reason to not to try it with the polycontextural option.

Contextures are neutral to distinctions like matter/mind, eternal/actual, material/formal, subjective/objective, etc.
Contextures are always disseminated, i.e. distributed and mediated, therefore, contextures are always involved into a poly-contextural interplay.
Each contexture is home for unrestricted formal systems, i.e. math, logic, arithmetic.
Because each contexture has its own logical negation, combined with its neighbor negations, polycontextural systems are multi-negational systems.

Therefore, the statement, *"this is not equal"*, demands for a specification of the polycontextural situation in which it is localized and which negations are involved.
Natural language might be natural but is not able to cover inn an operative way the complexity confronted. Natural languages are only producing unnatural confusions, mismatches and reasons to conflicts. What is needed are complex and dynamic artificial scriptures.

2.2.2. Multi-negational systems

In mono-cultural formations complex differences are also well known. A person can act in different institutions, can realize different roles. Human beings are abel to change nearly all their attributes, the are even able to change voluntarily their gender. But in all such cases, the identity of the ego is, more or less, stable and not touched by the change of their attributes, characters. The model still is the persona with its different masks, known from the Greek theater plays.

Hence, the different negations involved are not touching the personal uniqueness of the subject.

Different negations, as material negations, are ruling between the masks and not the persona.

Polycontexturality is opting for irreducible differences of the persona, the subjectivity of the subject, thus, its logical representation needs formally different negations.
The identity of an Ego in a mono-cultural formation is well defined as a single anti-thesis to its environment, short *It*, and gives the Ego highest security:

$$\neg\left(\neg\left(\text{Ego}\right)\right) = \text{Ego}.$$

Because of its mono-negationality, the path away from the Ego and back again to the Ego is the shortest possible path, only 2 negational steps of the same negation are enough to find back, no danger of getting lost in a labyrinth appears.

With a subjectivity split and divided into only two personae inside the interplay of subjectivity, two negations have to be applied:

$$\neg_i\left(\neg_j\left(\text{Ego}^{(2)}\right)\right) = \text{Ego}^{(2)},\ i = j,\ i, j \in \{1, 2\}$$

$$\neg_1\left(\neg_2\left(\neg_1\left(\text{Ego}^{(2)}\right)\right)\right) = \neg_2\left(\neg_1\left(\neg_2\left(\text{Ego}^{(2)}\right)\right)\right)$$

A 2-negtional system is producing a little permutational cycle. With some patience the negational procedure is quickly back to the beginning of the cycle.

In a post-modern world, with its fragmentation and pluri-centered polycontexturality, 2 differences are not good enough to survive its complexity. Hence, a general multinegational system is needed.

What's still not thematized is the architectonics of the complexion. With this little example, I presuppose a linearity of differences. Formally, it's about regular permutation groups.

$$\neg_i\left(\neg_j\left(\text{Ego}^{(3)}\right)\right) = \text{Ego}^{(3)},\ i = j,\ i, j,\ k \in \{1, 2, 3\}$$

$$\neg_1\left(\neg_3\left(\text{Ego}^{(3)}\right)\right) = \neg_3\left(\neg_j\left(\text{Ego}^{(3)}\right)\right)$$

$$\neg_1\left(\neg_2\left(\neg_1\left(\text{Ego}^{(3)}\right)\right)\right) = \neg_2\left(\neg_1\left(\neg_2\left(\text{Ego}^{(3)}\right)\right)\right)$$

$$\neg_2\left(\neg_3\left(\neg_2\left(\text{Ego}^{(3)}\right)\right)\right) = \neg_3\left(\neg_2\left(\neg_3\left(\text{Ego}^{(3)}\right)\right)\right)$$

The stipulation, that our persona has 3 irreducible different identities, leads to a little negational cycle, which its length, l=4!=24, could develop a kind of multi-phrenic Angst. Because this little loss of identity is well ruled by the negational rules, there is no need, neither for psychiatric help nor for uncontrolled over-reactions. Such multi-phrenic self-identity seems to be the constitution of subjectivity in a multi-cultured society. The classical solution to deal with such complexity is compartmentalization[12].

"Compartmentalization is a 'divide and conquer' *process for separating thoughts that will conflict with one another."* Divide and conquer is a strategy necessary if there is no mechanism of *mediation* available.

Despite the safety of "multi-phrenic" cycles, there are some first intriguing detours to experience:

A simple cycle :

$$\neg_1\left(\neg_3\left(\neg_1\left(\neg_3\left(\text{Ego}^{(3)}\right)\right)\right)\right) = \text{Ego}^{(3)}$$

or the other way round :

$$\neg_3\left(\neg_1\left(\neg_3\left(\neg_1\left(\text{Ego}^{(3)}\right)\right)\right)\right) = \text{Ego}^{(3)}$$

two other clean cycle :

$$\neg_1\left(\neg_2\left(\neg_1\left(\neg_2\left(\neg_1\left(\neg_2\left(\text{Ego}^{(3)}\right)\right)\right)\right)\right)\right) = \text{Ego}^{(3)}$$

$$\neg_2\left(\neg_3\left(\neg_2\left(\neg_3\left(\neg_2\left(\neg_3\left(\text{Ego}^{(3)}\right)\right)\right)\right)\right)\right) = \text{Ego}^{(3)}$$

now, mixed paths are leading back to Ego :

$$\neg_1\left(\neg_2\left(\neg_1\left(\neg_2\left(\neg_1\left(\neg_3\left(\neg_2\left(\neg_3\left(\neg_2\left(\neg_3\left(\text{Ego}^{(3)}\right)\right)\right)\right)\right)\right)\right)\right)\right)\right) = \text{Ego}^{(3)}$$

The Mandala of Negations, $m = 4$.

If the path of differential determination is defining the logical structure of the Ego, negation cycles of all kinds, are a minimal requisite to understand subjectivity in a multi-cultural society.

2.3. Trans-cultural formation

2.3.1. From polycontexturality to diamondization

Multi-cultural formations are well interacting with each others. Polycontextural systems are not only offering enough complexity and complication to realize their interactivity but they are also able to mutually mirror their environments.
As a metaphor we can say that subjects in multi-cultural formations are mirroring in themselves the complexity and interactivity of their environments.
The methods of such a mirroring of complexity are not set-theoretical unions or clusters but mediations. Therefore, from a logical and ontological point of view, the uniqueness of negation of an elementary contexture is guaranteed.

Diamondization

All that happens on the base of polycontexturality. A new intriguing feature appears with the insight into the limitations of the iterability of polycontextural operations. Each locus in a polycontextural constellation is complex, over-determined and dynamic, but it is not in itself divided, split, fractured, fragmented. That is, each contexture in a polycontextural system is in itself undivided, unique and its operation are open for unrestricted iteration. The same holds for the composition and combination of contextures to augment the complexity/complication of polycontextural systems.

