

# Computability and Meaning ~ some Phenomenological Issues in constructing a Cyberspace ~

Yukiko Okamoto  
CZI05540@nifty.ne.jp

## § Introduction

Unlike chess, the life-world is not a self-contained system of meaning. Moreover meaning is not countable, and does not fall under the conception of a thing. Within the life-world we inhabit, meaning emerges, grows into a complicated texture and organizes itself as a cultural world. Therefore meaning cannot be computable, by itself. Still the worlds constructed by computers called "Virtual Reality (hereafter VR)" purport to absorb almost the entire world of our cultural life. One can encounter in cyberspace the haunting ghost of a thing like "cyborg" ("designed gene rich?"). Gradually our cultural world is now infiltrated by the ideas about cyberspace, which influences the thoughts of those working with the computer.

Needless to say, even a colorful fascinating 3-D scene is constructed by mere colorless digital bits. However, we, at the same time, are capable of acknowledging that what underlies the system design of a VR in cyberspace is our notion of the world and human activities. And what drives the research programs concerning "high technology" such as VR or "the human genome project" knowledge networking" and so on is nothing other than human desires. The notion of any imagined world or human desires obviously comes from our beliefs in our actual primary world.

Some philosophical questions then come to the fore in the very center of our computerized culture. What is the world to us? Specifically, what is the meaning of primary nature and world for us? What is then the significance of technology as an indispensable element of human existence? These questions also result in metaphysical issues about the meaning of the existence of my self and others', "the sense of being (Seinssinn)" of the world, and about what makes high tech meaningful for human beings.

In my view, we are required somehow to answer these philosophical questions if we wish to continue to keep our embodied existence as natural and sane in this world of computerized culture.

I will show in this short essay that some phenomenological concepts and methods, mainly those from Husserl's investigations elaborated in his middle

and later stages, may lead us to a viewpoint from which we can capture the landscape of the computerized culture within our vision. It will also shed a novel light on his methods of reduction, which is adapted in analyzing the meaning of being (the sense of being) and the correlation between consciousness and the world, i.e. intentionality.

In this line of thought, we may face some intractable and long disputed problems concerning Husserl's notion of transcendental subjectivity, or his so-called foundationalism, and so forth. This notion of the "transcendental" is almost discarded even by phenomenologists. I will then rethink about this problematic situation from a novel angle, from a new standpoint of "tech analysis." Husserl's transcendental discourses may prove to be an effective tool to disentangle our ambivalent feelings and fears rather than act as our fetters.

### §1 "Computability," "meaning," and VR

Questions concerning so-called "Virtual Reality" may symbolically illustrate an arena for contest between the meaningful, i.e. the actual, primordial world and cyberspace. VR may be a good example for investigating the meaning of the life-world.

First, I will reveal what the notion of "computability" here means. Next, the conception of "meaning" should be delineated and clarified as far as possible. Then I will mention the issues that are raised when we construct VRs in cyberspace.

(i) The notion of "computability" has a close connection to the idea of Turing machines besides various forms of calculators, including abacus. The historical question of computation was answered by getting a possible characterization of the class of computable functions. It was suggested that "the set of functions" which were computable was "identical with the set of functions that men or machines would be able to compute by whatever effective method, if limitations on time, speed, and material were overcome."<sup>(1)</sup>

Today this method refers almost uniquely to the definite steps of the calculation carried out by computers at present and in the future.

Any encoded language could be enumerable and if there is an effective procedure or algorithm for calculating encoded language, it is then in a sense computable.

(ii) Even if meaning is not enumerable, linguistic symbols are countable. A vast range of interests has been shown and arguments have been raised concerning

---

(1) G. Boolos, R. Jeffrey, *Computability and Logic*, 1973, p. 20.

what meaning means. Depending on the interests and orientation of the arguments, the question has been answered in many different ways. No definite answer seems to have been proposed up to now. I may not even be able to find it in the future. As far as linguistic symbols and sets of symbols represent human language, and the life-world's system of meaning is a determined whole and can be substituted with the linguistic meaning, then, the meaning in this sense might be computable. I think this, however, is not the case.

