

Categorical Analysis

&The Basic Units Of The SI & SU Systems

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Categorical Analysis © is a method for establishing a scientific foundation for the laws of awareness comprising a philosophical system. This method was developed independently but nevertheless follows closely and is modeled along the lines of, the **Kant-Fries-Nelson-Ross** school of *Critical Philosophy*.

Our common sense experience consists of things with various qualities. These things also stand in various relations to each other. If we bracket out all of the relations that are contributed by the understanding, we are left with appearances or sensations which consist merely of things and their various qualities. These sensations are themselves composed of a *material element*, which corresponds to raw sensation and a *formal element*, the dimensions of the space/time manifold of awareness. We cannot even be aware of sense-data without placing them within this manifold of awareness. To be aware of even two sense-data, means placing them within an order of temporal succession. Space and time constitute the coordinate system, in which the manifold of sense-data is ordered or arranged. In other words they are the dimensions which constitute its unity-of-being.

Space and time simultaneously differentiate and integrate (in space/time relations) the indeterminate matter of appearance. This differentiation and integration is a condition of our awareness, not a consequence of it, for we never have a sensation outside of this space/time coordinate system. What we are given in empirical intuition¹ is already differentiated and integrated.

¹ Here it is necessary to add a few words in explanation of the use of the word "intuition" which is used here in accordance with **Kelly Ross'** explanation of:

"... one of the most pivotal doctrines of the Friesian tradition: the theory of non-intuitive immediate knowledge. This is a profoundly paradoxical doctrine, which is at variance with contemporary notions of immediate knowledge and intuition.

"Non-intuitive immediate knowledge is the category to which Fries and Nelson assign the knowledge that belongs to the object language systems [1] of metaphysics and ethics, as opposed to the empirical category to which they see the metalanguage, i.e. epistemology itself, belonging [2]. Here "intuition" is used for the German *Anschauung* as used by Kant and the Friesians, and it does not mean "intuition" either in the ordinary sense of a spontaneous belief or in the similar philosophic sense. In Kant the notion of intuition originally seems to be the equivalent of perception and perceptual knowledge [3]. The conception becomes confused, however, when Kant himself appears to conclude that perception cannot be knowledge, or even perception, without the mental activity of synthesis [4]. The conclusion would reduce "intuition" to no more than a pre-conscious receptivity of the senses. Intuition as "immediate" knowledge would also thus become impossible, since knowledge would require the *mediation* of the intellect to become knowledge. Friesian theory accepts Kant's earlier notion of intuition as being immediate knowledge, albeit not conceptually articulated in any way. Nelson's point in that regard [5] is that not all knowledge can be mediate, or conceptual, because all conceptual propositions, except tautologies and contradictions, are essentially arbitrary and must, for their truth or falsity to be determined, be referred to some external ground. The "external ground" then for perceptual knowledge is immediate knowledge in perceptual intuition, which as such cannot be any kind of *belief* or *thought*. In this respect the Friesian theory of truth [6] is a combination of traditional correspondence and coherence theories: coherence in that the conceptual expression and the immediate knowledge both belong to consciousness, and must merely be made to conform to one another; and correspondence because immediate knowledge is a representation of the external world and so, on the principle that our representation contains the objects of our knowledge (phenomenal objects), the external world itself, requiring that the purely mental entity, the belief or the propositional representation, *corresponding* to the world, must be mediately constructed. By the principles of the dual nature of representation (that representation is both *internal*, a mental content, *and external*, the phenomenal object of our representation) and of ontological undecidability (that we cannot decide whether representation is "really" internal or external) we may consider the Friesian doctrine of truth to be the equivalent of the strongest traditional correspondence theory, that there is an isomorphism between truth in internal representation and states of affairs in the external world. [emphasis mine-J.R.]