Complexity of the polycontextural system, S, is augmented by accretion, complication by iteration.

$$\text{Accretion}: \forall\, m,\ n \in \mathbb{N} : D_{acc}\left(S^{(m,n)}\right) = S^{(m+1,n)}$$

$$\text{Iteration}: \quad \forall\, m,\ n \in \mathbb{N} : D_{iter}\left(S^{(m,n)}\right) = S^{(m,n+1)}$$

Also a combination of iteration and accretion of $S^{(m,n)}$ is demanding for a 2-dimensional arithmetic system surpassing the 1-dimensional case of m-valued logical systems, the augmentation is still uni-

directional, and is not involved in any kind of antidromic and retro-grade counter-movements as it is the case for diamond systems.

A strictly multi-cultured subject is not only taking part in different cultures, as a postmodern multi-culti person from a specific origin, or a person wearing different hats, it is fractured at its very origin. There is no single origin but a multiplicity of origins, which means, there is no origin in the original sense of the word.

"From the beginning, a translocal multi-identiy web and a recursiveness of identity recreation, a being between and astride cultures and moving across languages and visual contextures set side by side, imply a second-order perspective, an experiential metacultural sensibility." (Stefan Arteni[13])

"Pastior[14] says translation is simply not possible - "the wrong word for a process that does not exist..." (Oskar [15])

Diamond category theory is attempting to conceptualize and formalize such a parallax configuration of self-awareness.

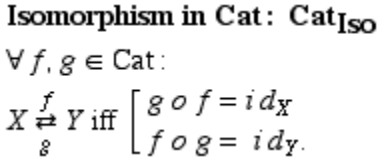
2.3.2. The joy of the parallax

Multi-lingualism is a great thing which should be supported by the educational systems. Not only for surviving in a global economy but also to get prepared to enjoy the undecidable in-betweenness, the sign-less abyss between languages.

As a young child, my italian grandmother told me to buy "*latte*". The situation made it crystal clear that I should go to buy milk. Nevertheless, the whole, quite long way to the shop, I was puzzled by the ambiguity of the word "*latte*", which means milk in Italian but also a piece of wood in Swiss German. On the way back I experienced more and more the awareness that it wasn't the ambiguity of the word "*latte*" which was mesmerizing me. In a bi- or tri-lingual situation it was, in fact, easy to switch from one language to the other without being puzzled at all. The point was the switch as such. The flip-flop of at once being both and neither the one nor the other. It was the tension between two languages which represented two very different cultures. And the insight into the gap as an exchange mechanism between languages. The switch between languages is not part of any language. It is the silent sign-lessness as a condition of any language.

2.3.3. Diamond equality

Equality, equivalence, sameness, etc is not defined as an attribute of an entity but as a composition of relations, morphisms or mappings as it is shown in Baez' diagram.
Like the equality of 2+3=5 is not more than an abbreviation of its composition of morphisms, sameness or isomorphism in general is defined by the composition of identity and morphism.



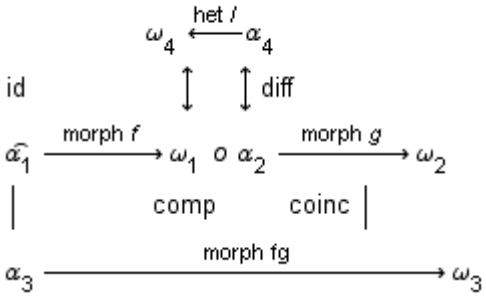
Like the equality of 2+3=5 is not more than an abbreviation of its composition of morphisms, sameness or isomorphism in general is defined by the composition of identity and morphism.

With this turn in the understanding of sameness (equality, equivalence, isomorphism, poly-morphism) as a construction by *composition* of mappings (morphisms), it is easy to introduce the difference between *categories* and *saltatories* of diamonds.

Diamond sketch

The novelty of diamonds is the introduction of a new relationship in the concept of composition, the hetero-morphism. Hetero-morphisms are based on the new operation of "difference" established on the target and the source of morphisms in a composition. Morphisms and their compositions belong to categories. Hetero-morphism and their jump-compositions (*saltisitions*) belong to *saltatories*. Both, categories and saltatories, are interplaying together *diamonds*.

Architectonics



The rules of diamond combinations are a) the rules of categories and b) the rules of saltatories and c) the rules of the interplay between categories and saltatories.
a) the rules of categories are the well known rules of identity, commutativity and associativity for morphisms and composition of morphisms.
b) the rules of saltatories are the complementary rules to categories: difference, jump-commutativity and jump-associativity for hetero-morphisms and saltisition of hetero-morphisms.
c) the rules of the interplay between categories and saltatories are the rules of bridging.

Objects in diamonds

Objects in what ever scenario are monadic units. They may have interesting structures, like in the paradigm of Object-Oriented Programming or in category theory, but nevertheless, they are not split, or fractured, i.e. "schizo-morph. Objects in diamonds are necessarily divided because they are belonging at once to two different and complementary systems, categories and saltatories. Hence they are called bi-objects.

bi – Object $\left[X,\ x\right]$

$\widehat{id}$
$x \in Salt$
diff
$\in Diam$
$X \in Cat$
$\widehat{id}$

Identity

$\forall f, X, Y, o \in Cat:$
$f\ o_{XXY}\ \mathrm{ID}_X = f = \mathrm{ID}_Y\ o_{XYY}\ f.$
$\forall l, x, y, \shortparallel \in Salt:$
$l \shortparallel_{xxy}\ \mathrm{ID}_x = l = \mathrm{ID}_y \shortparallel_{xyy} l.$

Difference

$Om Cat,\ Salt \in Diam:$
$\forall \left[X,\ x\right],\ \left[Y,\ y\right] \in Diam$
$\left[f, l\right] \left(o \shortparallel\right)_{\left[XYy,\ xyY\right]} \mathrm{DIFF}_{\left[y,\ y\right]}$
$= \left[f,\ l\right] =$
$\mathrm{DIFF}_{\left[y,\ Y\right]} \left(\shortparallel, o\right)_{\left[xyY,\ XYy\right]} \left[l,\ f\right].$

Identity is a mapping onto-itself as itself.

For each object X of a category an identity morphism, $\mathrm{ID}^{\left[X, X\right]}$, which has domain X in the category and codomain X in the same category exists. Called ID^{X} or id^{X} for $\mathrm{ID}^{\left[X, X\right]}$.

For each object x of a saltatory an identity morphism, $\mathrm{ID}^{\left[x, x\right]}$, which has domain x in the saltatory and codomain x in the same saltatory exists. Called ID^{x} or id^{x} for $\mathrm{ID}^{\left[x, x\right]}$.

Difference is a mapping onto-itself as other.
For each object X of a category a difference morphism, $\mathrm{DIFF}^{\left[X, x\right]}$, which has domain X in the category and codomain x in the saltatory exists. For each object x of a saltatory a difference morphism, $\mathrm{DIFF}^{\left[x, X\right]}$, which has domain x in the saltatory and codomain X in the category exists.
For each cat-object X an identity ID^{X} in Cat(X, X), For each salt-object x an identity ID^{x} in Salt(x, x) exists. And, for each bi-object [X, x] a difference $\mathrm{DIFF}^{\left[X, x\right]}$ between Salt(x, x) and Cat(X, X).