In Husserl, the concept of meaning in general has been mainly delineated as "noema." I agree with him in rejecting the identification of meaning with a linguistic one. Still, I would like not to determine the notion of meaning, by strictly following him from the start.

The central concern here is just about what makes VRs meaningful for human beings.

(iii) What makes a VR a "world" is not a collection of fragments, such as fragments of data, information, words, facts, and so on. It is "a felt totality or whole."<sup>(2)</sup> According to M. Heim, understanding the concept of the world we inhabit would be one of the necessary conditions for constructing VRs.

In this respect, the phenomenological approach seems to be one of the promising ways to be taken. Referring therefore to the fundamental conditions in constructing VRs in cyberspace, I intend to reveal to what extent the discussion of VR relates to phenomenological issues. From a phenomenological point of view, on the other hand, VR is an interesting arena of challenging the positivistic modernists' view of human intellectual activities.

The next section begins with a characterization of discourses on the VR technology and its philosophical problems. Then it outlines several ideas used in constructing a VR scene on display.

## § 2 Phenomenology and the question of VR

The primary intent of this section is to show why I mention the question of VR in cyberspace. It is not our concern here to evaluate the impact the word "cyberspace" made on us since W. Gibson first introduced it in his *Neuromancer*.<sup>(3)</sup> "Cyberspace" now roughly means, less attractively, but in a more important way, social networking spaces based on computer technology. It is, thereby, rather a metaphor than indicating something.

This metaphor appears to have transformed a mass of digital bits into an "as-if" place of living, i.e. VR, characterized as "an immersive, interactive system," with

---

(2) M. Heim, *Virtual Realism*, Oxford University Press, 1998, pp. 89f.

(3) M. Heim, *The Metaphysics of Virtual Reality*, Oxford University Press 1993, pp.78-88.

"information intensity."<sup>(4)</sup> A VR is actualized by means of various material and software, for example the HMD (head-mounted display), or simulators developed for the definite practical aims.

Putting aside technological questions, the central problem in VR is the collapse of the distinction between a user's self in the actual world around him or her and the imaginary world in cyberspace. The concept of VR itself implies to the collapse of the fixed image of reality. K. Hillis metaphorically expresses this implication as follows: "The inner world of VR creates an imaginary space for further extending this interior voyage, suggesting that the interior is infinite if not eternal-- a hybrid proposal that collapses the dynamics of sight with geometry."<sup>(5)</sup>

Such a negative side of technology, besides its benefit, was sharply highlighted by Heidegger, as Heim appraised in his book.<sup>(6)</sup> Heidegger sensed the new situation of the science as an overwhelming force that "challenges the legacy of human thinking," according to Heim.<sup>(7)</sup> The fears and anguish Heidegger speculated about high technology that was still in the bud but now becomes clearer and clearer.

With an ominous silence, cyberspace prevails all over the world in the form of the Internet, when we can click on day after day. However frequently we may touch the keyboard and intervene in the cyberspace, we can rarely sense its dark side, a forgotten periphery. This is because of our daily reliance on computers.

Cyberspace represents an actual world, for instance, as one of the most powerful communication tools and, in the form of VR, cyberspace technologies provide many alternative possible worlds in which we can immerse ourselves, "interact," and appreciate its "information intensity."

The forgotten, dark side of cyberspace technologies comes from its glittering future possibility as an alternative world. Heim criticizes H. Dreyfus's characterization of the computer as an AI to be too narrow.<sup>(8)</sup> The computer as "metaphysical opponent" to human beings and the excessive concern of "human-versus-the-machine contest" at that time has almost faded away today.