"The difference between intuition and immediate knowledge is that the concept of intuition contains the added feature of immediate *awareness*--that the intuitive ground is explicitly present to consciousness. The intuition that we have is perception, and the objects of perception are empirical objects. Since we are ordinarily strongly inclined to believe that knowledge implies awareness of knowledge, it is a very powerful tendency to equate our intuition with our immediate knowledge as such. That gives rise to what Nelson [7] calls a "dogmatic disjunction" in the attempt to formulate the nature of the ground of metaphysical knowledge: that any knowledge is *either* from intuition or from reflection. This is to

If we bracket out the subjective space/time form of an appearance, we are then left only with an indeterminate X and the object of which we were aware disappears. This object is presented to our consciousness already subject to this space/time coordinate system, which differentiates and integrates this object within our sensuous intuition not after it. Furthermore if we bracket out all external appearances, the intuition of space still remains and the same holds for the perception of time if we bracket out internal states.

Consequently the axes of this coordinate system cannot be empirically derived concepts. Nor can they be concepts at all, if we mean by concepts general ideas or universals. For in spite of the fact that, unlike all other particulars, space and time have no non-mental existence, they nevertheless, *are* empirically given in experience. Furthermore, as the coordinate system of the laws of the natural world, these axes are also empirically real, for they enter into the constitution of empirical reality.

Kant introduces a distinction between our internal and external senses. This distinction consists in noting the fact that all external objects are perceived in *both space and time* whereas all internal or psychical states are perceived in *time only*. Time is thus a *synthetic a priori* condition of all appearances whatsoever, whereas space is an *synthetic a priori* for external objects only.²

Space and time are transcendently ideal in the **Kantian** sense for as necessary conditions for the possibility of experiencing *noumena*, space and time cannot apply to *noumena*, other than as a necessary component of *noumena's* appearance to us as sensuous intuitions. Because the existence of *noumena* which cannot be perceived cannot be ruled out, this view cannot be conflated with **Berkeley's** "to be is to be perceived" brand of idealism.

Similar to the approach taken in **Kant's** *Transcendental Aesthetic*, the 1st fundamental axiom of *Categorical Analysis* is that: the ordinary act of perceiving, conformally maps the coordinate system of space and time onto the ineffable (**Kant's noumenal world**). In other words the hard-wired syntax of our temporal sensory modalities is in effect, a coordinate system with the dimensions of space and time as its basis vectors. Following **Kant**, these basis vectors are called the *categories of perception*. This process of mapping the *categories of perception* onto the ineffable is called by *Categorical Analysis* the *Perceptual Synthesis* and produces those entities which following **Kant** are called "*objects of perception*." The *objects of perception* are composed

say that any case of knowledge is either mediate, involving concepts and thought, where through reflection new knowledge can be generated, or immediate, where all immediate knowledge is intuitive."

[1] "Object languages" are deductive systems (i.e. theorems derived from axioms) which are described by a "metalanguage," i.e. propositions that do not belong to the deductive system but which refer to it.

[2] Leonard Nelson, *Socratic Method and Critical Philosophy*, Dover Publications, 1965, "The Verification of Judgments: Proof, Demonstration, and Deduction," p. 153. It is the most distinctive claim of Friesian epistemology that the propositions constituting the "critique of knowledge," i.e. epistemology itself, are empirical and a posteriori rather than non-empirical and a priori, as are the propositions of ethics and metaphysics.

[3] Immanuel Kant, *Critique of Pure Reason*, Norman Kemp Smith translation, St. Martin's Press, 1965, p. 65.

[4] Ibid. pp. 129-150, the famous "*Transcendental Deduction*" in the first edition of the *Critique of Pure Reason*.

[5] Nelson, op. cit., p. 120.

[6] Ibid., p. 117.

[7] Ibid. "*Prejudice of Logical Dogmatism*," p. 141 and diagram p. 146.

Kelly L. Ross, Ph.D. *The Foundations of Value, Part II, Epistemological Issues: Justification (quid juris) and Non-Intuitive Immediate Knowledge after Kant, Fries & Nelson*; Copyright ©1996 All Rights Reserved; Published <http://www.friesian.com/founda-2.htm>

²Later **Whitehead** apparently unaware of **Kant's** contribution, reintroduced this distinction substituting the word "visceral" for internal and "visual" for external. "*Philosophers*," he said, "*have disdained the information about the universe obtained through their visceral feelings, and have concentrated on visual feelings.*" [*Process and Reality*, ©1929, Cambridge pg. 169; ©1929 New York pg. 184]

of matter and form. Their matter corresponds to sensations. Their form corresponds to that which enables the appearances to be arranged in certain relations.