There are no objects without identity; and there is no identity without objects. In category theory objects are pre-given. That is, the wording *given A and B, ...* holds.
Presupposed the identity of objects, an identity morphism can be established.
As there are no morphisms without objects, there are no objects without morphisms. This might be trivial, conceptually obvious, but this fact is not having a proper formalization. All starts with objects, in the sense of *given A and B, a morphism f: A -> B is introduced,* and for objects, an identity morphism, f: A -> A, holds.

3. Facets of togetherness

3.1. Modi of togetherness

Equality, non-equality, (identity/diversity)
Equivalence (isomorph)
Differentness (heteromorph)
Strangeness (xenomorph)

similarity/dissimilarity (differentness, distinctness, diversity, diverseness)
Selbigkeit/Gleichheit/Verschiedenheit,
exact the same, the same, the different (not the same)

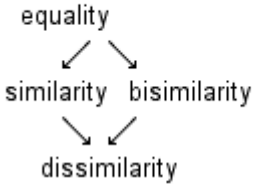
Non-differentness is not simply symmetric to differentness. Non-differentness might be non-equal, non-equivalent or non-strange but also equal, equivalent or strange.
Is there a hierarchy between the modi of togetherness? First equivalence, then differentness, then strangeness?
It seems that the different modi are not easily to compare.
Equivalence belongs to categories, only. Or to saltatories, only. Both in separation.
Differentness needs both, morphisms and hetero-morphisms, to realize its interactivity.
Strangeness is defined as an interplay between categories and saltatories.
This might suggest a systematic hierarchy from the formal point of view of diamond category theory, but not from the view-point of an explication of togetherness.

It could be mentioned that categories are part, together with saltatories, of diamonds. But a category as part of a diamond is essentially different from a alone standing category. Categories in diamonds are in the relationship of complementarity with saltatories. Complementarity is not a feature of categories, they are restricted to duality. Additionally, there are bridging rules, interplaying between categories and saltatories. Hence, a simple hierarchic subordination of categories to diamonds isn't accessible.

From another point of view, the terms might be in an order of successive non-comparability with equality at the bottom and strangeness on the top.

$$\left\{\begin{matrix}\text{identity}\\ \text{equality}\end{matrix}\right\} - \left\{\begin{matrix}\text{equivalence}\\ \text{similarity}\end{matrix}\right\} - \left\{\begin{matrix}\text{bisimilarity}\\ \text{non}-\text{equivalence}\end{matrix}\right\} - \{\text{dissimilarity}\}$$

Concept graph of dissimilarity:



3.1.1. Strange Wordings

In his strangeness he is one of us. Also he is not equal or equivalent to us, he might be different but not strange to us. Nobody is equal, some may be equivalent, most are different or strange. He might be strange to us but not necessarily different, albeit in no way equivalent.

3.2. Equality

Equality gets an *attribute* oriented definition based on set theory.
Two objects x and y are equal if and only if they have the same attributes P.

$$\forall x \forall y : x = y \iff P(x) = P(y)$$

What happens to two subjects, which are exact the same in respect to their attributes, but insist that they are entitled to be treated legally irreducibly different?
If all subjects are the same, i.e. as imago Dei, it shouldn't be a big deal to treat them the same, if they want to be treated exact the same way.

In a more realistic or actual setting, the ideology of equality occurs in our educational systems:

"Imposing one kind of school, one class and one syllabus on everyone, in an attempt to iron out those differences, has been tragically wrong. Encouraging everyone to think they can get a university degree is unforgivably discouraging to the majority of young people who can't and don't. The result has been a school system that suits almost nobody and public exams that mean almost nothing. As these two stories demonstrate, quality has been sacrificed to the pursuit of equality. It is shameful." (Minette Marrin)[16]

Obviously, the whole topic of equality can be considered formally in two directions: *emancipatorily* as a humanist project, upgrading subjects from their inequality (suppression, slavery, uneductatedness) or inequality, prospected as beyond former equality in the sense of a trans-humanist achievement. To deny such possibilities of surpassing the traditional concept of (anthropological and logical) equality is imposing a new slavery on human beings. Equality as opposed to inequality is always suppressing differences beyond the hierarchical distinction of equality and non-equality.

3.3. Similarity

Similarity (isomorphism) gets an *entity* and *relation* oriented definition based on categories (algebras).

"The basic philosophy is simple: never mistake equivalence for equality." (Baez[17]).

"One philosophical reason for categorification is that it refines our concept of '*sameness*' by allowing us to distinguish between isomorphism and equality.
In a set, two elements are either the same or different. In a category, two objects can be 'the same in a way' while still being different. In other words, they can be isomorphic but not equal. Even more importantly, two objects can be the same in more than one way, since there can be different isomorphisms between them. This gives rise to the notion of the 'symmetry group' of an object: its group of automorphisms." (Baez)

Isomorphism in Cat: $\mathbf{Cat_{iso}}$

$$\forall f, g, X, Y \in \mathrm{Cat}:$$

$$X \underset{g}{\overset{f}{\rightleftharpoons}} Y \text{ iff } \begin{cases} g \circ f = id_X \\ f \circ g = id_Y. \end{cases}$$

Similarity, i.e. equivalence is equality up to isomorphism. Hence, a strong liberalization of the entity driven forces of equality and its narrow form of sameness and togetherness. Equivalence is based on mappings (morphisms), sameness is not equality of attributes but isomorphism of structures. Such a structural sameness is enabling different domains to be treated as equivalent despite their inequality of entities and attributes. Morphism in this categorical framework are called *"structure-preserving"* mappings.
In contrast to hetero-morphisms and dissimilarities in saltatories of diamonds, isomorphism in

categories is realized in a uni-directional succession of steps without being involved into any jumps (saltisitions) and gaps.

3.4. Bisimilarity

Bisimilarity gets a *behavioral* (actional) oriented definition based on coalgebra.
Bisimilarity is not considering the equivalence of attributes, entities, predicates (for equality) or structure-preserving mappings (for equivalence) but the similarity of behaviors of a system. This approach of bisimilarity involves an epistemological change from observational *descriptions* to observational *interactions* (as experiments).

„By identifying two states with same external behavior, we get an extensional notion of equality, that can be captured by the following axiom:

Axiom 2.4. *Two states are considered equal if they cannot be distinguished by (a combination of) observations.*

Let us write $u \sim v$ if the states u and v are indistinguishable. It is easy to see that ~ ought to satisfy:

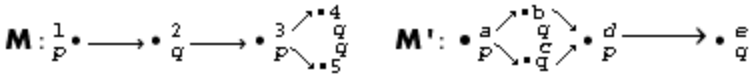
$$\frac{u \sim v}{h(u) = h(v) \;\wedge\; t(u) \sim t(v)}$$

To a user, again, the state may remain hidden, it is irrelevant, as long as the automaton implements the desired regular expression. Again, two states may be identified, if they behave the same way on the same input, which is to say, if they cannot be distinguished by *any* observation.“ (Peter Gumm[18])

Bisimulation - the Basic Case
We first give the definition for the basic modal language.
Let **M** = (W, R, V) and **M´**= (W´, R‘, V‘) be two models.
A non-empty binary relation Z WxW‘ is called *bisimulation* between **M** and **M‘**
if the following conditions are satisfied:

(i) If wZw‘ then w and w‘ satisfify the same letters.
(ii) If wZw‘ and Rwv, then there exists v‘ (in **M‘**)
such that vZv‘and R‘w‘v´ (the forth condition).
(iii) The converse of (ii): if wZw´and R‘w‘v‘,
then there exists v (in **M**) such that vZv‘and Rwv (the back condition).