Another question of VR looms up instead: "How may we preserve the contrast between virtual and real world" or "what anchor can serve to keep virtual worlds virtual?"<sup>(9)</sup> Heim explores "the three hooks on the reality anchor": mortality, irretrievability or temporariness, and fragility.<sup>(10)</sup> To banish these constraints

---

(4) Heim, 1998, pp. 6-12.

(5) K. Hillis, *Digital Sensations*, University of Minnesota Press, 1999, p.143.

(6) Heim, 1993, p. 54.

(7) Heim, 1993, pp. 55-6.

(8) Heim, 1993, p. 58.

(9) Heim, 1993, p. 135.

(10) Heim, 1993, pp. 136-7.

may make the VR not to have any degree of reality, and then lose its virtuality.

In accordance with Heim's argument, I would like to treat the question of the cyberspace technologies with its threatening affection upon our only primordial actual world, or more exactly on our thinking, as a phenomenological question.

It might well happen that the user merges her/his self with the VR in cyberspace and gets multiple selves within it, besides his/her own embodied self in the primordial world. This results in the suppression of a human existential body "for the sake of digital interactivity" and also very likely in moral problems caused by the retreat from face-to-face actual social interactions. The life-world cannot be absorbed in the VR. But then what derives us into such disorders?

In my view, this is not a psychological question and far from a positivistic scientific problem, nor merely a sociological question. This cyberspace question should be treated as a phenomenological question of meaning of the being of the world and the self.

Heim, however, criticizes Husserl's conception of the life-world that remains "an object of study rather than a place for pragmatic activity."<sup>(11)</sup> In contrast to his view, the notion of "the life-world" brings the everyday world as "a whole phenomena" into our view and thereby we would be able to acknowledge it as the indispensable basis for pragmatic social activities. It is the notion through which we can focus on our own base for all human activities, in other words, pragmatic social activities. The notion might well be acquired through a transcendental reduction.

In the following section I intend to show how the question of the meaning of "the being" of the world and the self should be handled in the context of phenomenological investigation, specifically through reduction. For instance, D. Hakken's sociological analysis of knowledge networking in cyberspace reveals that his anti-positivistic modernistic view could be shared by phenomenology, in some sense, by a Husserlian phenomenological point of view. Then we move to more concrete illustrations referring to VR creation by means of VRML ("Virtual Reality Modeling Language), in the following.<sup>(12)</sup>

### **§ 3 Cyberspace and its phenomenological presuppositions**

(i) Among the philosophical inquiries about cyberspace, another possible example that resembles the phenomenological way may be found in D. Hakken's anti-modernist talks as well as his critical remarks on Husserl.

The central question of his analysis of knowledge networking in cyberspace is what really the conception of knowledge has to be. He criticizes the modernist

---

(11) Heim, 1998, p. 166.

(12) Ref. R. Lea, *JAVA for 3D and VRML Worlds*, NEW RIDERS PUBLISHING, 1996.

view as an ill-orientated conception of knowledge.

According to the modernist view, knowledge consists of raw data as its building blocks that are plucked out from the context. Thus it is the modernists' typical conception of knowledge that knowledge is a thing-like (but still ideal) entity and the final goal evaluated "in terms of an abstract ideal of degrees of 'truth'," and also its locus is in "the individual mind."<sup>(13)</sup>

This is not the case, as Hakken analyses. Data are, on the contrary, "information abstracted from knowledge" since knowledge itself is "situated, embodied in particular collective biographies."<sup>(14)</sup> It is, in opposition to this modernist view, situated in the everyday context. It is not within an individual mind but through collective discussions, that the knowledge formation is possible.<sup>(15)</sup>

In the modernists' view, knowledge is treated as if it were controllable "things". This conception of "thing-ness" would be one of the major factors that have caused cyberspace failures like "Knowledge Management Fatigue." The promised future of so called "knowledge management" with the development of an "automated information technology (AIT)", according to Hakken, resulted in vain in the form of "knowledge management fatigue syndrome."<sup>(16)</sup> Aside from the detailed explanation of this syndrome, he explains the fundamental cause as confusion in modernistic discourses of knowledge itself and develops his own anti-modernistic conception of knowledge in order to fit in the actual, effective knowledge networking. In his new way of characterization of knowledge, it is not something fragmented but should be understood in relations and as a process in an integrated system.

