„Free Will" – At the Limits of the Cognitive Science and Philosophy

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Abstract:

In this article I will explore the concept of „Free Will" at the limits of Cognitive Science and Philosophy. In the field of Cognitive Science I will discuss the writings of Humberto MATURANA and Heinz von FOERSTER, both classicists in this field. I will also discuss an article by Hans-Dieter KLEIN, "The Free Will", published in 2011 in the collected work „Sensory Perception. Mind and Matter", edited by F. G. Barth, P. Giampieri-Deutsch und H.-D. Klein. Then I will look at the unique article "Cognitive Science and Buddhist Philosophy. The Way of Phenomenology of Experiences" by SHIBA Haruhide and also the article "A Few Note on the 'Field of Between" by HASHI.

Key words: free will; at the limits of cognitive science and philosophy; mind and matter; comparative thinking; interdisciplinary procedure

Introduction: The Focus of the Problems

In our time it is common to think that Cognitive Science and Analytical Philosophy build a main stream at the reviewing and "ranking" of a scientific and philosophical value in an international area. Several scientists think that Philosophy will be replaced in the near future by cognitive science, brain physiology etc. This tendency is quite peculiar, but it is held uncritically by several natural scientists, as demonstrated here: : 'The "Free Will" cannot be valid as a relevant subject in Cognitive Science, because it cannot be proved by the biology what is the substance of the "will" and the "liberty, freedom" as a scientific fact of material.' Things of as such, which are provable, verifiable and reproducible were exclusively the states by biological and brain physiologist experiments in clarifying the question: how does the biological organism of human function in the environment? A profound and well known thinking method of natural scientific research that is currently since the 19th century.

Even if Schroedinger established the epoch-making discourse of the phenomenon of particle physics, he represented one of the ways of physicalist thinking. For example he states in his cognitive scientific writing, that the concepts of "will", "freedom", "mind" or spirit etc. cannot be defined in the natural science, what they are as the substantial and physical reality.[1] Only one proof can be advanced on a case by case basis, what kind of a disposition or behavior an individual shows whereby an interaction takes a place between one's physiological organism and the beings of the life circumstance. A similar way of thinking is shown by physicalists repeatedly[2]: One of them became evident in an international symposium given at the Austrian Academy of Sciences in Vienna 2007: Problematics of „Self", „free will", „self-consciousness" etc. are principally in bound of a phenomenon which cannot be clarified by pure natural science. In so far a common problem lacks between natural scientists and philosophers, it does not come any agreement by the problematic, what is the "Free Will". In so far I memorize, the discussion about this problematic in a common round by physicists and philosophers had gone over accompanied only by "one sided opinions". Members at that symposium did not find any effective argumentation – especially from the members of philosophy.

Hereby I would like to present several critical comments by realizing and "embodying" the reflections of philosophy. Namely, the actus of physicalists to execute and represent their argumentations is based on their *"free will per se".* In realizing of their own will, representative physicalists show the "free will execution" spontaneously in emphasizing of the priority of their physiologist opinions against philosophers. But, with regard of this phenomenon by cautious view, here takes a place a *pre-positioned knowledge in view of physiology per se. The latter is neither reflected nor worked out as a profound knowledge of the interdisciplinary cognition for itself/ as a cognition pro se.* To achieve the final position, namely the cognition *pro se,* several represents of physiology and physicalism are recommended intensively to reflect *their own position self-critically*, in so far they are highly intellectual and are able to examine their own thinking model in view of critical aspects of *another*

[1] Erwin Schrödinger, *Was ist ein Naturgesetz?,* Abs. 20, „Das Paradoxon der Willensfreiheit", München 1997.

[2] In another word is the physicalism a centralism of physics under the natural scientific disciplines an absolutism of the same. Not all physicists are physicalist. The latter is a specific thinking system in which the physics is absolutized. Hans-Dieter Klein, *Metaphysik*, Wien 2005, Kap. I. Hans-Dieter Klein, *Geschichtsphilosophie*, Wien 2005, Kap. I.3. a)

thinking discipline – like the *philosophy per se*.

In another word, the positioning and statements of physicalists are in query, because their consensus is verified only in the frame of physicalist and physiologist thinking. The verification is kept by omitting the critiques by any other aspects and viewpoints. Here we would like to discourse what the philosophy is, why the philosophy different is from cognitive science and what kind of merits is bound to the philosophical discipline. This effort goals a contribution in the field of interdisciplinary exchange for philosopher, cognitive and natural scientists.

I. The Objectivity of Knowledge in the Cognitive Science

1. The Phenomenon of the "Dependency on Subjectivism" of Cognition

We think that it seems to be an unchangeable rule primarily which establishes the "scientific value" since the period of the "Intellectual Enlightenment (Aufklärung)" in 18th century in Europe. A cognitive position can be examined and advanced–only if a hypothetical state can be verified repeatedly by objectivist queries of any kind. The verification must be executed in a way that is reproducible. The result of experiments must be consistent; the verity of the discourse should ~~be~~ also be consistent in all details.

From this point comes a certain remarkable tendency: The way of thinking of Natural- and Cognitive Science prepositioned without any query quasi nonverbal, that their scientist thinking method represents an objectivist cognition fundamentally. The natural scientist position can be established repeatedly based on their generality and universality of the objectivist thesis within an absolute consistence in the system of natural science.

Once we encounter this proposition a fact becomes evident: Within the general genre of Cognitive Science there are quite different positions that cannot be unified as a position of Cognitive Science. One of them is Varela's concept of *"inaction"* [3]: We will observe a living organ as a sample – as a prepararation selected and separated from a biological organism of life. But, the living organism is found constantly in an *interaction between itself per se* and *its environment or circumstance per se.* We, the observer of the preparatory execute also *our interaction with our living organ and the observed object.* Here, the following position becomes evident, that nothing can be isolated and fixed as a *static preparatory in a closed laboratory*. *Absolute objectivism per se* would not exist:[4] Let us remark the opinion of Humberto Maturana, „Cognitive Strategy", the chapter „Cognition as an dependent phenomenon on subjectivism"[5] His query and thesis can be described and summarized as below:

‚My critical insight is not new against the position that we can have a cognitive approach to an absolutely objective reality. Philosophers, psychologists and biologists emphasized in their various

[3] See Shiba, „Cognitive Science von Varela und psycho-physische Philosophie im Buddhismus. Zur Phänomenologie der Erfahrungen", in: Hashi (Ed.), *Denkdisziplinen von Ost und West*, Nordhausen 2011: T. Bautz, pp. 246-283.

[4] See the article of Hashi in this book, "A few notes on the '*Field of `Between´*. The "*Field of `Between´*"as a core concept of the interdisciplinary dialogue".