Example:
The two models **M** and **M’** are bisimilar.
Z = {(1,a), (2,b), (2,c), (3,d), (4,e), (5,e)}



"To show the bisimilarity of **M** and **M’**, we define the relation Z. Condition (i) of our definition is satisfied: Z-related states make the same propositional letters true. Moreover, the back and forth conditions are satisfied too: any move in **M** can be matched by a similar move in **M’**, and conversely.

The two models are showing the *same behavior* in respect to the relation Z, therefore they are bisimilar.
"Quite simply, a bisimulation is a relation between two models in which related states have identical atomic information and matching possibilities.”[19]

Therefore, two behavioral systems (subjects) are observationally equivalent, hence, interchangeable “black boxes” when they are bisimilar. Equality is replaced by *indistinguishability* of behaviors of a system (Peter Gumm[18]).

A summary of the comparison between (algebraic) *equivalence* and (coalgebraic) *bisimilarity* shows Gumm's table:

Duality	*Algebraic Type*	*Coalgebraic Type*
Data objects	constructions	observations
Equality	identical constructions	indistinguishability
Proofs	induction	coinduction
Semantic Domain	initial algebra	final coalgebra

The same is different, again

If two people behave the same, then they are considered as bisimilar, i.e. formally indistinguishable. Hence, if one person, an academic, is copying the *Handbook* and another person, a terrorist, is doing the same, then they are bisimilar. But this is obviously not only utter nonsense but a result of suppressive ideology based on the common value of equality! Because the definition of bisimilarity, similar to the attribute, entity and structure based definitions, holds if and only if ALL the behaviors are indistinguishable. This is a reasonable condition for mathematical and technical systems, but not for human behaviors. But for computerized global surveillance systems it might not make a big deal.

All the definitions of sameness given until now are not able to consider the otherness of the others in an interactional/reflectional interplay. The concept of dissimilarity (differentness, strangeness) in diamond category might help to shed some light into the abyss of the otherness and its interplay with sameness.

3.5. Dissimilarity

Dissimilarity gets an *interaction* oriented definition based on diamonds (algebras+coalgebras). In contrast to the established definitions of sameness and otherness as equality, equivalence, similarity and bisimilarity, dissimilarity is not gifted by a homogeneous compactness of its terms.

Without risks there is no dissimilarity. If in a classical definitorial domain something unpredictable happens it can only be something incorrect, wrong, nonsensical, or in a noble case, antinomic or paradoxical. The opposite of sameness is defined in negative terms as non-equivalent, non-isomorphic, etc.
In the arithmetical example above, 2+3=4, is not correct, i.e., wrong, and there is no further use of this negative result. It simply doesn't belong to the formal system.
Because of the distinction of categories and saltatories in diamonds, the scenario of sameness and otherness gets an intriguing complex treatment.

3.5.1. General facets

Diamond theory is dealing with the interplay between categories and saltatories, hence, the elementary situation is not a single morphism but the interaction of the selected morphism and its two corresponding, i.e., interacting hetero-morphisms based on identity and difference operations. That is, the domain and the codomain of the selected morphism has to consider the corresponding domain and codomain of the hetero-morphisms involved. This is ruled by the difference operation.

Heteromorphism in Salt: $\mathbf{Salt_{het}}$

$\forall\, l, m, x, y \in \mathrm{Salt}:$

$$x \underset{m}{\overset{l}{\rightleftharpoons}} y \text{ iff } \begin{bmatrix} m \amalg l = \mathrm{id}_x \\ l \amalg m = \mathrm{id}_y \end{bmatrix}$$

Hetero-morphism in saltatories are not as neatly pictured as isomorphisms in categories. The diagram is not modeling the jump (saltisition) between the two morpghism l and m. This is properly formalized by the corresponding formulas with the jump-operation "ıı".

It might be reasonable to start with 3 main differentiation of dissimilarity: samenes, differentness and strangeness.

Facets of diamond isomorphisms

1. Sameness (up to isomorphism)

$\forall f, g, X, Y \in Cat:$

$$\hat{X} \underset{g}{\overset{f}{\rightleftharpoons}} \hat{Y} \text{ iff } \begin{bmatrix} g \circ f = id_{[X,X]} \\ f \circ g = \mathrm{id}_{[Y,Y]}. \end{bmatrix}$$

2. Differentness (up to heteromorphismsss)

$\forall f, X, Y \in \mathrm{Cat}, \forall l, x, y \in \mathrm{Salt}:$

$$\begin{pmatrix} x \xleftarrow{l} y \\ \mathrm{diff} \updownarrow \quad \updownarrow \mathrm{diff} \\ X \xrightarrow{f} Y \end{pmatrix} \text{ iff } \begin{bmatrix} l \bullet f = \mathrm{diff}_{[X,x]} \\ f \bullet l = \mathrm{diff}_{[y,Y]} \end{bmatrix}$$

3. Strangeness (up to xenomorphism)

$\forall f, g, X, Y \in \mathrm{Cat}, \forall l, m, x, y \in \mathrm{Salt}:$

$$\begin{pmatrix} x \underset{m}{\overset{l}{\rightleftharpoons}} y \\ \updownarrow \mathrm{diff} \\ X \underset{g}{\overset{f}{\rightleftharpoons}} Y \end{pmatrix} \text{ iff } \begin{bmatrix} (g \circ f) \bullet (m \shortparallel l) = id_{[X,x]} \\ (f \circ g) \bullet (l \shortparallel m) = id_{[Y,y]} \end{bmatrix}$$

The concept of diamond sameness (isomorphism) is not solely dynamizing the realm of sameness, as it is the aim of category theory, but it is also inert-wined with the differentness and strangeness of otherness.

3.5.2. Differential facets

Categorical dissimilarity

Om Cat, Salt $\in$ Diam :

right – domain – Diss :

$$\begin{pmatrix} \widehat{X} \\ \updownarrow \text{diff} \\ X \underset{g}{\overset{f}{\rightleftharpoons}} Y \end{pmatrix} \text{iff} \begin{bmatrix} (g \circ f) \bullet id_X = id_{[X,X]} \\ id_X \bullet (f \circ g) = id_{[Y,X]} \end{bmatrix}$$

left – codomain – Diss :

$$\begin{pmatrix} \widehat{y} \\ \updownarrow \text{diff} \\ X \underset{g}{\overset{f}{\rightleftharpoons}} Y \end{pmatrix} \text{iff} \begin{bmatrix} (g \circ f) \bullet id_y = id_{[X,y]} \\ id_y \bullet (f \circ g) = id_{[Y,y]} \end{bmatrix}$$

right – left – Diss :

$$\begin{pmatrix} \widehat{x} & \widehat{y} \\ \updownarrow \text{diff} & \updownarrow \\ X \underset{g}{\overset{f}{\rightleftharpoons}} Y \end{pmatrix} \text{iff} \begin{bmatrix} id_y \bullet (g \circ f) \bullet id_X = id_{[X,X,y]} \\ id_X \bullet (f \circ g) \bullet id_y = id_{[Y,y,X]} \end{bmatrix}$$

A complementary picture of the interplay between categories and saltatories in respect of sameness/otherness is produced from the complementary point of view of hetero-morphisms.