Such relations as those between individuals and social or physical situations are the where knowledge dwells and can be effective. Knowledge is sensed to be alive only when it is used. It is not a solid, idealistic object that is aimed at by teleological effort for certainties, but it turns out to be always in flow.

This means that we must begin with the "knowledge phenomena."

D. Hakken, in the course of his critical studies about modernist conceptions of knowledge as foundationalism, however, denounces Husserl. Foundationalism is for Hakken, the claim for the apodictic knowledge of truth in the Cartesian individual mind.<sup>(17)</sup> Against this critical remark, it can be mentioned that in Husserl, knowledge must be understood in terms of constitution and

---

(13) D. Hakken, *The Knowledge Landscape of Cyberspace*, Routledge, 2003, p. 100, p. 95.

(14) Hakken, 2003, pp. 97-8.

(15) Hakken, 2003, pp. 168-9.

(16) Hakken, 2003, p. 55.

(17) Hakken, 2003, p. 94.

intentionality (within the context and relation). If "the individual mind" means an inner private realm for Husserl, he would be committing ill-orientated psychologism. Husserl denies siding with such psychologism. Husserl's pure ego by no means represents this or that psychological inner mind. Both, at least, seem to share "anti-psychologism" (an anti-positivistic view).

Furthermore, Husserl's ego is fundamentally revealed as intersubjective. In *Formale und Transcendentale Logik*, Husserl argues that my ego that precedes everything worldly is "not identical with myself as a psychological reality," it is not isolated but "others are originally related to me" in the context of our constitution. Concerning "the world for everyone" presupposes that "we and I ...as included in 'everyone'."<sup>(18)</sup> "Transcendental ego" is in this fashion essentially "open to other egos" and does not presuppose the negation of a worldly self; it is thereby never isolated, solipsistic ego. The sense of being of "everyone" implies that the world is for every human being, "which refers to something real in the Objective world and therefore already presupposes the constitution of that world."<sup>(19)</sup> This is not a psychological question but phenomenological (in a sense transcendental) question of the constitution of the intersubjectivity.

I will not intend to limit this discussion to Husserl's anti-psychologism or question of intersubjectivity. Instead, keeping "the sense of being" of the world and everyone within our sight, we will see possible relationships obtained between cyberspace questions and phenomenological ones by means of scrutinizing some key words of VRML.

(ii) The "sense of being" of the world is our base for the VR creation. Also, if the notion of "everyone" will be understood as users, particularly the user's viewpoint, then one of the necessary conditions of the VR creation in cyberspace may be a phenomenological "unity of consciousness," i.e. "the noesis."

As mentioned above, VRs take various forms like HMD, simulators, and other facilities. We can also create as users an interactive, animated 3-D scene on the platform of our own personal computers. An appropriate software enables us to enjoy "an illusion of entering a virtual environment through the desktop."<sup>(20)</sup> The particularly important key words which help us in constructing more realistic scenes are "user's viewpoint" in relation with other users' viewpoints and the existence of the "user's self" represented as an "avatar" (virtual self shown

---

(18) *Husserliana XVII*, Martinus Nijhoff (hereafter *Hua* for *Husserliana*) (English translation by Dorion Cairns, Martinus Nijhoff, 1978) § 96, a).

(19) *Hua XVII*, § 96, p. 240 (s.247).

(20) Heim, 1998, pp. 31, 221. The '96's ver. 2.0 is equipped higher facilities that make use of JAVA within the VRML programming.

within the 3-D scene). Also the terms that indicate features of perceptual reality must be taken into consideration.

To design the user's vision and "avatars" may result in understanding what the being of the world means to us. Like the actual world, virtual worlds are visible to all those who are involved in it ("everyone"). Only through adding the existence of multiple users into the 3-D scene, the scene appears to be a social space of human activities.