[5] In: Humberto Maturana, *Erkennen: Die Organisation und Verkörperung von Wirklichkeit*, Braunschweig 1982, p. 301. Underlined by the author of this article.

ways of thinking that the activity to get knowledge is evidently bound to a human as a thinking subject. Unfortunately, philosophers and scientists are of the opinion~~,~~ that an acknowledgement of the connection from cognition to a subjectivism mistakenly leads us to solipsism. Some scientists have an anxiety with regards to the latter. In my opinion it isn't right. Their anxiety comes from the two reasons below:

1. Generally, for thinkers in the Western world it is quite difficult to imagine that cognition may be a phenomenon which depends on subjectivity, for we are fixed in our custom of using scientific language. Even if a concept is spoken which depends on subjectivity, the subjectivity *per se* is denoted in the custom of ~~a~~ scientific language. The user of this language has a tendency to believe that there is a pure scientific phenomenon which is absolved completely of subjectivities of any kind.
2. A biological mechanism is preceded by an observer within a cognitive scheme in connection ~~of~~ with his cognitive scientist subjectivity. In so far the observer described the phenomenon by language which is separated and denoted by subjectivity of any kind most practically and successfully, it seems to be paradox and impossible to follow the state of an absolute objectivist cognition.'

Maturana explained in the further paragraphs that cognition is viewed as a process which is bounded by an organization and structure of the thinking subject as a personal. Here is a certain but rigorously scientific connection between the recognizing subject and the recognized object, an alliance which is not eliminable.

Excursus

Additionally, we have to warn that some people will find in this scheme a vague reinterpretation of Heisenberg's "Uncertainty Relation" *a la mode* of cognitive scientist *addition and* further *connotation* as below:

"An observer's subject is one of the parts in phenomenon of the observable object per se. It takes a role for influencing the whole process of observing in which the observing subject and the observed object proceed an interaction and telepathy."[6]

With regard of this popular scientist reinterpretation we have to show the critical point as follows: Reinterpretations of this kind mislead, as if a telepathy between the observer's subject and the observed preparatory takes a place in the observation: Herby they quote a part of the thesis of "uncertain teleportation" given between the split of the both particles emitted by a photon. The serious problem is that they ignore and forget the rigorous fact, that *also Heisenberg's experimental thought* (Gedankenexperiment) is based on a *rigorous method of experimental physics*: The physicist observer has never a psychological influence to the observed particle. Also by Heisenberg's Uncertainty Relation the model of thinking schemes the rigorous objectivist observation based on the fundamental model of the physicist thought. It cannot be mixed up with a psychological telepathy or interactive communication between particles and human observation.

[6] Heinz von Förster, „Entdecken oder Erfinden", in: *Einführung in den Konstruktivismus*, München 1985, p. 28.

Heinz von Foerster's writing on the rigorous and unique cognitive science position can be summarized as below.

'1. Observations are not absolutely objective. Yet, they are relative to the position of an observer (I.e. the observation is in relation to its coordinate system: See Einstein.)

2. Observations have an influence on the observed things. This fact can nullify the case for an objectivism of natural scientists in which they hope that everything is bound to a natural scientific prediction (I.e., the uncertainty is absolute: See Heisenberg).'[7]

The explanation by Foerster is adequate as the state of a cognitive scientist and it did *not* include any *ambiguous type of recourse* as such: "The relationship of subject-object in physics was proved by Heisenberg's Uncertainty Relation; an *influence* from observing human to an observed object is also verified in particle physics (..)."

In the next chapter we will take up the thesis of Maturana, the "interdependency of the conceiving subject" and the non-eliminable Interdependency of thinking subject and its firm connection to the observed object.

2. A Critique to Objectivism by Maturana in his Theory of the ‚auto poiesis'

Maturana represents the following opinion: A living organism is shown as a closed organic unity, a certain oneness constructed by the biological parts. Each part has a reproductive function whereby they are bound to one another and develop into an organic unity. Maturana coined a well-known phrase to describe this fact: the "*auto poiesis*".

The organism makes a dynamic exchange of materials. Nowadays it is well known that the relationship ~~of~~ between numerous synapses builds up a network of information's signal through neuro transmitters. A dynamic change in the network system follows, whereas the organism of the numerous cells does not lose its systematic identity so that the exchanging of the information network succeeds continuously from the inside of the organ: i.e. the realization of *auto poiesis*. Maturana as a biologist has the following concept: in a human an auto-poietic unity is its organic unity. The organism includes the nervous system and builds up itself as an auto-poetical environment in purpose of a self-proceeding system of the neuronal networks. The network of the neurons inclusive the development of synapses shows the resource of the physical and chemical influence which has also disturbing factors. An auto-poetic unity is found in the circumstance with the physical and chemical interactions whereas the organism is in purpose of self-keeping and self-executing by the survival process in a most suitable condition, which is found in relationship with the things in the environment.

It is shown by this process that an activity to live and survive in an environment is a phenomenon *which depends on the surviving subject*. The phenomenon of *auto poiesis* results from the execution of the self-organic activity for life and its survival that is principally "*dependent on the surviving subject*".

[7] H. v. Förster, „Bemerkungen zu ener Epistemologie des Lebendigen", in: *Sicht und Einsicht,* Braunschweig 1985, p. 81.

Maturana argues in his later discourse against the presupposed „merit of the cognitive sciences based on objectivist cognitions“[8]:

Each science is based on its own methodology, which is worked out historically by the underlying culture and its particular thinking method.

> ‚In other words, the validity of scientific knowledge is based on its methodology which definitively influences the cultural unity of the observer, even if this methodology does not objectively correspond to reality.'

I would like to say that cognition is also an *action to experience and create a truth in reality.* This action is therefore culturally biased. Sometimes it is also dependent on a particular societal circumstance as well as on the actions of a particular subject. We can agree that Maturana understood the goal of cognition as the action to apprehend an environmental truth. He agrees with Varela~~,~~ that every *auto poiesis* is a phenomenon which is observed, and is bound to further states of the *auto poiesis*. One phenomenon of the *auto poiesis* is coupled with other *auto poietic unities* such that they are coupled to one another as the whole environment.[9]

Previously, there were a number of requests for the acknowledgement for an absolute objective cognition by cognitive and natural scientists. Maturana argued in opposition to this "classic" position, that ~~a~~ cognitive knowledge is executed exclusively by the *topos* of a certain observation. The act of the observation is *bound to an observer's methodology, language, culture and society.* I would argue further that we should solve the proposition of the previous type of knowledge as below:

'The goal of the language of scientific cognition is to clarify what absolute objective scientific knowledge is.' 'Analytical judgements correspond without any exception to an absolute a priori truth. They are free from phenomenon ~~o~~ empirical acts.' 'Without any Self as a body, without a personal subject and without any sensations, we can achieve an undisputable truth. The latter is clarified only by an objective language, transmitted by objective thought. Cognitive science has a goal to state an undisputable truth exclusively via objective scientist language'.[10]

This results in a common form of absolute emphasis on objective knowledge in the natural and cognitive sciences of previous generations. In my opinion, more and more scientific researchers were isolated within their thinking of cientific absolutism, because they fixed their conceptions without ~~in~~ regard to their life and intellectual experience. If we analyze the thesis of Maturata carefully, it becomes clear that ~~a~~ cognitive scientific knowledge is understood by Maturana as an *intellectual experience* that cannot be absolutized. This corresponds to my term "*actus intellectualis*". This opens up a new way of thinking.