Saltatorical dissimilarity

Om Cat, Salt $\in$ Diam :

right – domain – Diss :

$$\begin{pmatrix} x \underset{m}{\overset{l}{=\!=}} y \\ \updownarrow \text{diff} \\ \widehat{X} \end{pmatrix} \text{iff} \begin{bmatrix} (l \shortparallel m) \bullet id_X = id_{[X,X]} \\ id_X \bullet (m \shortparallel l) = id_{[X,y]} \end{bmatrix}$$

left – codomain – Diss :

$$\begin{pmatrix} x \underset{m}{\overset{l}{=\!=}} y \\ \updownarrow \text{diff} \\ \widehat{Y} \end{pmatrix} \text{iff} \begin{bmatrix} (m \shortparallel l) \bullet id_Y = id_{[y,Y]} \\ id_Y \bullet (l \shortparallel m) = id_{[Y,y]} \end{bmatrix}$$

right – left – Diss :

$$\begin{pmatrix} x \underset{m}{\overset{l}{=\!=}} y \\ \updownarrow \text{diff} \updownarrow \\ \widehat{X} \quad \widehat{Y} \end{pmatrix} \text{iff} \begin{bmatrix} id_Y \bullet (m \shortparallel l) \bullet id_X = id_{[X,X,Y]} \\ id_X \bullet (l \shortparallel m) \bullet id_Y = id_{[Y,y,X]} \end{bmatrix}$$

Combined dissimilarities

Parallelized, categorical and saltatorical, dissimilarities.

$$\begin{pmatrix} x \underset{g'}{\overset{f'}{\rightrightarrows}} y \\ \updownarrow \text{diff} \quad \updownarrow \\ X \underset{g}{\overset{f}{\rightrightarrows}} Y \end{pmatrix} \text{iff} \begin{bmatrix} (g \circ f) \cdot (g' \circ f') = id_{[X,x]} \\ (f \circ g) \cdot (f' \circ g') = id_{[Y,y]} \end{bmatrix}$$

Interplay of composed categorical isomorphisms with a saltatorical heteromorphism.

$$\begin{pmatrix} y \underset{k}{\overset{i}{\rightrightarrows}} x \\ \updownarrow \quad \updownarrow \text{diff} \\ X \underset{g}{\overset{f}{\rightrightarrows}} Y \quad \circ \quad Y \underset{q}{\overset{p}{\rightrightarrows}} Z \end{pmatrix} \text{iff} \begin{bmatrix} [((g \circ f) \circ (q \circ p)) \cdot (l \shortparallel k)] = id_{[X,Y,x]} \\ [((f \circ g) \circ (p \circ q)) \cdot (k \shortparallel l)] = id_{[Y,Z,y]} \end{bmatrix}$$

Interplay of composed saltatorical heteromorphisms with a categorical isomorphism.

$$\begin{pmatrix} s \underset{m}{\overset{l}{\rightrightarrows}} r \qquad v \underset{k}{\overset{i}{\rightrightarrows}} u \\ \updownarrow \quad \updownarrow \text{diff} \\ X \underset{g}{\overset{f}{\rightrightarrows}} Y \end{pmatrix} \text{iff} \begin{bmatrix} [(m \shortparallel l) \cdot (g \circ f) \cdot (i \shortparallel k)] = id_{[r,X,u]} \\ [(l \shortparallel m) \cdot (f \circ g) \cdot (k \shortparallel l)] = id_{[s,Y,v]} \end{bmatrix}$$

Queer sameness

A further possibility of contemplating on dissimilarities in diamons is given by the transversal construction between objects and morphisms of categories and saltatories.

Transversal dissimilarity

$\text{trsv}_A : \text{diff}(A) \longrightarrow (B)$

$\text{trsv}_B : A \longrightarrow \text{diff}(B)$

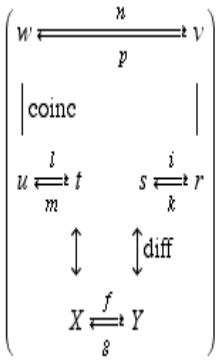
right – transversal – dissimilarity

$$\begin{pmatrix} \widehat{x} \\ \updownarrow \text{diff} \searrow \text{trsv} \\ X \underset{g}{\overset{f}{\rightrightarrows}} Y \end{pmatrix} \text{iff} \begin{bmatrix} \text{trsv}_{[x,Y]} \cdot \text{diff}_{[X,x]} = \text{id}_{[Y]} \\ \text{trsv}_{[x,Y]} \cdot (f \circ g) = \text{diff}_{[Y,x]} \end{bmatrix}$$

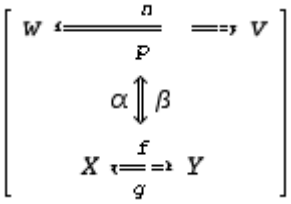
left – transversal – dissimilarity :

$$\begin{pmatrix} \widehat{y} \\ \text{trsv} \nearrow \updownarrow \text{diff} \\ X \underset{g}{\overset{f}{\rightrightarrows}} Y \end{pmatrix} \text{iff} \begin{bmatrix} (g \circ f) \cdot \text{trsv}_{[y,X]} = \text{diff}_{[y,X]} \\ \text{trsv}_{[X,y]} \cdot \text{diff}_{[y,X]} = \text{id}_{[X]} \end{bmatrix}$$

All the strangeness together



The different partial diamond isomorphisms are collected in the following diagram with its right-, left- and jump-diamond isomorphisms.
In this sense, the Diamond-Diss construction can be seen as a full diamond morphism, reflecting all parts of the mappings involved.



As a summary, a new abstraction, supporting a morphism between categories and saltatories,
$\alpha <=> \beta$, might be introduced.

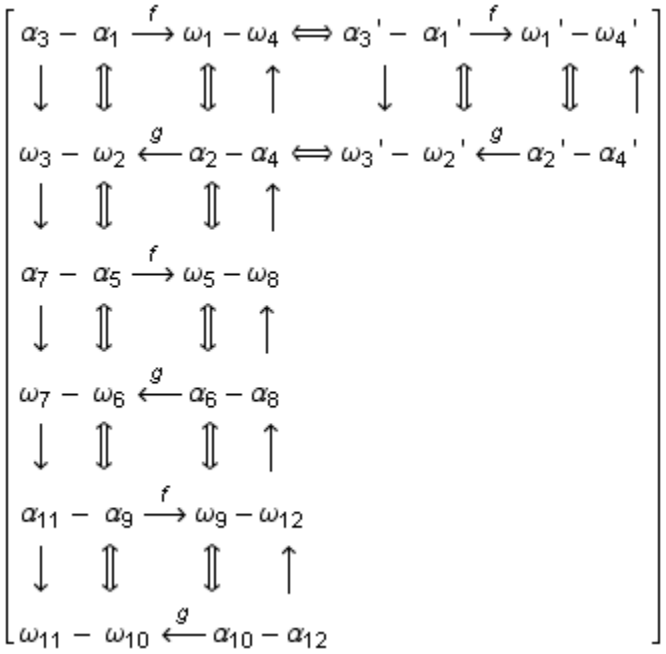
As a first trial we can state, the otherness of the others is dynamized between the case of simple differentness and the full diamond of dissimilarity. In-between, a highly differentiated system of strangeness is mediating both borders of dissimilarity.