In order for the user (when you are one) to participate in that social space, it is required that within the scene "an avatar" acts for you whenever you look at the scene. Along with your avatars there should be shown other users' avatars. The server computer could keep track of where your avatar is and others' are and somehow transmit the information of their changing positions so that you can see the other avatars' behavior from your own viewpoint, but never from others' viewpoints.

To share the scene with others presupposes that it is possible to make our activities common, i.e. visible not only to you but also to all other participants. The necessary condition for constructing a shared scene is then the understandability of our activities and the "communalization" of their outcomes. The meaning of the being of avatars is characterized as such a viewpoint and this communalization that is possible by means of the unity of existence of avatars throughout the changing positions and situations in the scenes.

Standardization of the shapes of avatars, objects and other social settings within the scene is another condition that is indispensable for making the scene look like a social place for our interactions. The standardization supplies the common scale for a VR construction. It also, philosophically, presupposes the possibility of "communalization" of perceptual experiences just as Husserl explains in *Krisis*.<sup>(21)</sup> In constructing a VR with a shared scene, we must take the users' viewpoints into consideration, and it is requires that such conditions and standardization will be fulfilled.

While users' manipulations will be temporally ordered and logged, the unity of a quasi-time sequence shall be retained. The notion of unity here also alludes to what makes the VR scene meaningful: the unity of activities, unity of the being and unity of time. The notion of unity also underlies all the manipulations in the construction of a shared scene. Only within such a shared scene, our meaningful interactions are possible, too. The meaning of the world, therefore, can be derived from this kind of unity that can be ascribed to the user's viewpoint. It can also be stated that this "sense of being" of the world is the fundamental basis for VR creation. This unity of viewpoint can be interpreted, concerning

---

(21) *Hua VI*, 47, p.163. (s. 166.)



phenomenological consciousness, as "the synthetic unity" of "the glancing ray" of noesis in some sense.<sup>(22)</sup> Therefore the user's noesis, i.e. the unity of viewpoints (synthetic unity of noesis), is one of the philosophical and phenomenological presuppositions for constructing VRs.

All those reflect the way of our understanding of the world as a social pragmatic space. The VR creation in this sense is thus a "philosophical experience" as Heim analyzes it. This can lead us to the phenomenological notion of the life-world a priori, such as other's existence that is implied by the communalized experience, and then alludes to the reduction in Husserlian sense.

The unity of a viewpoint cannot be studied as a psychological process. Nor is it a scientific theme of Information technology. Even though the user's viewpoint and the world for every user (everyone) may be understood as building blocks for constructing VRs, such construction presupposes the very understandings of our ordinary world. The methods through which these presuppositions are clarified, in my view, seems to be a kind of phenomenological reduction.

In the next section, I will manifest a possible relationship between thinking of the VR creation and phenomenological methods.

#### **§ 4 Phenomenological methods rethought**

Husserl's notion of "neutrality" seems to offer a clue to dissolve the entangled question of the VR creation. In my view, VR creation is merely possible by neutralization of the statements about the world and human activities, which is characterized as performances of consciousness, or of noesis. To elaborate on the methodological questions revolving around the "phenomenological reduction" is beyond the range of the discussion here.

"Modification for Neutrality" signifies a kind of reduction. Its central task is to suspend the effect of positing acts of consciousness. This can be discussed in the context of predicate logic, including a quantifier in my opinion.<sup>(23)</sup>

When we handle any statement about an object in the universe, such a thing "x" will be "quantified" and the so-called "existential quantifier" is attached to this variable "x" as follows:  $(\exists x)(x \text{ is } p)$ . This means that at least one thing (in the universe) fulfills "x is p." The main point of this schematization may be that the sentence can be analyzed into two different types of meaning: the existential meaning (represented by a quantifier " $\exists x$ ") and the expressive meaning

---

(22) *Hua III.1*, § 131, s.304.