3. Wittgenstein as a Pioneer of Self-Critical Analysis

Wittgenstein presented a self-critical reflection to an "absolute objective cognition" in his "Tractatus" in the following statement:

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[8] H. Maturana, „Kognitive Strategien“, in: *Erkennen: Die Organisation und Verkörperung von Wirklichkeit*, Braunschweig / Wiesbaden 1982, p. 309.

[9] Maturana, ibidem, „Autopoietische Systeme“, chap. V „Die Tatsache der Autopoiesie“.

[10] Vgl. Moritz Schlick, *Die Probleme der Philosophie in ihrem Zusammenhang, Vorlesung aus dem Wintersemester* 1933/34, Frankfurt a.M. 1986, chapters 15, 21, 22.

"The meaning of the sentence is in its correspondence and non-correspondence with the possibilities of the existence and non-existence of the content of the sentence." [11]

Let us say that we have a *topos* in accordance with statement of ~~a~~ scientific knowledge. It can be a type of ~~the~~ thought involving many different factors. Or, it can be a method of thought bound by many particular factors, or it can be a phenomenon where the factors create a chaotic scientific concept. Which factors will be treated and which factors can be ignored depends on the choice of the scientist who is the main generator of the "*actus intellectualis"*.

If one has chosen certain factors from the whole situation, he must examine which factors clearly express scientific knowledge and which factors do not. By this process the factors which have been chosen correspond to the definitive statement as the final goal for ~~a~~ scientific knowledge. The question of which statement is agreeable with an ideal and perfect statement. The thinking person as the "subject" is ~~in~~ bound ~~of~~ by the following factors: What kind of situation motivated him to use scientific thinking hat are his criteria for defining a perfect scientific statement? And what defines an imperfect scientific statement, i.e. incorrect? The whole action is carried out by our thinking subject, the consciousness of self-thinking who is a *bearer of a certain methodology*.

The methodology executed by the thinking subject is limited by the frame of reference within which that methodology comes about. In the latter there is a remarkable dependency. As Maturana stated, a cognitive scientist is "*dependent on*" ~~of~~ a "*certain way of thinking*" according to "one's own scientific method". This method corresponds to one's own scientific language as well as the cultural background of their society.

We reviewed in the previous chapter via Wittgenstein**,** that the thinking person has *free choice* in his self-consciousness, which factors he can take from the full area in his consciousness and which factors cannot be chosen in his topos. The scientific language which can be employed is "*case by case*" different, in so far as the world as a whole can be understood as the "collected cases" from which to draw knowledge. Thus, the language of the cognitive statement is finally a "*definition and limitation*" of the content of the cognition. It also makes clear the "*limit*" of the capacity of the thinking person as the individual "*subject*".

4. Freedom and Creativity in the Interacion

Maturana stated in his cognitive science thesis: Cognition would be achieved in the *topos* where an observer deals with the observed phenomenon based on certain knowledge that is previously acknowledged. Each particular result can be explained in a deterministic detail. Each result can be predicted and also reproduced. This is the prototype of cognitive scientific knowledge. Even if the observer is "*not depending on subjectivity as an observing person*", he finally "depends on his methodology", his language, culture and also he depends on his free choice of words to establish his statement.[12] Here arises a question by Maturana, if and how far this *topos* to achieve the final states of

[11] Wittgenstein, *Tractatus logico-philosophicus*, 4.128. 4.2., McGuieness, Schulte (Eds.), Frankfurt a.M. 1989.

[12] Maturana, „Kognitive Strategien", in: ibidem, pp. 297ff.

the cognition can be understood as an *"interaction" between the observer and the observed object*?

When the observed object cannot be dealt with by the determinative knowledge of the previous way, we see that there is a difference between the [previously acknowledged system] *and* the [present-state of 'unknowledge' i.e. chaos]. The observer will search a way of a clarification. He tries to bring the present chaos to a well ordered situation. Hopefully, he will find a new explanation. Here we are –faced with area that has not been determined and completed. Namely, in this undefined situation, the observer *will find* a new state (which is logical and determinative): Just by this process, the observer is motivated to the "*Free Will*" – as an actual progression to synthesis new knowledge.

In contrast to the common physicalist approach, Maturana does not say that „every particular phenomenon of nature can be explained deterministically" [13]. By following the position of Maturana, we can argue that this problem is already brought up in Kant's, Critique of Pure Reason in the chapter, "*The Third Antinomy of the Pure Reason*". There, Kant asks if an absolute liberty/freedom has been bound to the causal development of all phenomena of the world? Kant answers: "There is nowhere such a freedom or liberty in the world of nature. All things in an environment are determined by the laws of the nature."

Against the position held by many physicalists, Maturana overcomes this limit and establishes his own thesis, the *auto-poiesis*: An organism in life is a *self-active, self-producing and self-constructing system*. It is found constantly in an *interaction between itself and* its environment for the purpose of its own survival. By this process of an *auto-poietic self-organization and self-producing*, a simplistic deterministic prediction cannot take a place. Because, the uninterrupted self-transformation happening in the observed system gives to the observer *no* opportunity to make an absolute definition of any kind which is framed by a previously acknowledged system. Maturana understands that this phenomenon as a proof of the constructive world of reality. It can be summarized:

> ‚If an organism exists in an area which has not been determined in every details, and when this system is able to execute an interaction with the things and beings in its environment, we can say that here in this system there is a law of the nature: It dominates the existing systems with a regulative order of the liberty.' [14]

This is the „Freedom" of the observed things based on their *auto poiesis*. How is the Freedom on the side of the observer? Maturana states: Freedom and creativity cannot be oppressed, in so far the observer does not fail to execute the objective and critical observation to his own scientific position. (Heinz von Foerster called it "the observer of the second order".)

As we see, the „Freedom" by Maturana is shown definitively by both sides**.** The one is viewed by the observed thing; as the object of the knowledge. The other is viewed by the observer as the thinking and acknowledging subject.

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[13] Maturana, „Postscriptum: Kreativität und Freiheit", in: ibidem, S. 269f. Kant, *Kr.d.r.V.*, B 472 ff., A 444 ff.

[14] Maturana, ibidem, „Biologie der Sprache: die Epistemologie der Realität", Kap. „Postskriptum: Kreativität und Freiheit", p. 270.

5. The Auto Poietic System – The Being-per-se in Achieving a Dynamism for Life

A living organism is vivid. It builds a system. Also a particular life organ like an ameba is bound to dynamism for the consistence of its life. An ameba differs itself from the circumstance: Mediated by its membrane it differentiates the environment, the inside and the outside of its life system. Outside of its life organ is the ocean as its circumstance. An ameba has a function in its membrane to omit the natrium and to store the kalium[15]: It has a dynamics for self-keeping of its own life. This function can be called by Maturana the "*auto poiesis*" in a most simple kind.