The *objects of perception* are associated with a set of innumerable **linearly superimposed schemata** which are collectively known as the imagination. The total set of *schemata* associated with (and generated by) the *objects of perception* are called the **persona wave function**. The **persona wave function** (a.k.a. *the persona*) is thus composed of this total set of **linearly superimposed schemata**.

The **persona wave function** as the totality of the *schemata* associated with the *objects of perception* constitutes a **conscious temporal awareness package**. This **conscious temporal awareness package** constitutes the **categoreal** structure of our *unity-of-being-in-time* and is also called the **persona**.

A startling consequence of this approach is that, in sharp contrast to **Gerald M. Edelman's primary consciousness**³ which following the pragmatic approaches of **William James** and **John Dewey** has its origins in the physical world of evolutionary biology; the *space/time coordinate system* has its origins in the dimensionality of the categorial form of the **persona wave function** itself. That is, for *Categorical Analysis* the physical world of evolutionary biology is seen to have its origin in the *categoreal world of consciousness*. Nevertheless and perhaps even more surprising, in *Categorical Analysis*, temporal knowledge of this categorial world and of the physical world it subsumes remains as dependent upon empirical data as it is in the pragmatic method.

Similar to the approach taken in **Kant's Transcendental Logic** the 2nd fundamental axiom which forms the basis of *Categorical Analysis* is that: the ordinary act of knowing, conformally maps the **laws of awareness** onto the *space/time manifold of awareness* as the **laws of matter/energy/space and time**. These **laws of awareness** are not abstracted from sense experience as **John Dewey** believed, nor are they derived from genetics as **Piaget's genetic epistemology** and **Edelman's theory of neuronal group selection** have suggested, but have their origins in the very structure of consciousness itself. We have on the one hand the *space/time manifold of awareness* and on the other hand a plurality of **laws of awareness**. What determines which *law* or *laws* are applied. There must be some connecting link between the data of sense intuition and the **laws of awareness** if the former are to be subsumed under the latter. It is the imagination which performs this mediating function between knowing and perceiving. The imagination produces and is the bearer, as it were, of *schemata*. A *schema* is in general a rule or *algorithm* for the production of *images*.

Here it must be emphasized, that these *schemata* (or *algorithms*) for the production of images, are not arbitrary products of habit and custom as **Dewey** believed. Quite the contrary, they are none other than the actual categorial structure of the **persona wave function** itself. Each of the **persona's linearly superimposed schema** produces through the function of the imagination, (that is, through the *unitary evolution* of the **persona wave function**), an *image*. This *image* schematizes or delimits, so to speak, a **law of awareness** so that it can be mapped as a particular meaning onto one or more *objects of perception*. The *schema* is not itself an *image*, but represents a general algorithm for the formation of *images* out of one or more *objects of perception*. The *image* is a spontaneous product of the power of the imagination working according to a *schema* which it itself produces. This process of conformat mapping by means of which the *image* is actualized out of the plethora

³ Gerald M. Edelman, ***THE REMEMBERED PRESENT A Biological Theory of Consciousness***; Copyright © 1989 Basic Books.

of linearly superimposed possibilities is called the **Cognitive Synthesis** (a.k.a. *the collapse of the persona wave function*) and it converts *objects of perception* into those entities, which following **Kant** are called “*objects of knowledge.*”

The *linear superimposition* being general has an affinity with the *laws of awareness*: the *image* being particular has an affinity with the *object of perception*.

Cognitive Synthesis produces these *objects of knowledge* by actualizing one of the many possible schema of the imagination, that is, by mapping the meaning of one of its evolved *images* onto an *object of perception*. **Cognitive Synthesis** is itself the decision making process which constitutes the act of knowing (*judging or thinking*) and it is mediated by the imagination which is structured as the set of innumerable *linearly superimposed schemata* comprising the *persona wave function*.