(23) Ref. W. V. Quine, *Methods of Logic*, The third edition, Routledge & Kegan Paul, 1974, pp. 110f. I refer only to predicate logic of first order. Another quantifier, i.e. the "universal quantifier ( $\forall$ )" is employed in the case of "everything," stating and positing each thing that is such and such.

(represented by “x is p”).

The neutralization also presupposes these two types of meaning. Neutralization may mean to set the statement free from the commitment to the quest of positing (the judgment of existence or non-existence) but its expressive meaning remains unchanged. Neither negation nor affirmation of positing is here suggested. The neutralization seems just to drop the quantifier without following any rule for validity (for example existential instantiation rule). To neutralize the positing statement means just to bracket the act of positing (to suspend the judgment of a statement as true or false). In this respect the neutralization cannot parallel the theory of quantification. Moreover, Husserl did not elaborate any formal system of symbolic logic. The further questions of how it is possible to re-evaluate Husserl’s notion of neutralization as well as his theory of judgment in the context of the theory of quantification will be raised. But to answer them will be left for the future study.

Still, the notion of the quantifier may somewhat helps us to understand Husserl’s talks about the distinction between sense and objects or objective determination as well as his comparison between positing and neutralization.<sup>(24)</sup>

From Husserl’s articulation it may be said that for the operation of neutralization two different forms, quantified and pre-quantified are possible and these two forms are suggested for every statement indicating objects. The operation of positing is not executed on the same dimension as the quantification, and the main task of neutralization appears to set existential statements free from their commitment to the objects in the actual world only within the sphere of thought. Despite these, the modification for neutrality opens up a free programming vista.

According to Husserl’s explanation of “Modification for Neutrality,” neutrality is not identified as a genuine  $\varepsilon \pi o \chi \eta$  in and of itself. But still it serves as a base for phenomenological reduction. The neutrality cancels nothing, performs nothing, but is merely “the conscious counterpart of all performance: its neutralization.”<sup>(25)</sup> Every positional statement is subject to various existential modifications possibly to be suspended. “The unity of imagination” is explicated as “the modification of neutrality of a unity of experience.”<sup>(26)</sup> Imagings are possible through “Modification for Neutrality.” However, as Husserl clearly states, there is a fundamental difference between imaginings “in the sense of a neutralizing presentation, and a neutralizing modification generally.” The

---

(24) Husserl, *Experience and Judgment*, Northwestern University Press, 1973 (trans. by J.S. Churchill and K.Ameriks), § 65.

(25) *Hua III-1*, § 109, p. 306 (s. 248f.).

(26) Husserl, *Experience and Judgment*, Northwestern University Press, 1973 (trans. by J.S. Churchill and K.Ameriks), § 40, p. 171.

former can be repeated but the latter never be reiterated. The repetition of the neutrality is "essentially excluded."<sup>(27)</sup> For the first time, Husserl mentions this difference in *Logical Investigations V*.<sup>(28)</sup> This characterization of neutrality in general as different from particular imaginings seems to be retained through to his relatively later period, around 1921/24 in *Phantasie, Bildbewußtsein, Erinnerung 1898-1925*.<sup>(29)</sup>

The difference between individual imagings and neutrality in general is important for VR construction. VRs are virtual as long as they somewhat represent reality through the non-reiterated operation of neutrality and we retain the sense of reality even when we immerse in VRs. The sense of being of VR proves to be its exclusiveness of reiteration and the feature of communalization of social space with other egos. It is not pure imagination but it has a window open to reality, open to the actual primordial world by this sense of being, an anchor in this world. This anchor makes the VR meaningful and keeps it virtual.

A further difference between the phenomenological operation of neutrality and quantification in logic appears to be significant for VR creation. This modification for neutrality is one of the noetic features natural to human consciousness. The modification refers to human consciousness beyond any logical formal manipulation. It refers to the intuitive grasping of the fundamental conditions for what makes the world "a felt whole" and meaningful beyond formal linguistic expressions that are only logically analyzable or calculable through encoding.