The function of the membrane has a purpose to keep the life organ in a survival game. An ameba creates it autonomously for maintaining its condition as a living organism. Let us call it the "*auto poiesis per-se*". An ameba does not have any further function, no observing, no consciousness, no autonomous thinking etc. It has only a dynamic of life organ per se and has no further function. In this sense we can say, that an ameba does not have any knowledge for itself – *no knowledge pro-se*. (We could say perforce, that the ocean in the circumstance could be valid as a *being for an ameba pro-se.*) Anyway, the ameba as one cell organism does not perceive anything – at least, in the level of self-critical reflection it does nothing.

However, our organism as a human being is bound to the latter; constant self- critical reflection. We are bound to thinking by which we conceive of ourselves critically and in comparing of ourselves to others.

Distinguished from other beings**,** we are able to recognize our *life organ per se* as a purely existing consciousness. On the other hand we can recognize our living organism as a purely material biological organ. At the same time a human is able to accept various relations to other beings in the environment. Hereby the human can reflect within itself about its condition of *being in life per se.* Through progression of this *reflection per se*, the human's consciousness develops to a further level in which it achieves knowledge and cognition of that which is a human as *being pro-se*. The knowledge of human as *being per-se* and that of human as *being pro-se* are two different kinds of knowledge in cognitive thinking. Both ways are oriented to achieve a cohesion and integration in the striving for their full activities.

I state in my opinion that Maturana presented a number of „cognitive descriptions of the observed phenomena" in his way of exact scientific cognition. There he presented the *existing auto poetic system per se* as the living organism. The observer is based on the ground of cognitive science and brings the observed phenomena of *auto poiesis* to the *topos* ~~for~~ of representation of our cognitive knowledge. The observer considers the *auto poetic* phenomena based on our previous cognitions during which we recognize, if there is anything new included in the phenomenon that cannot be determined by our previous knowledge. A difference between [our previous knowledge] and [something new which is indeterminable] should be clarified. If we discover this kind of difference, we will search a new explanation, or, we should find a definitively new principle by which the new knowledge must be integrated with a systematic unity.

[15] Okada, Yasuhiro: Organismus-Gehirn-Leben (生命・脳・いのち), Tokyo 1996, I.2., p. 10 f

Differed from Varela's original concept of the "*enaction*", Maturana's concept of the "*autopoiesis*" has a tendency that it represents an observable system *as a life-organ-per-se*. A lacking aspect hereby is the observed phenomenon as the *living-organ-for-itself /life organ pro se* which is at the same time valid as the *life-organ-for-us*. A living system of *auto poesis per-se and pro-se* is related to the observed object, and at the same time it is related to our life organism as an intellectual *auto poesis per-se and pro-se – the being as itself and the being for us.*

On the other hand, the problem of the *Free Will* in the cognitive science was explained by Maturana perfectly: In the case of an indeterminable incident or one that is a product of a self-changing system, the liberty of *every being per se* is clarified by Maturana from the both perspectives: The one is the perspective of the observer**,** the other is the perspective of the observed object. With this result we can finish the chapter of the "freedom" in the cognitive science of Maturana.

II. The Free Will – At the limits of the Cognitive Science and Philosophy

1. Presentation of the problem – at the border region of the cognitive science and philosophy

"*Free Will"* is bound to the self-consciousness of a thinking person. But, *Free Will* is not observed in organisms in which no autonomous self- reflection is taking a place. Their *auto poiesis* is a phenomenon as *being per se*. Yet, it is not able to reflect upon itself as the "phenomenon among the *truth* of *existing-for-themselves".* This phenomenon exists as subject for our philosophical reflection. Let us view the two questions that had not been deduced by Maturana.

- What is *auto poiesis* as an *existing phenomenon for-itself*?
- What is the causal logical reason of that, "from where is the causality which enables the phenomenon of the *auto poesis*"?

2. Trial by Foerster to Establishing of the Principle „The observer of the Second Order"

Heinz von Foerster was one of the rare physicists who knows the limit of the possibilities of the natural science. His writings show the trace of his thoughts, how he went out from the dimension of physics and entered into ~~the~~ metaphysics. The latter is the ~~g~~enre that Foerster researched in his cognition theory. The "metaphysics" is stated here in the sense of Aristotle: The "*philosophia prima* (*prote phiosophia* by Aristotle)" was established as a science to find and state the principles of the universal truth which is valid for all beings. This writing of Aristotle was published after his previous work, "The physics (*ta physica*)".

Foerster represented in his writing ten relevant notes by constructing his scientific theory. Let us trace them, since they are highly important for our theme of "Free Will" and for our discourse at the "borders of cognitive science and philosophy". The first five notes by Foerster can be summarized as follows[16]:

[16] Förster, „Bemerkungen zu einer Epistemologie des Lebendigen", in: *Sicht und Einsicht*, Braunschweig 1985, pp. 82-85.

'1. The circumstance is experienced as the *topos* of the objects. They are located during which they are moving and changing.
2. The logical entities of „invariant" and „changing" are both the properties of their representation. If we ignore this state, we get paradoxa.
3. The representations R or S are *formalized* as the variables [x] and [t] by two persons. Let us call them the "entities" of the observed thing and the "moments" of the observation.
4. We regard on the relations, „*Rel*" between the representations of R *and* S.
5. Objects and events are never primitive experiences. Objects and events are representations of relations.'

We see here that Forster defines the base of his thinking. Its *topos* is the cognitive scientist theory which comes out of the cybernetic of the physics. It is clear enough that the reformative aspect of the physics at that time of the 20th century, namely the fundamental aspects of Einstein's Theory of Relativity and Heisenberg's Uncertainly Principle were interpreted and remarked by Foerster in the compact form as below:

1. Observations are not absolute: They are relative to the standing point of an observer (I.e., it is relative to its coordinate system. See Einstein).
2. Observations make an influence to the observed objects. This fact destroys every hope of an observer who tries to make an absolute objective prediction (I.e., the uncertainty of the observer is absolute: See Heisenberg.)' [17]

Forster showed with this state one of his principle conceptions, that the observer based on scientific thinking should examine his basic ground reflexively and self- critically. The burning point of this self-critical reflection is the "*relation between himself as an observer and the object of his observation*": This is the principle of Foerster's cognition of the "***observer of the second order***". It is quite important to know that the above mentioned principles 1 – 5 are presented as the principles of the interaction between beings in a life world. An entity of that we mark up with [x] as a property of a being is constantly bound to its spontaneous transformation in the temporality, which is marked by Foerster with the modus [t].

Foerster's notes are summarized as below[18]:

'6. Regarded from an operational viewpoint, the calculation of a certain relation is a representation of this relation between the observer and the observed object.
7. A living organism is a relator of the third order. It calculates the existing relations. The latter includes the organism as a whole unit.'

[17] Förster, ibidem, in: *Sicht und Einsicht*, Braunschweig 1985, p. 81.
[18] Förster, ibidem, pp. 84-85.

There is a remarkable term by the point 7, „the relator of the *third order*". The observer who reflects his observation as the „observer of the second order" self-critically, is *never an isolated "super visor*" of any kind. He stands as the relations between him and the observed object.