How to apply?

With such an arsenal of differentiations in the concept of sameness, similarity and dissimilarity, it would be an interesting challenge to find concrete cases of ethical and legal situations and to apply the introduced distinctions to such cases. Not only a new methodology for legal and ethical orientations could emerge but also new insights into the diamond approach would be experienced.

3.6. Groups of Diamonds

The constructions developed up to now are related to the very concept of a single diamond. As much as morphisms are composed in category theory, diamonds are involved into combinations to grids of diamonds with *iterative* and *accretive* successions.



Obviously, *group ethics* or ethics for groups are not covered by our little Aristotelian apparatus of *identity* and diversity and its modus ponens, neither with more sophisticated systems like modal logic. This might be good enough for the human family and its hierarchical computing systems but will be of no use for an inter-planetary society of trans-humanity.

3.7. The paradox of simplicity

The world-view which has brought for the idea of Universal Human Rights is well based in the religious and scientific belief into simplicity. There is one and only one God, and there is one and only one law for the universe:

"So perhaps in the end there is the least to explain if I am correct that the universe just follows a single, simple, underlying rule*."* Stephen Wolfram[21]

It seems, that a single, simple *negation* is sufficient to describe, positively and negatively, the laws of ethics. Positively, for the mono-cultural formation. Negatively, for the poly-cultural formation, which is insisting, e.g. on the *non*-existence of a center.

It may be argued that the use of the word "non" is determining its meaning; and there are indefinite ways of using it. Hence, the word "non" is not to be reduced to a single negation, say a logical or ontological negation. This might be true. But the rules of the universe are not depending on conversations and sophisticated entertainment but on functioning operations.

What to do with the overwhelming richness of differentiation introduced by polycontextural and diamond systems? Polycontextural: the multiplicity of multi-negational systems and its disseminated logics and Modi ponens. Diamond grids: a societal and cosmological network of categorical and saltatorical interactions and reflections.

Obviously, the otherness which is emerging from those reflections and constructions is distinguished in its otherness from the concept of otherness of others, like Buber, Theunissen, Levinas, Derrida, Badiou and others. (Google-It!)

4. The Queer World of the Golden Rule

4.1. Dissemination of GR

4.1.1. Parallelisms

The Golden Rule, as a Movement

The Golden Rule and its connection to logic is well studied by many scholars. Gensler gives a good example to get the messages together, again.

"What is formal ethics[22] about?
Formal ethics is the study of formal ethical principles.
The most important such principle is the golden rule: "Treat others as you want to be treated."
Other examples include "Be logically consistent in your beliefs," "Follow your conscience," and "Make similar evaluations about similar cases." These principles are useful -- but lead to absurdities if taken in an overly simple manner.

"The golden rule ("Treat others as you want to be treated") is an example of a formal ethical principle. We can express it using variables and constants -- roughly as "If you want X to do A to you, then do A to X."

"The golden rule[23] is best interpreted as saying:
"Treat others only in ways that you're willing to be treated in the same exact situation."
To apply it, you'd imagine yourself in the exact place of the other person on the receiving end of the action. If you act in a given way toward another, and yet are unwilling to be treated that way in the same circumstances, then you violate the rule."

Watch the video[24]!

The Golden Rule[25] is becoming a vibrant topic in ethics organizations and promoter of the Christian religion.

Golden Rule Conference[26], 2008

"Treat others only in ways that you're willing to be treated in the same exact situation."
The logical laws as they have been stated by Aristotle in his Metaphysics sounds quite similar:
"*It is impossible for the same thing to belong and not belong simultaneously to the same thing in the same respect."* (Met.)

Both statements are referring to the *"exact same situation"* (Gensler), *"in the same respect"*(Aritotle) as a necessary condition to define sameness of objects (actions, things).
Hence we are back again at the interpretation of "sameness", "otherness" and "modus ponens" and their involvement into logical circularity.

4.1.2. Distributed GRs and Modi Ponens

For a ***mono-cultural*** formation the logical Modus Ponens takes the form as we know it from Aristotle.

Modus ponens of classical Logic :

$$\text{If } A \in ag, \left(A \longrightarrow B\right) \in ag, \text{ then } B \in ag$$

$$\text{MP} - \text{Rule}: \frac{A,\ A \longrightarrow B}{B}$$

The modus ponens is ruling linear chains in *a* single contexture.

For a ***poly-cultural*** formation, a *dissemination* of the Modus Ponens into distributed contextures has to be taken into account.

$$\frac{A^1,\ A^1 \longrightarrow B^1 \ \big|\ A^2,\ A^2 \longrightarrow B^2 \ \big|\ \ldots \ \big|\ A^n,\ A^n \longrightarrow B^n}{B^1 \qquad \big|\ B^2 \qquad \big|\ \ldots\ \big|\ B^n}$$

$$\text{Distributed MP} - \text{Rule}: \frac{A,\ A \longrightarrow B \ \|\ A,\ A \longrightarrow B \ \|\ \ldots \ \|\ A,\ A \longrightarrow B}{B \quad \| \quad B \quad \| \ \ldots\ \| \quad B}$$

This example is emphasizing on the *distributed* parallelism of modi ponens only. Mediation rules are not involved. Presented in a matrix, only the diagonal systems are considered.

For a ***trans-cultural*** formation *interactional/reflectional* configurations of the Modus Ponens has to be taken into account. Such configurations are modeled by the matrix approach.

$$\begin{pmatrix} M & O1 & O2 & O3 \\ M1 & log1 & \square & \square \\ M2 & \square & log2 & log2 \\ M3 & log1 & \square & log3 \end{pmatrix} \begin{pmatrix} MP1 & \square & \square \\ \square & MP2 & MP2 \\ MP! & \square & MP3 \end{pmatrix}$$

This table illustrates a reflectional and an interactional configuration. Logic log1 is reflected at position (O1M3) as log1 and logic2 is interacting with system log3 at position (O3M2) as log2. Hence, the modi ponens, MP1 and MP2 are disseminated in a reflectional and a interactional mode in the framework of PolyLogics[27].

4.1.3. Transversality

Interactivity between GRs is transversal or queer to the intra-contextural steps of argumentations and is producing puzzling chiasms between its basic terms.
Intriguing situations can happen if we cross the border from one contexture to another, not forgetting that both are simultaneously holding their own modus ponens.

The core of modus ponens is a hypothetical proposition which consists of two parts, the *antecedence* and the *precedence*.
* If P, then Q.

P represents the antecedent and Q the precedent.
* If X is a man, then X is mortal.
Modus ponens takes a step further from the hypothetical to the factual:
* X *is* a man, hence X *is* mortal.