Neutrality in no way implies any psychological method but it leads us to a "transcendental reduction" that may dissolve the entangled question of the world and the alternative world disorders. The transcendental reduction clarifies the fundamental conditions of our sense of ground and the world, and thereby dissolves the confusion of representing the actual primordial world with mere imagination. Modifying specific reality, to make it neutral, the operation transforms embodied reality into disembodied cyberspace, but the sense of being of the world or reality cannot be encoded into the latter. Thus the actual world in principle can never be absorbed into VR in cyberspace. VR keeps itself to be virtual and its contrast to the primordial world will not collapse within a

---

(27) *Hua III-1*, § 112, p. 312 (s. 252).

(28) Husserl, *Logische Untersuchungen V*, (LU) § 39, s. 486. As Husserl first introduced the notion of "neutral" in LU V, § 40 (s. 490), in the section 39 he employed the word "qualitative" instead of "neutral."

(29) *Hua XXIII*, s. 575.

(30) Hillis, 1999, p.184.

phenomenological sphere of thinking. Within the sphere of phenomenological thinking, cannot our fear for future shock be mitigated?

### **§ conclusion**

Such fear stems from our own embodied existence. It is because VR creation requires that the user would turn his/her eyes away from reality and from her/his bodily existence as “preconditions for participation within digital sensation.”<sup>(30)</sup>

At first, the infinite inner space of digital worlds appears to free us from our existential constraints. This “fake space” apparently permits us to forget these constraints that anchor us into the primordial actual world. This apparent freedom proves to be the defects and the darker side of digital worlds, which cause Alternate World Disorder (AWD or ADS: Alternate World Syndrome), moral problems, and so on.

An ambivalent feeling toward the future technology emerges from such forgotten periphery, not because we forget such earthly anchors but because we may still keep these existential constraints within our peripheral vision, even if not clearly. Therefore we are incessantly driven to answer the ontological as well as ethical questions concerning VR. VR technology concerns the whole world of everyday life. Thus discussions on cyberspace deal with the questions of knowledge, social activities, the meaning of embodiment, and the sense of being of others as well as the world. These are neither psychological nor physical questions but phenomenological questions.

I will finish this essay with two following remarks.

First, VR creation belongs to our philosophical experience. Second, the phenomenological methods in a Husserlian sense can serve as one of the most appropriate ways of inspecting problematic relationships between human beings and high tech worlds (VRs or Virtual Environments). As to the second, I add a further remark on Husserl’s method.

Husserl’s conception of modification for neutrality that is distinguished from fancy-modification reveals the cardinal feature of VR creation. This is because it encompasses the questions of the world as a whole totality and of its sense of being to us. They belong to phenomenological questions and then to be answered by means of “transcendental reduction.”

Another question of transcendentalism emerges: what does the term “transcendental” mean here? In reply to this, we can find the ultimate meaning of his methods of reduction in the following phrases.

“The first thing, therefore, is to consult the experienced world, purely as

experienced. Immersing myself wholly in the flow of my world-experiencing and in all the open possibilities of its consistent fulfillment, I direct my regard to what is experienced.”<sup>(31)</sup>

“... there is nothing to ‘postulate’ or to ‘interpret suitably’, but only something to bring to light. Thus alone can that ultimate understanding of the world be attained, behind which, since it is ultimate, there is nothing more that can be sensefully inquired for, nothing more to understand.” (Ibd.)

I think Husserl finally advocates this “directing one’s regard” to the ordinary experience in its own right without seeking behind it for the crystalline ideals as final apodictic truths. Husserl’s “transcendental method” means nothing other than this phenomenological insight. Probably, it was not an unfulfilled dream of seeking a final apodictic truth, but a partly fulfilled dream of a pure expression that fits his phenomenological perspective.

---

(31) *Hua XVII*, § 96 a) .