Foerester states further[19]:

‚8. A Formalism which is necessary to achieve a theory of communication should not include primary symbols which represents the communicable things (for example symbols, words, transmitters and so on).

9. The minimal representations (descriptions) which are created by an organism manifest themselves in the dynamic movement of the organism's origin. The logical structure of descriptions is resulted therefore from the logical structure of the dynamic movements.

10. The information ~~of~~ accessible through a description depends on the possibility of an observer, through discourse ~~a~~ giving rise to some final statement which comes out of this description.'

As the special topic of the point 8**,** Forster commented that by constructing a theory there should not be any preposition which predicts something that is fixed as ~~a~~ jargon, as symbols**,** or dogmatism. If we would have such symbols or dogmatic prepositioned in our thinking, we should reflect on these dogmas and symbols self critically. Here is a suggestion which brings to mind the Goedel's theory and also a critique in oppose of metaphysics and religion: If we prejudge the existence of God from the beginning as a premise, the result of our discourse or verification can only lay within the frame of the allowed premise: it gives rise to a circular argument.

Foerster's notes 9-10 stated his basic thinking: The observer is, based on the principles of the observer in second and the third order, never a super visor that is isolated from the environment. It is present among the environment and becomes a kind of "*super communicator*" through the processual observations and relations with the observed things. The representations of his positions discoursed by the above mentioned relations brings him to the position of a "*super communicator*".

In opposite to a "super visor", the *topos* of his state is bound to a number of communicative cycles that open constantly to a new dimension. If we have more observations, we achieve more results of our discourse. If we have more verifiable results, we get more routes to communicate with the things of our observation. This kind of rigorous scientific communication enriches the qualified routes of our scientific thinking more and more.

This repeated cycle to recognize the observed things is shown in the both aspects as below[20]:

'11. The environment includes no information. The environment is intrinsically there, as it is.

12. Turn back to the statement 1.'

The environment is, that is; 'there', as an open court without any changing, even if the observer achieved some results by the observed things. The way of thinking by Foerster is here evident: He understands the getting process of cognition in his scientific theory in the modus that humans *do not find out* a cognition

[19] Förster, p. 85.

or knowledge: *The humans discover the cognition.*[21] This creativity corresponds to the „Freedom“ or “Liberty” of our self-consciousness. The latter is connected with our will to achieve a new cognition.

3. Varela’s Cognitive Science and his Relationship to the Philosophy of Buddhism

3.1. The Propertiy of Varela’s Concepts

Varela’s Cognitive Theory and -Science shows a similar way of thinking like Forester’s. It shows the reality that the position of the recognizing observer is found autonomously in a network of a dynamic interaction with observed things. Varela names this relationship in his terminology as the “*enaction*”. The autonomous dynamic to execute the *enaction* is represented in a common aspect of the “auto poiesis” by Maturana.

Yet, a viewpoint that is very new by Varela is that:
Marutana manifested the causal logical base as an explanation and construction for all systems, i.e. the data base reproved in biology and physiology, the results of the experiments discoursed from the analysis of observed problems.

These aspects treated by Maturana, build in any case a cognitive science, by which a treatment is erected on the base of the fundamental knowledge of biology and neuro science. The goal of them is a biological constructivism in which the spontaneity of each organism is established among the autonomous developing of the *auto poiesis.* Several further problems arise, for example, questions such as, “what is the will?” or “what can be a free will?” are not discoursed, because these problems establish a number of *transcendental logical conceptions* that are erected on a level that is far from biological facts and preparations. (Even if Maturana spoke about the spontaneity of life organs marked up with the key concept of “autonomy”, we should remark that this “autonomy or spontaneity” operates already in biology according to the biological survival game and its *fact* of the “selection”.) [21]

3.2 The Concept of the „enaction“ by Varela and its Relations to Nāgārjuna

The main characteristic of Varela’s theory is that the causal logical reason of all phenomena is not based on data verified by physics or biology. Yet, the causality that enables dynamics of an “*enaction*”, a “natural drift” or a “coupling” etc. is a uncalculatable, non-substantialized one, something which is not graspable.[22] Shiba lays this out cautiously, because from it we can envelop a comparative reflection with the philosophy of Buddhism.[23] Based on the philosophy of Mahayana Buddhism, the explanation by Shiba goes on with the quotation from the Madhyamika School by Nāgārjuna and the Vijñāptimatravāda by Vasubandhu.

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[20] Förster, ibidem.

[21] Förster, „Entdecken oder Erfinden. Wie läßt sich Verstehen verstehen?“, in: *Einführung in den Konstruktivismus*, Sammelband, München 1985, pp. 27 – 68.

[22] F. J. Varela, E.Thompson, E.Rosch, *The Embodied Mind: Cognitive Science and Human Experience*, (Massachusetts Institute, 1993). See Shiba in note 3.

[23] Shiba Haruhide, „Cognitive Science und Buddhistische Philosophie. Zum Weg der Phänomenologie der Erfahrungen“ , ibidem.

Let us summarize this viewpoint with the conjunction of the Buddhist philosophy**.**

The main problem is the concept of the "substance" whether each things and beings are bound to their own "substance" in correspondence of their entities. Nāgārjuna negated this position. Or, he kept the problem in an open court with negations by critical logics: If a being is bound to its entity (the position of "*bhava*") or there is not such an entity included in the being (the opposite position, *"abhāva*"), this query can be only answered with "neither affirmatively nor negatively". Because the affirmation of that all beings have their own substance, is bound to a *preposition to confirm* that if "every being has its own substance; we cannot imagine them what they are": Viewed by critical reflection by Nāgārjuna, this way of thinking is one-sided and cannot correspond to the all-encompassing cognition of all beings.

Then, let us conceive what time is. Time vanishes in every moment. The being is found in passing time; the passed goes away and vanishes. Let us imagine that there is a person who walks on a field. If we define, that "the person goes", whereby we keep this statement as a substantial unchangeable entity, this statement *does not conform* the reality of the environment: The person has at that moment of the description and statement "*already gone*". It is not possible to define whether the person goes further at that moment or if the person continues walking further in the future.

Let us say then, „that statement should be interpreted *at that moment by through modal logics*": Here, we have an argument once again, that the "moment of the walking person" had already "passed" and has vanished already, so that this fact of the "going person" *cannot be fundamentally fixated to a substantial thing or being*.

Nāgārjuna strives for an *absolute conformation between the reality in the environment and our perception***;** *our ideas, our will and our cognitive knowledge,* because our knowledge inclusive of our perception and is *in bound to the dynamic transformation based on the structure of the time which is always passing.* Nāgārjuna warns us against the fixation of our thought or ideas of any kind which are coupled with our subjective thinking. Depending on our relationship to our subjectivist ideas, we get a number of knowledge in an "illusionistic way" which is projected in our self-consciousness and establishes itself in a frame of our subjectivism.