The linear order of hypothesis and modus ponens between antecedence and precedence gets into a *chiastic* circularity if played between different contextures. What is the antecendent in one contexture appears as a consequent in another contexture, and vice versa. Obviously, such a chiasm is not a circularity[28]in the sense of logical antinomies or the circulus creativus of second-order cybernetics.

4.2. Paradoxes of an Ethics for Others

4.2.1. Ethics for Others?

"human power borders on the inhuman; the human also endures the inhuman...humans bear within themselves the mark of the inhuman...their spirit contains at its very center the wound of non-spirit, non-human chaos atrociously consigned to its own being capable of everything" (Agamben[29],1999: 77)[30].

The ethics I'm hallucinating for, "*for other* futures *",* always included in its concept of humanity, what is called the *inhuman*, as an undenial constitutive part of humanity.

$$\text{pre}-\text{human} \leftrightarrow \left\{ \begin{array}{c} \text{human} \\ \updownarrow \\ \text{inhuman} \end{array} \right\} \leftrightarrow \text{post}-\text{human}$$

This chain is not necessarily a chronological chain. All parts are in fact simultaneously involved by a conceptual understanding of human beings and humanity. Hence the borders of the *human* are not essentially the *inhuman* with its *"non-spirit"* and *"non-human"* but the *pre-* and *post-human.* As long as the status of the "*non*" is not reflected, the distinction *"non-human"* remains vague and opens up omnipotent fantasies of *"being capable of everything".*

To understand the inhuman as a fact of the human condition is in no way accepting what inhuman happened in the name of the Übermensch ideology.

"Today I'm privileged thanks to G-d and you gallant fighting men. I'm here to reminisce, and reflect, and experience instant recollections of those moments. Those horrible scenes and that special instance when an Allied soldier outstretched his arm to help me up became my re-entrance, my being re-invited into humanity and restoring my inalienable right to a dignified existence as a human being and as a Jew. *Something, which was denied me from September 1939 to the day of liberation in 1945. I had no right to live and survived, out of 80 members of my family, the infernal ordeal of Auschwitz, Buchenwald, Ordruf, and its satellite camp Crawinkle and finally Theresinstadt Ghetto-Concentration Camp."* Rabbi Murray Kohn, Entry: bannedbycastro[31], May 31, 2008 2:09 AM

Ethics towards others, ethics for others, ethics of others. How could this be possible?
It seems to be impossible to propose an acceptable ethics for others. Others conceived as beings beyond human beings. At least it would simply be ridiculous if human beings would belief they could define what's ethical for beings which are beyond their own reachability. The situation is not less absurd and terrestrially provincial as the LINCOS project of inter-stellar communication. Nevertheless, there are many statements, in science, religion and SiFi, how non-human beings will or should behave and think ethically.

As we will learn, none of the sketched following positions from the *Lambda-man*, the *Pope* to *Asimov* is offering the Aliens a status of being fundamentally different to human beings. The Otherness of the Alien's otherness is reduced to the familiarity of the generous human family and its brotherhood in God.

4.2.2. The Lambda Power of the Lambda-man

The strongest arguments for a cosmological unity of intelligent beings is given by Philip Wadler. I always loved his belief in the Lambda Calculus. (Sushi's Logics)
I'm very happy to learn that Philip Wadler did the turn out of the purely academic scenario to a one-man show at the OOPSLA 2006.

"He came to OOPSLA in a spirit of *multiculturalism*, to be a member of a *broad church*, hoping to help us see the source of his faith and to realize that we often have alternatives available when we face language and design decisions."

There is no stronger argument in favor of the universalistic belief than that the *"visitors from an other place",* later they are called *Aliens*, are calculating in the very same mathematical framework as we human beings. They are all, wherever they are from, on SKI.

"Whether a visitor comes from another place, another planet, or another plane of being we can be sure that he, she, or it will count just as we do: though their symbols vary, the numbers are universal[32]. The history of logic and computing suggests a programming language that is equally natural.

The language, called lambda calculus, is in exact correspondence with a formulation of the laws of reason, called natural deduction. Lambda calculus and natural deduction were devised, independently of each other, around 1930, just before the development of the first stored program computer. Yet the correspondence between them was not recognized until decades later, and not published until 1980. Today, languages based on lambda calculus have a few thousand users. Tomorrow, reliable use of the Internet may depend on languages with logical foundations."

It is of no surprise that there is not always an easy way to contact the Lambda-man's *Alien-Category-Theory* Website[33].Thus, I have the pleasure to rely on a report from *Knowing and Doing, Reflections of an Academic and Computer Scientist* by Eugene Wallingford, October 28, 2006 8:05 PM

Church: The Origins of Faith[34]

"This idea, that logic and programming are equivalent, is universal. In the movie, *Independence Day*, the good guys defeat the alien invaders by injecting a virus written in C into its computer system. The aliens might not have known the C programming language, and thus been vulnerable on that front, but they would have to have known the lambda calculus!"

What the Java team needed was... the **lambda calculus**!
(At this moment, Wadler stopped his talk Superman-style and took off his business suit to reveal his Lambda-man[35]outfit. The crowd responded with hearty applause!) [...]
Wadler closed his talk by returning to the themes with which he began: *faith*, *evolution*, and *multiculturalism*."

As we can know from Sailor Moon[36]things beyond lambda calculus can be much funnier[37]!

4.2.3. The Pope: Aliens are Children of God

The Vatican has other arguments, for Christian believers probably even stronger, than the Lambda-man could imagine. OK, he is not a Christian but believes in another God.

"The Pope's astronomer, José Gabriel [38], a Jesuit priest, told L'Osservatore Romano that there would be nothing surprising about the existence of intelligent extra-terrestrials.
"Just as there is a multiplicity of creatures on Earth, so there could be other beings created by God [beyond it]," he said. The interview suggests that the Church's hierarchy may be paving the way to showing that Pope Benedict XVI is more open to the ideas of modern science than he has previously seemed to be."

For ordinary believers in God, like *Underthematrix*[39], there are similar arguments for Aliens too.

4.2.4. Asimov's Runaround Ethics

Some people still think that robots should mirror human qualities. Everywhere, even at art schools, students are programming humanoid behaviors. Programs able to write poetry, short stories and other things we know anyway. It was Bruce Sterling, then on a short visit at the Academy of Media Arts, Cologne, who surprised the students, proud of there electronic parrots, that he would like to hear something which he never heard before and which might be machinal, a property only machines can have.
In other words, robots are not designed or perceived as having, possibly or in future, behaviors, not paralleled to human nature.

Ethics of Robots
They were first introduced in his 1942 work of **Runaround**.

http://library.thinkquest.org/05aug/01158/laws.html

The Three Laws of Robotics are as follows:

1 A robot may not harm a human being, or, through inaction, allow a human being to come to harm.
2 A robot must obey the orders given to it by human beings,
except where such orders would conflict with the First Law.
3 A robot must protect its own existence, as long as such protection
does not conflict with the First or Second Law.

In a French translation, one of the character's thoughts translated into:
"A robot may not harm a human being, unless he finds a way to prove that in the final reckoning, the wrong he caused, profits humanity in general."