In sum, there are two chief sources of knowledge in the human mind, which spring from a common root, namely *perceptual synthesis* and *cognitive synthesis*. Through the *former*, (as the faculty or power of receiving impressions) objects are given us; through the *latter* (as the faculty or power of thinking the data by means of concepts) they are thought. The knowledge of objects requires the cooperation of both, neither can substitute for the other. As **Kant’s** oft quoted phrase has it “*Thoughts without content are empty; intuitions without concepts are blind.*”

All of the equations or laws of **Modern Physics** are derived from four **Standard International (SI) Basic Units of measurement**, of the **physical world (mass, length, time and charge)**. As a consequence of the 2nd fundamental axiom of *Categorical Analysis*, these *laws of physics* are also mappings on the *space/time manifold of awareness* of the *laws of awareness*. These *laws of awareness* function as the “*grammar*” of four empirically observed criteria which comprise the **Standard Universal (SU) Basic Units of measurement** of the *categoreal world (categoreal mass, categoreal length, categoreal time and self-esteem)*. The four criteria generated by, (*and through which*), this mapping occurs, are as follows.

1a) Unit of length. The **metre (m)** is the length of exactly **1,650,763.73** wavelengths of the radiation in vacuum corresponding to the unperturbed transition between the levels **2p10** and **5d5** of the atom of **Krypton 86**, the orange-red line.

MAPS OR “REFLECTS”

1b) Unit of categoreal length (i.e. time). The **second (s)** is the duration of **9,192,631,770** periods of the radiation corresponding to the transition between the two hyperfine levels of the fundamental [ground] state of the atom of **cesium 133**.

2a) Unit of mass. The **kilogram (kg)** is the mass of a particular cylinder, of **platinum-iridium** alloy, called the **International Prototype Kilogram**, which is preserved in a vault in at Sevres, France by the International Bureau of Weights and Measures.=The **kilogram** can also be defined as **9.1 x 10³¹ kg** times the *rest mass* of an *electron*; as *electron rest mass* = **9.1 x 10⁻³¹ kg**.

MAPS OR “REFLECTS”

2b) Unit of categoreal mass (a.k.a. “semantic weighting”). The **kilogree (kg)** is defined as **9.1 x 10³¹ kg** times the *categoreal rest mass* (semantic weighing) of a *persona*; as the *categoreal rest mass* of a *persona* = **9.1 x 10⁻³¹ kg**.

3a) Unit of time. The **second (s)** is the duration of **9,192,631,770** periods of the radiation corresponding to the transition between the two hyperfine levels of the fundamental [ground] state of

the atom of **cesium 133**. One **second**, can also be defined as the **extension through time** it takes for a certain number (**m**) of **virtual photons** to be exchanged at the highest possible **energy** level between the **electron** and **proton** of a **hydrogen atom** in its fundamental [*ground*] state.

MAPS OR "REFLECTS"

3b) Unit of categorial time (i.e. eternity A fifth sapiental or noological dimension orthogonal to the space/time continuum). The unit by means of which eternity is measured, is the **virtual decision packet**, which is defined as the amount of **extension through eternity** required for a certain number (**M=m**) of **virtual essence quanta** to be exchanged at the highest possible **consciousness** level between the **persona** and **creation quantum**⁴ of a **neuroses free individual**, in his or her fundamental [*ground*] state.

4a) Unit of electric current. The **ampere** is the constant *current* (flow of the *negative charge* of the *electron*) through a *wire* in space/time, of about **1.6 x 10¹⁹ electrons** per *second* as one *electron charge* = **1.6 x 10⁻¹⁹ amperes/sec** (or coulombs).

MAPS OR "REFLECTS"

4b) Unit of bioelectric current. The **bioampere** is the constant *biocurrent* (flow of the *negative self esteem* of the *persona*) through *the hierarchial structure of a pecking order* in space/time/eternity of about **1.6 x 10¹⁹ personas** per *virtual decision* as the *self esteem of one persona* = **1.6 x 10⁻¹⁹ bioamperes/sec** (or biocoulombs).