3.3. Causal logical reason of the „enaction" by Varela – Relationship to Vasubandhu

By Vasbandhu is the following cognition central**;** that things and beings cannot be fixated to a substantial entity, because the being is bound to the dynamic of time (consisted by [always passing and vanishing moments] and by [always emerging moments] here and now), whereas our consciousness is coupled also to this dynamism of [Being and Nothing].

Things of that, what enables our consciousness to a unity of each kind (unity of perception, unity of ideas, will and knowledge and so on), is something that cannot be defined absolutely. This something is uncalculatable, an energetic unity to "life" and to persist in the survival game until to the end of the life organ. Maybe it is possible to imagine, that the "end" of a certain person, namely the death of one's life organ, solves its energetic unity absolutely in the vanishing dimension. One can imagine that the vanished unity might be transformed into another life organ, whereas the individual of the dead person is solved and goes on to vanish in an unlimited dimension. This kind of something which cannot not be defined substantially is called by Vasbandhu the ***alaya vijñāna***, a dark and uncalculatable something to live and survive one's life which is actual under the normal consciousness of everyone.

Shiba inquires into this problem explained by Varela with the accent of the Buddhist philosophy. For example, what is the causal logical reason which enables all kind of *enaction* and the *structural coupling*? Shiba establishes the thesis that this causal logical reason corresponds to the construction of the cognition theory of the Buddhist psychology by Vasubandhu, whose key word is established as the well-known term, *alaya vijñāna*. The causal logical reason cannot be substantially grasped, yet the whole world is constructed with all things and beings through the collected *karman* of each human or being (karmas means those that have been done), handled and executed by some relationship ~~of~~ for every particular beings in the circumstance. The discourse by Shiba operated the "*undefinable and ungraspable causality of envelopment of all things*" and the "world as a number of collections of autonomous constructing and deconstructing *karman* of all beings".

The latter by Shiba emphasizes, that the world *cannot define a substantial fixable reason* by the envelopment, because the relations of various beings build up a presence of things from which a near or a further future will be developed spontaneously. The causal logical reason of this envelopment is simply, in numerous relations among the things and beings in an invisible network that can not be defined substantially, i.e. we cannot say what it is. The world is present and actual with its whole unit bound to the construction of numerous relationships. This wholeness of the changing networks is namely the causality of the each being at the contemporary moment, and at the same time, it is a *power* to envelop a future of each kind. Things and beings are not based on their fixated substance. They all are constantly exchanging and interacting on an undefinable base of "emptiness" (śūnyatā); as an unlimited one. They execute dynamic change and keep themselves in a network of "relations."

Shiba grasps in his discourse ~~a~~ the fundamental reason in which the principle of the *karman* of the Buddhist Philosophy (causal logical continuum of active, enactive and passive handling and thinking and its result, which become the base of the causality to envelop the next handling and thinking of various kinds) and the theory of cognitive science of Varela can be found in a correspondence. Yet, viewed and verified by authentic Buddhist philosophy via thinking discipline in Comparative Philosophy, Shiba layed out a new fundamental theory of phenomena.

IV. From „Free Will" to Self-Recognition – The Continuum of the Recognition from the Cognitive Science to Philosophy

1. Comparative Reflection by Maturana, Foerster, Varela and the Question from this Continuum – What is the Recognizing Self which enables an All-Encompassing Cognition?

With regard of the cognitive science by Maturana, Foerster and by Varela an extraordinary attention to the aspects of the environment can be marked up as below:

a) The living organism is an *auto poiesis per se* which develops spontaneously. To enable this development there is a necessity of "Freedom".

b) The observer must reflect himself – at the position of the „observer of the second order" (Foerster) accompanied by freedom.

c) The observer or the recognizing subject is a member of the circumstance which is always self-changing autonomously in relations to beings in the circumstance in which the observer finds out and grasps a new knowledge (Varela). This act is absolutely spontaneous and has never an obsessive

component of any kind.

A constructive theory is here actually coming out of biology, physics, and life science. It clarifies the problem: how does the perception in the life organism come about?, In what kind of interaction will be found in relationship between the observer and the observed object (observer of the second order)? In which relation of the self-critical observer, based on the principle of the "observer of the second order", constructs a world of a cognition with the observed things? The latter is based on the "relator of the third order".

The results of this thought point to a higher level of the cognitive science of the 20th century. Specificlly, what is not addressed in the existing cognitive sciences are questions such as; 'what is the thinking unit?', 'what is the subject of the "finding" of the *auto poiesis?'*, 'what is the "discoverer" of the *observer of the second order?'* and namely, 'what is the recognizing one in the actuality of *enaction and structural coupling* in reality?'.

Several cognitive scientists can suggest the reality that this "unit" of the 'recognizing one' is a kind of "super visor". The latter could be applied within the dimensions of new knowledge of natural science, analytic and informatics which is free of subjectivity or individuality in any kind. Yet in my opinion, this way of "subject without any subjectivity" or an "individual without any individuality" is in fact never free of any problematics.

Then, as Maturana emphasized self-critically, cognitive knowledge is current bound to a grasping and recognizing subject. The recognizer holds a definitive place in the circumstance and he is always with the states of one's own problematics in a relationship. If a super visor is understood only as a computer software program constructing and bearing digital information, there is found lacking a human as an existing body and consciousness who creates and dominates a "super visor" of any kind. A theory of the *auto poiesis*, the theory of *observer of the second order*, or the theory of the *enaction*, is discoursed by an Apperception of the thinking I. This is the Self in the perspective of the first person ~~in~~ singular who brings one's own knowledge from a former unity to a greater one, based on the *Free Will*.

This Self is never a static personal pronoun in singular. It is "understanding" one as the bearer of the actuality *auto poiesis*, the bearer of the *observer of the second order* and the bearer of the *enaction.* It embodies and realizes these activities. In this sense I will say that the Self is an *actus intellectualis*, an autonomous unity and entity which actualizes itself.

This Self is bound by its own dimensional body, a *topos* in which the entity of an undisputable truth is grasped. In this sense we can call it the *corpus intellectualis*, a presence of the bodily Self to actualize the intellectuality.[24] This *corpus* is able to store knowledge and cognition in itself and to integrate them as life. A cognition which is embodied and actualized in the *topos* of one's own Self. I am strictly of the opinion, that this final step for the "*embodied cognition*" cannot be executed without a relation of the reflection of a thinking Self. This problem of executing and recognizing the Self is bound to meaning of philosophical inquiry.

[24] The term of the „corpus": see Hashi, "Die Bedeutung der Erfahrung bei Heidegger und Nishida", in: *Kyoto-Schule – Zen – Heidegger*, III. Main Section, Wien 2012.

2. Metaphysics and Ontology as rigorous criterion of each thought – The ‚Free Will' to the Apperception of the things

Since ancient times, the purpose of Philosophy is to inquire into the causalities of every phenomenon. The spirit of inquiry into thinking begins by the astonishment and wonder of encountering with an undisputable truth. Aristotle defined in his "Metaphysics", volume Alpha, that the primary interest of the *philosophia prima* is oriented to the research of the causality of every being.[25]

Cognitive science can describe what happened in reality by establishing the reasons in scientific thesis and statement (which is founded by fundamental knowledge of natural science). It is able to construct a systematic theory from those descriptions. (In our time, the neuro science, brain physiology, life science etc. execute this duty of ~~a~~ clarification of today's scientific problems, but perhaps they have achieved a limit of their capacity.)