The Laws are an identifying theme within Asimov's fiction, appearing in the Foundation Series and other fiction related to it. Many other authors who use Asimov's fictional universe have adopted these Laws, and technologists within the Artificial Intelligence field are working to create real machines with some of the properties of the robots created by Asimov.

What can we learn? Neither strong mathematical science, nor authentic Christian belief, nor the creative fantasy of SiFi, is able or willing to imagine, that Aliens are Aliens and not the same as we human beings, i.e. wight of God. The Otherness of others, Aliens, Robots, Trans-humans, and others, has no chance to be accepted by humanity, as others.

Final consolation

The Pope got it right, the Lambda-man too. Asimov anyway. Aliens are like us, simply from different cultures, hence at home with us in our global multi-culturalism.

This has at least two great advantages. After all the wars on earth have ended, new and unlimited wars against our brothers in God can start; again. As it happened on Earth in the name of family and brotherhood in God and Science.

The other point is highly profitable too. We have not to learn too much alien. Our math, logic, arithmetic, belief systems, robot and computer technology, and much more, is universal and natural; valid for all creatures of God, human beings, robots and aliens. Hence, we can try to export our knowledge far beyond the Chinese Wall.

Fortunately, there is some hope left. The Aliens[40]could refuse the generosity to be domesticated by the human family. Or as a funny surprise, it could turn out that the human family is nothing more than a satellite of Alien cultures.

References&Notes

[1] http://www.dickdestiny.com/blog/2006/06/horse-dropping-or-cow-dropping-more.html

[2] http://www.guardian.co.uk/uk/2008/jun/17/uksecurity.ukcrime

[3] http://www.washingtonpost.com/wp-dyn/content/graphic/2005/08/05/GR2005080501187.htm

[4] http://www.disastercenter.com/terror/

[5] http://news.bbc.co.uk/2/hi/uk_news/england/nottinghamshire/7429025.stm

[6] http://www.guardian.co.uk/uk/2008/jun/11/uksecurity.terrorism

[7] http://www.thinkartlab.com/pkl/media/transMODULE/transMODULE.html

[6] Concerned about what he calls the climate of fear the government has created in Britain, which he says has in turn prompted a society of suspicion, Rizwaan feels the UK is becoming a place that does not allow a natural interest and involvement in politicisation.

"Police are paranoid that every Muslim who is young and has a beard and is slightly involved in politics is a national security threat," he says.

"I was a regular student who was researching a phenomenon we encounter in today's society." [...]

"They were quizzed by police for five hours ... they said to my personal tutor that if this had been a young, blond, Swedish PhD student, then this would never have happened. The investigating officers were making these statements when I was detention."
http://www.guardian.co.uk/uk/2008/jun/11/uksecurity.terrorism

[9] http://www.antiqbook.co.uk/boox/che/37085.shtml

[10] http://www.thinkartlab.com/pkl/media/Chez_Maxime/Chez_Maxime.html

[11] http://www.acton.org/publications/randl/rl_article_31.php

[12] http://changingminds.org/explanations/behaviors/coping/compartmentalization.htm

[13] http://www.saatchi-gallery.co.uk/yourgallery/artist_profile/Stefan+Arteni/6833.html

[14] http://www.burningdeck.com/catalog/pastior.htm

[15] http://www.youtube.com/watch?v=b1rfEszInjM

[16] http://www.timesonline.co.uk/tol/comment/columnists/minette_marrin/article4087616.ece

[17] http://arxiv.org/pdf/math.QA/9802029

[18] http://www.mathematik.uni-marburg.de/%7Egumm/Papers/Luatcs.ps

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[18] http://www.mathematik.uni-marburg.de/%7Egumm/Papers/Luatcs.ps

[21] http://www.wolframscience.com/nksonline/page-471-text-text-text

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[25] Jeff Wattles,THE GOLDEN RULE (Oxford, 1996)

[26] http://inside.bard.edu/tools/pr/fstory.php?id=1447

[27] http://www.thinkartlab.com/pkl/lola/PolyLogics.pdf

[28] http://www.thinkartlab.com/pkl/media/Fishes+Birds/Fishes+Birds.html

[29] Giorgio Agamben, Remnants of Auschwitz: The Witness and the Archive, trans. Daniel Heller-Roazen, Zone Books: New York, 1999.

[30] http://www.borderlands.net.au/vol2no1_2003/mills_agamben.html

[31] http://www.guardian.co.uk/commentisfree/2008/may/31/uselections2008.barackobama

[32] http://homepages.inf.ed.ac.uk/wadler/papers/natural/natural3.pdf

[33] http://wadler.blogspot.com/2008/04/alien-category-theory.html

[34] **Alonzo Church**
http://www.princeton.edu/~mudd/finding_aids/mathoral/pmc05.htm
http://libweb.princeton.edu/libraries/firestone/rbsc/aids/church/
Sushi's Logics
The ultimate power of the Lambda Calculus is the historical fact that it has succeded to create a community which is accepting this kind of beginning of an abstraction, accepting the common context, lexical scope of the calculus, and developing the endless research of this empire. The Church of Alonzo Church has its high sophisticated high priests and common priests where ever we need the pureness of the Crystal of the Static Universe.
This Crystal of the Static Universe has power to all Purist of this Globe: From the Roman-catholic Jesuits to the Presbyterian Protestants, the Jewish Orthodox and the mesmerized high priests of Digitalism; all are united in the trance of the secret power of the Ultimate and Eternal Lambda of Naturality."

"To fight fundamentalism we have to disperse the ultimate lambda power crystal into its powder. The ultimate pulverization of the powers crystal.

[35] http://www.cs.uni.edu/~wallingf/blog/archives/monthly/2006-10.html

[36] www.thinkartlab.com/pkl/media/SUSHIS_LOGICS.pdf
Maybe, SUSHI'S LOGICS, a collage/sabotage and patchwork&catalogue, is aimed at girls/young ladies (13-23 years old & more). One just got her degree in logic at Oxford university. It also can be considered as having some threads of a compendium for chiastic and subversive thinking and acting in a frozen world of digitalism.
A patchwork &catalogue of interplaying contextures doesn't need a narrative with its beginning and end, nor any drive and suspension to motivate the reader to invest his/her time.

[37] www.thinkartlab.com/pkl/lola/poly-Lambda_Calculus.pdf

[38] http://www.independent.co.uk/news/europe/popes-astronomer-insists-alien-life-would-be-part-of-gods-creation-828303.html

[39] "I watched Larry King Live and I think what I found most interesting is that this is the first time I've ever seen a story about aliens landing on a primetime CNN show. The other issue for me is this. I believe in God, the Creator and Author of all things and life. I believe that aliens are real because man cannot envision ANYTHING that has not already be created or brought into existence by God. Man can discover, and uncover (the theory of relativity, black holes, the genome project) but man cannot create. Man cannot imagine anything that does not already exist in the universal consciousness. So the idea that people "imagined" something that does not already exist is simply bizarre. God gave man life but he did not give him the power to create. What man is doing is simply uncovering the multiple levels of reality (dimensions) in the universe - nothing more." http://www.huffingtonpost.com/2008/05/29/alien-video-to-be-reveale_n_104043.html

[40] http://www.huffingtonpost.com/2008/05/29/alien-video-to-be-reveale_n_104043.html