In accordance with these four observed criteria, the *laws governing the cognitive synthesis* of the *persona* are mapped (*via* this very same *cognitive synthesis*) onto the *space/time manifold of awareness* as the *laws governing the collapse of the electron's wavefunction*. Therefore the mathematics governing the indistinguishability of *elementary particles* such as *electrons* are mapped as the mathematics governing the indistinguishability of *elementary awareness packages* such as *personas*.

Because of this mapping, the *catagoreal distance (timelag)* between the *laws of awareness* and the *space/time manifold of awareness* upon which they are mapped as the *laws of matter/energy/space and time*, is constant for all life forms so that the topological proportions of the above basic units of the laws of awareness are conserved when the laws of awareness governing *catagoreal mass, catagoreal length, categorical time* and *self esteem* are mapped onto the *space/time manifold of awareness* and are perceived as the laws governing *mass, length, time, and charge*.

The *catagoreal world* thus generated by the above two fundamental axioms and its four **observed criteria**, turns out to entail a set of propositions and principles (*laws of awareness*) that are in a one to one correspondence with the propositions and principles of a surprisingly large percentage of what passes as human knowledge.⁵ The innate structure of this *catagoreal world* is

1. In **Carl Jung's** studies of the phenomena of association he demonstrated that there are combinations of psychic elements grouped around a *complex* (i.e. *feeling toned content*) comprised of a nuclear element and a large number of secondarily constellated associations. The nuclear element is composed of an individuals set and setting. According to **Jung** there are two types of unconscious complexes **1) a repressed complex** toward which the persona's attitude is hostile and **2) a creative complex** which despite the willingness of the persona to embrace it, can because of its strangeness, remain in the unconscious for a long time without being repressed. In the language of this study these *unconscious complexes* correspond to the two types of unconscious temporal awareness packages in the *unconscious ego nucleus* that is they correspond respectively to **1) one or more repression quanta** and **2) one or more creation quanta**.

2. For example motivation (*or the pace of being-in-time*) is like speed a scalar quantity, while conviction (*motivation with a categorial direction through the catagoreal world*) is a vector quantity like velocity (*speed with a direction*).

none other than the *synthetic a priori* structure of our own awareness and as such, is the world in which the *unity of our being-in-time* occurs as a *persona*.⁶

The laws of awareness and observed criteria which generate the categorial world are phenomenal appearances belonging to the natural world and perceived by the sensuous intuition.

This proposal of *Categorical Analysis* as a method to establish a scientific basis (*and thus clear the ground*) for the *laws of awareness* comprising a philosophical system, leaves *Categorical Analysis* open to two egregious yet seemingly perennial misunderstandings.

The 1st misunderstanding (that of mistakenly perceiving *Categorical Analysis* to be a form of *transcendentalism*) leads to the unwarranted charge that *Categorical Analysis* must be a system of speculative philosophy (as in **Descartes** and **Leibniz**). That is that the *laws of awareness* must be developed *a priori* as a philosophical system, because of the rational character of philosophy. This of course sacrifices the main methodical thesis of *Categorical Analysis*; that the *laws of awareness cannot* be dogmatically postulated but must be derived from a concrete ontological investigation of the steps leading to knowledge, that is from a concrete ontological investigation of the processes of the *perceptual* and *cognitive syntheses*.

The 2nd misunderstanding (that of mistakenly perceiving *Categorical Analysis* to be a form of *psychologism*) leads to the unwarranted charge that *Categorical Analysis* must be conceived of as a branch of psychology. That is, that the *laws of awareness* must be developed empirically from sense data, as if the ontological investigation of the *laws of awareness* falls within the empirical sphere of psychology (as in **Locke** and **Berkeley**). This of course fails to acknowledge the *impossibility* of a purely psychological theory of the *laws of awareness* because it fails to recognize that the *laws of awareness* stand in a qualitatively different ontological relationship to the *objects of knowledge* than do for example the *laws of physics*, which *do* govern and *are* empirically derived from the relationship of the *objects of knowledge* to one another.