There is the understanding of phenomena based on the natural scientific data. Yet, philosophy examines through critical and self-critical reflecting, if the statement can be *really so conceived and acknowledged*, and *if and how far* we can accept its results and follow them in our way of thinking. The essential point of the problem is not the former examined phenomenon, as the fact and the reality. The real object of our thinking is the critical examination about the results of the discourse which has allowed their conception. Here we can quote the beginning part of Kant's "*Critique of Pure Reason*", the chapter of the 'Deduction of Categories of Pure Understanding (Deduktion der reinen Verstandesbegriffe'). Kant stated in that chapter, that the main purpose of his critical discourse is *not* the examination of the thematic of "*quid facti*" (the discourse about empirical facts), but primarily the examination of the "quid juris", namely the examination of logical consequence, cohesion and coherence.[26]

2.1. Free Will – Is our human existence a „splitted animal"?

Let us argue further by the query of *Free Will*: Several physicalists state that there were *no corresponding substance or substantially verifiable phenomenon* which can be reduced to a substantial unity of a "Free Will": in no physical phenomenon can be found "Free Will" corresponding in the proportion of 1:1.

Hans-Dieter Klein argues in oppose to those physicalist opinions and states: 'In philosophy the content of each discourse is always bound to our thinking, the thought out concept projected and reflected in consciousness by one's own Self. Philosophical reflection is able to explain a truth which has a universal validity. The worked out concept can be only reflected, reconsidered and deduced on the base of our critical examination of our own thought in the area of philosophy~~,~~ called metaphysics, as the "*philosophia prima*" which is also called ontology.[27]

I will state this problem as follows:

As Schroedinger remarked, there is in the natural science no suitable category which is verifiable

[25] Aristotle, *Metaphysik*, Stuttgart 2007, Buch A , [981 a – 981 b], vgl. Buch α, [993 a - 993 b].

[26] Kant, *Kritik der reinen Vernunft* , B 116ff., A 84 ff.

[27] H.-D. Klein, „Free Will", in: *Sensory Perception. Mind and Matter,* Friedrich G. Barth, Patrizia Giampieri-Deutsch, Hans-Dieter Klein (Hg.), Berlin 2011.

describing: spirit, mind, and will. He also stated that the Self is also such an unverifiable category in the natural sciences. If someone *will* seek a verification of those categories, he should know some set of corresponding facts as a preparatory ~~of~~ for creating natural scientific data. In fact, all the afore mentioned categories could not be established substantially or objectively, because they are all the production of our self-thinking activity and ~~as~~ the results of our thought. They can be explained, argued and discoursed exceptionally on the level of reflections produced by our thinking.

Therefore, let us say, that those queries are just on the border region of cognitive science and philosophy, in other words, they are actual *at the limit of cognitive scientific themes*. In reality they are the *central problem of philosophy*, metaphysics, and ontology that can be also be valuable in their further discourses for the philosophical anthropology in our time. Let us review the problems in analytical philosophy.

Quine (Willard Van Oman Quine: 1908 – 2000) dealt with the problem of the cognitive scientific objectivism based on his analytical philosophy as below:
Usually, there is a sentence of protocol in the scientific positivism. It has an elementary structure by which something is established and protocoled, for example: "Tom judges: It is raining." We can observe that the last half of the protocol sentence shows an objective fact and statement with its universal validity. The latter can be verified by natural science and its cognition. By contrast, the first half of the sentence shows only the activity of a person as a subjective human. A cognitive scientific protocol sentence should represent an absolutely consistent proof of the fact – yet in that sentence, this is only true with only the last half of the sentence. At the same time, the first half of the sentence is limited in a frame of a certain person with his full presence, but also with its full subjectivity bound by a real circumstance or environment. Quine marked up this dual structure with the evident state as below: "*A human as a splitted animal".*[28]

It is evident that the above mentioned problems are totally the production of our thoughts. From out of our "physical and chemical interaction of neuronal hormones in the cortex of the big brain" we project our thinking whereby we clear up them by the stated sentences. After the execution of this process we go over the further process to examine if our statement transmitted by the sentence is right or valid.

Any understood route and scheme of the physiological process of our brain is surely a cognitive scientific *description*. The thought and its result is an authentic *actus* of the human being. The observation of the brain-physiological process is the domain of neuro-biology, neuro-physiology and neuro-science. We see the parts of natural science in an effort to clarify the systematic construction discoursed by the experiments of the phenomenon of the nature. The *auto poiesis* is an autonomous living organization in ~~a~~ self-development and spontaneity. It is a system *for itself*. And – perceived to outside of its organ, i.e. to the world of the environment, it is valid as a life organ in a survival game

[28] Willard Van Oman Quine, *Wissenschaft und Empfindung. Die Immanuel Kant Lectures*, Kap. 3, „Endolegomena", Stuttgart-Bad Cannstatt 2003, übersetzt von H. G. Callaway, p. 86ff.

relative to the biological organism and its circumstance. If we will grasp the *auto poiesis* as a cognitive scientific category, we should orient our effort-as a thinking unity. To solve our query we ask ourselves, why we would like to grasp the *auto poiesis*? Who is the *main person* oriented to construct this concept in the consciousness? *Who* has developed the discourse within the consciousness and actualizes to the manifestation of the state?

This query is answered below:

It is the Self as the thinking and acting subject which has *not been splitted* since its birth: In the area of analytic we can show that kind of "splitting" that Quine established in his discourse. In opposite to the analytic splitting, a human is in the level of acting constantly a bearer of every actus of the execution. This subject, which realizes an execution of one's own thinking and acting, is defined as the Self in the philosophy. The self is a category which corresponds to each individual by one's own objective insight or self-critical reflections. On the other hand, the Self is one and only singular pronoun that enables experience, thinking and handling autonomously. It is able to make a relationship between one's own actus and the reflection in one's own consciousness. Furthermore, it enables one to connect ones actus with a full responsibility of one's own Self. Here is a "perspective from inside to outside within one's own experience". I call it the *actus untellectualis*. This perspective differs from that of the cognitive science, since the latter projects the object of the observation primarily as a reproducible and typical preparation separated by the observer and his pure analytic.