The perennial nature of these misunderstandings can be seen in the fact that **Leonard Nelson** (1882-1927) had to defend **Jakob Friedrich Fries** (1773-1843) from the 2nd misunderstanding, as he (**Fries**) had been largely dismissed (*quite mistakenly*) by his later critics, as promoting what they called an outmoded *psychologism*. This charge was probably due in part, to the fact that **Fries** preferred **Kant's** 1st edition of the *Critique of Pure Reason* with its long and “*subjective*” *psychological deductions* of the *categories (laws of awareness)* to the shorter and “*objective*” *transcendental deductions* of the 2nd edition.

Also doing little to dispel this mistaken charge of *psychologism*, was the fact that in freeing the *laws of awareness* from their restriction of being contingent upon the validity of any particular physics paradigm (**Newtonian** or otherwise) **Fries**, (*in developing the difference between the non-empirical and necessary laws of awareness and the empirical and fallible critique*), likened the critique’s uncovering of the criteria (**categories**), to the methodology of experimental physics. It was not at all clear to his critics that he meant to stress that the criteria are empirically derived from the concrete ontological investigation of the mapping of the necessary and non-empirical *laws of awareness* onto the *space/time manifold of awareness*, as the empirically derived *laws of physics*,

⁶In some ways the *persona* as defined in *Categorical Analysis* occupies a position similar to what **Kant** termed the *soul* in his *Critical Philosophy*, that is the totality of the categories of the understanding. It differs in at least as many respects as it is similar, however.

rather than directly from *sense data* as are the *laws of physics*.

However the specious nature of this charge is evident, as **Fries** did not perceive *only* that the **Transcendental Deduction** was circular if it rested on premises which were themselves *synthetic a priori*, as it did in the 2nd edition. He also noted it was inconsistent if it rested on premises which were *synthetic a posteriori* and empirical, as it did in the 1st edition.

While Hegel and others concluded that this dilemma rendered Kant's argument ineffective, circular, or unnecessary, Fries solved the problem with a distinction that is now commonplace but is still rarely noted by those who have bothered to address Fries' system: the distinction between object language and meta-language. Thus, Fries would say that the object languages of metaphysics, ethics, etc., whose first principles would consist of synthetic a priori propositions, which in the case of ethics would also be propositions of value (with "ought") rather than propositions of fact (with "is"), are logically distinct from the meta-language description of them which is the actual content of Kant's "critique." Thus "critique" itself can be empirical a posteriori without this affecting in any way the a priori status of the object languages. Since "first principles," by Aristotle's own definition, cannot be proven anyway, we cannot understand Kantian "critique" to offer in any logically familiar sense a proof of synthetic a priori first principles. [Kelly L. Ross, *Jakob Friedrich Fries*, © 1997]

Nelson elegantly resolved these difficulties along the lines of the Friesian solution and in the following paragraphs, we shall transpose the essence of his solution into to the terminology of *Categorical Analysis*

Both of the above mentioned misunderstandings **tacitly assume** that a basis of knowledge must consist of **proving** the laws of awareness from the two fundamental axioms of *Categorical Analysis*.

If the two fundamental axioms of *Categorical Analysis* and the *laws of awareness* of the philosophical system were in fact related to each other in the same way that the premises and conclusions of logical problems are related, then indeed *Categorical Analysis* and its resulting philosophy would be subject to the same constraints — that is they would (*following the logic of Hume's fork*) have to be either **empirical and psychological** or **rational and a priori**.

Investigating the nature of these two misunderstandings of *Categorical Analysis* show that (*and why*) this above mentioned **tacit assumption** is itself mistaken; *Categorical Analysis* serves to clarify one's understanding of the origin of the *laws of awareness* and of their function in the human knowing of facts.

Knowing is an activity of the self, motivated by sensual stimulation; *objects of perception*, acquired by sensual stimulation (*perceptual synthesis*) are, by the act of judgement or knowing, converted into *objects of knowledge* and thus related to one another (*cognitive synthesis*). It is the function of the algorithm of imagination to delimit the *laws of awareness* by building an image that can be applied to an *object of perception* thus converting it into an *object of knowledge*. At this point it is important to be very clear that the *laws of awareness* are **not** mapped directly onto the *objects of perception*. However, they **are** mapped directly onto the *space/time manifold of awareness*, as the *laws of physics* **which govern** the *objects of knowledge*.

The function of *Categorical Analysis* is to **demonstrate** the *laws of awareness* (involved in *this process of knowing*) as well as the four observed criteria (*by means of which these laws of awareness are applied to sensations*) by analyzing the concrete steps involved in the *cognitive synthesis* and by this means to follow these *laws of awareness back to their origin* in this same *cognitive synthesis* by means of a psychological theory of the mediating function of imagination in the act of judgement (*the act of thinking or knowing*). It **is not** the function of *Categorical Analysis* to **prove** the objective validity of the *laws of awareness* in which these four criteria are expressed.

Consequently, the *laws of awareness* are themselves of a philosophical rather than a psychological nature. They are themselves the means by which the four criteria which they govern are expressed, even as grammar is itself the means of expressing the language it governs. They cannot be **derived** from the two fundamental axioms of *Categorical Analysis*; indeed as the *laws of awareness* are the basic assumptions implicit in **all** perception, they cannot be derived from any judgements more valid than they are.

This connection between *Categorical Analysis* and the *laws of awareness* comprising the system of philosophy it makes possible is, (*as this analysis reveals*), not one of logical proof; it is derived rather in **Nelson's** terms, from "**reason's faith in itself**," or as **Fries** put it, from the fact that all striving for knowledge assumes faith in the possibility of knowing and this striving is thus by its very nature —self-referential. This faith is **reason's** faith in **reason**, inasmuch as reason **is itself** the faculty of knowing, that is —**is itself** the *cognitive synthesis*. This faith in **reason** as the mapping of the *laws of awareness* onto the *space/time manifold of awareness* is maintained by the agreement of our knowings with each other, but **reason** as this mapping cannot be further checked or justified by a comparison of these knowings with the *object known*. This is so because the *object known* derives its very existence as an *object of knowledge* by this mapping function of **reason** and does not exist separate from this *cognitive synthesis*.

This sets an unsurpassable limit to the **provability** of knowings. **Nelson** expressed this in his paper on the impossibility of a psychological theory of knowledge⁷ which attempts to investigate scientifically the objective validity of knowing. In contrast to this purely empirical dead end, *Categorical Analysis* limits itself to investigating the direction in which faith in knowing is in fact turned.

Categorical Analysis wholeheartedly embraces the **Friesian** response to **Kant**. Unlike empirical and pure intuitions (*perceptions*), which are clear and readily available to consciousness, the *laws of awareness* lie concealed and obscure in the depths of human reason. It is obvious that **Kant** misunderstood the function of *critical philosophy* and the status of the synthetic a priori *laws of awareness* as the object language of metaphysics that constitute it. Whereas, the object language *laws of awareness* that *critical philosophy* aims to uncover are non-empirical and necessary, the critique itself (*through which the assumed criteria that both govern and are expressed in the laws of awareness are revealed*) is empirical and fallible.

⁷"The Critical Method and the Relation of Psychology to Philosophy" in *Socratic Method and Critical Philosophy*, Dover 1965 (Yale) 1949, p.146

Furthermore *Categorical Analysis* is in complete agreement with **Nelson** as regards his conclusions concerning the relationship of **Kantian** theory to the later development of **non-Euclidian geometry**. **Kelly Ross** in a delightfully thought provoking treatise develops the implications of the fact that we perceive (*and visualize*) space in three and only three dimensions, even though the analytic formulas of mathematics have for some time enabled us to think and conceive in terms of higher dimensions.