2.2. "Free Will" as an apperceptional unity promoted by our self-consciousness

The thinking and acting Self has its dimension as the singular personal pronoun. It envelops the phenomenon that the Self conceives something for himself, for things and beings in his circumstance. The Self thinks and handles also in the middle of an experience (it can be an intellectual activity and also an experience of the empirical life world) whereas he collects various factors from the experiences and unifies them. The self actualizes this unity through further experiences. We have to remark the following factor which should not be mistaken: The Self as an experiencing one, has to keep an insight and a perspective within his consciousness which works to apperceive and integrate various factors collected from his real and intellectual experience. Kant named this competence the "apperception of the diverse factors". The Self has the ability to project and imagine various things in his self-consciousness. The Self connects certain factors with others, compares the various factors and integrates them with still another one. Kant states:

"The unity of 'I think' can and must accompany all projections and conceptions of mine." [29]

This principle of „I think" shows an objective unity caused by the apperception of various projections in his consciousness. Yet, with the establishment of that, the self shows the relation between the "thinking I" and "all of my projections": The conjunction of the principle, the thinking I, and the accompanied projections. Here we have a question: Isn't it a reality, that humans and intellectuals valued this "inner perspective" *too little* and has oft been described in occidental philosophy as the "lack of the objectivity"?

[29] Kant, *Kritik der reinen Vernunft* , B 131f.

Excursus

Kant himself omitted cautiously the perspective of „I“ which is actual in the middle of various experiences from his deduction of the pure understanding concepts in the discourse of the Critique of Pure Reason (B 152 – 157). The “thing per se” affects our sense and perception. It has a substratum with its entity. The problem with that, what is the thing per se, was discoursed objectively so far as possible in the Critique of Pure Reason. The key concept of this objective discourse was the “transcendental apperception” reasoned by the condition, that the empirical facts, our sensual data, affects, feeling and the empirical oriented consciousness of “I” or “I am (..)” are absolutely differed from the transcendental apperception and therefore, they were separated and omitted. It was right to execute the discourses based on “*quid juris*” in the “*critical juristic proceeding of the pure reason*” (kritischer Gerichtshof der reinen Vernunft). This separation by Kant (Critique of Pure Reason) was absolutely necessary. But, based on *our discourse for the experiencing and reflecting Self with the cautious view for the ‘‘inner perspective’’*, the Kantian way of discourses is (sorry to say) “a half of the world”.

In my opinion, Hegel presented in his Phenomenology of the Spirit *a reversed perspective*. The objective recognition for the being and the entity of the things was represented in the dimension of the self-manifesting knowledge in the system of the self-active reason of critical thinking of the thinking (tätige Vernunft durch selbst denkendes Denken). This complete processual development is (in my terminology) an *actus intellectualis* executed by the self-proving and self-developing spirit. In other words, it is the proceeding of the “self-manifesting subject as the spirit to actualize the *reason-per-se and pro se* (Vernunft an und für sich). Also, the complete actus of the manifestation of the self-developing spirit is executed by the “Free Will”. A further explanation and deduction in comparing Kant and Hegel goes over the frame of our theme.

2.3. Free Will: The main modus to construct the ontology

Every sentence and state is made by a Self who is thinking and acting: Also, this actus to express the apperceived unity to clear language is motivated by the “Will” of the Self. The actus to orient our Self to concentrate in thinking is also motivated by the same “Will” of the Self. And, this Will is independent of any suppression of another one. “Free Will” is also a postulate that is prepositioned for formatting every thinking concept. As we stated, in view of the physiology, biology and natural science, no one can find a “substantial and material unity” of the “Free Will” all the way down to the neuro transmitter. By this problematic, it is only possible to show the conceptual unities that each human apperceives a fundamentally reconsidered concepts in the intensive activity concentrated by one’s full organism. The unity of the apperception by the thinking self is motivated by language. It expresses itself among the phenomenon of the circumstance and brings itself to the manifestation. Hans-Dieter Klein establishes through the reference of the concept of Leibniz’s thesis, the prove of the ethics by God, that the thinking Self and the manifestation of the thought of the Self accompanied by the Free Will, is an irrefutable modus for starting and ending of the ontology in the sense of the *philosophia prima*. [30]

[30] H.-D. Klein, „Free Will”, in: *Sensory Perception: Mind and Matter*, Friedrich G. Barth, Patrizia Giampieri-Deutsch, Hans-Dieter Klen (Hg.), Berlin 2011. Leibniz, “Essais de Théodicée”, § 288.

"Essais de Théodicée":

„Nous avons fait voir que la liberté, telle qu'on la demande dans les Écoles Théologiques, consiste dans l' i n t e l l i g e n c e, qui enveloppe une connaissance distincte de l'objet de la délibération, dans la s p o n t a n é i t é, avec laquelle nous nous déterminons, et dans la c o n t i n g e n c e, c'est à dire dans l'exclusion de la nécessité logique ou métaphysique."

"I have shown that freedom, according to the definition required in the schools of theology, consists in *intelligence*, which involves a clear knowledge of the object of deliberation, in *spontaneity*, whereby we determine, and in *contingency*, that is, in the exclusion of logical or metaphysical necessity." (§ 288)

3. What does the Concept „The Field of Between" contribute for this Discourse?

We have established in this discourse that same problem of "Freedom" – discoursed by various authors of the cognitive science and philosophy achieved different results by each author. In order to recognize the different views and aspects we need the comparative reflection. I would emphasize that we, as the comparative thinking Selves, recognize our position between the various dimensions of the different thoughts. The latter is namely "*The Field of Between*" in my terminology. [31]

What does this term mean, is in one word a *topos* in which an interaction take a place between the thing *A* and *non-A*, between the materials *A* and *B*, between *I* and *You*, between the different life being *X* and *Y*. The thinking one is by this "Field of Between" no more merely an observe, but the thinking and acting self. This Self reflects itself in the position of "the observer of the second order" in self-critical way. Through the self-critical reflection the Self achieves a self-recognition, in which relationship it positions in opposition to its co-existing others and through which the dynamics of this relationship develops by way of the *enaction* with ~~the~~ beings in its circumstance as co-existing partners.[32]

It is important to remark that the „*Field of Between*" stands by every forthcoming occasion, situation and circumstance for a thinking and handling Self. It is also important that the content of this "Field of Between" is constantly transforming as a *topos of the enaction* dynamically in the circumstance of a real world. Exceptionally relevant is that this "Field of Between" must be kept in an *open mind which is free of prejudice, free of a presupposition and free of every overvaluing or ignoring of the partners transparently*. If one of the above mentioned factors is included by the thinking and acting self, the "Field of Between" is immediately occupied or overloaded, so that a meaningful interaction, communication or a reception of influences between one and another would not be possible.

In my contributions in this book I tried to establish the „Field of Between" as a creative topos for transmission and exchange of interdisciplinary minds and opinions. I will emphasize in this chapter: *The Feld of Between* is a base of an ethically thinking and handling Self which realizes itself as a vivid *topos* of the *actus intellectualis*.

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[31] Cf. the article of Hashi in this book, "A few notes on the '*Field of `Between´*. The "*Field of `Between´*"as a core concept of the interdisciplinary dialogue".

[32] Cf. Varela, Thompson, Rosch, *The Embodied Mind: Cognitive Science and Human Experience*, Massachusetts Institute 1993: see the article of Shiba, „Cognitive Science und Buddhistische Philosophie. Zum Weg der Phänomenologie der Erfahrungen" , ibidem.

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