“The Euclidian nature of our imagination led Kant to say that although the denial of the axioms of Euclid could be *conceived* without contradiction, our intuition is limited by the form of space imposed by our own minds on the world. While it is not uncommon to find claims that the very existence of non-Euclidian geometry refutes Kant’s theory, such a view fails to take into account the meaning of the term “synthetic,” which is that a synthetic proposition can be denied without contradiction. Leonard Nelson, realized that Kant’s theory implies a prediction of non-Euclidian geometry, not a denial of it, and that non-Euclidian Geometry vindicates Kant’s claim that the axioms of geometry are synthetic [Leonard Nelson, “Philosophy and Axiomatics.” Socratic Method and Critical Philosophy, Dover, 1965; p.164]. The intelligibility of non-Euclidian geometry for Kantian theory is neither a psychological nor an ontological question, but simply a logical one — using Hume’s criterion of possibility as logically consistent conceivability.”[**Kelly L. Ross**, *The Ontology and Cosmology of Non-Euclidian Geometry*, © 1996]

Strangely enough **Nelson** who had no problem embracing **non-Euclidian** geometry nevertheless perceived a tension between **Modern Physics** (*relativity and quantum mechanics*) and the *Critical Philosophy*. Apparently this perception derived from the fact that he like **Kant** and later **Fries** had observed criteria (*i.e. substance, causality and reciprocal action*) which coincided in fact with the basic principles of classical mechanics and thereby came into conflict with modern physics.

Categorical Analysis rejects this perception of a conflict and takes a similar posture towards **Relativity Theory** and **Quantum Mechanics** as **Nelson** himself did towards **non-Euclidian geometry**. **Kant’s** theory implies a prediction of **non-Newtonian physics**, not a denial of it. **Non-Newtonian physics** vindicates **Kant’s** claim that the axioms of physics are synthetic. **Nelson** overlooks the very **Friesian** solution that he championed. Whereas the *laws of awareness* are themselves non-empirical and necessary, the observed criteria which function as their grammar are empirical and fallible. Although as *noumena* or *things-in-themselves*, the *laws of awareness* are *synthetic a priori*; as *objects of knowledge* of the *phenomenal world of nature*, they are empirically derived approximations. Their existence as *noumena* represents a limit, to which their existence as *objects of knowledge* approaches asymptotically but never reaches. The *laws of awareness* determining the structure of the *categorical world* are thus itself an *object-of-knowledge* of the *natural world* and is open to investigation by empirical means.

As a crude analogy one can think of the image of one’s face in a mirror. The image would then correspond in this analogy to the laws of physics of the physical world. One would then have knowledge of one’s face as an *object-of-knowledge* empirically derived from the image in the mirror together with the world that it moves in corresponding to the *laws of awareness* as *objects-of-knowledge* together with the *categorical world*. The face as an *object of knowledge* empirically derived from the image in the mirror would belong to the world of images in the mirror

corresponding to the *laws of awareness* as *objects of knowledge* empirically derived from the laws of physics would belong to the natural world. Whereas the face itself would not, rather it would belong to the world of solids corresponding to the *laws of awareness* as *noumena*.

What this means is that *as the steam of material ignorance clears off of the space/time manifold, we begin dimly to perceive in the laws governing the structure of matter as if in a mirror, the (increasingly defined) reflection of the synthetic a priori laws governing the structure of our own awareness*. As a consequence *Categorical Analysis* is not tied to and floats above the validity of any particular physics paradigm.

In other words, objects, to be objects, must be related to the unity of apperception, to the unity of consciousness. And they are related by being subsumed under four observed criteria which govern and express the *laws of awareness*. These *laws of awareness* determine the very structure of consciousness itself. The complex of *possible objects of experience*, thus forms one *natural world* in relation to the unity of consciousness in general. And the necessary conditions for thus relating them are themselves the ground of the necessary laws of the *natural world*. The principles of possible experience are then at the same time universal laws of the *categoreal world* which can be known *a priori*.

Without the *cognitive synthesis* there is for us no *natural world*, and the *cognitive synthesis* of the *synthetic a priori laws of awareness* gives laws to the *natural world*. These necessary *laws of awareness* of the *categoreal world* are in a real sense imposed by the human subject; but they are at the same time objective laws, because they are valid, and necessarily valid, for the whole range of possible experience; that is, for the *natural world* as the complex of possible objects of experience.

However **Kant** did not distinguish for the forms and categories of the **Understanding** between their empirical existence as *objects-of-knowledge* and their *synthetic a priori* existence as *noumena*. He recognized only the latter possibility. This made the categories contingent upon **Newtonian Physics** which like **Modern physics** postulates a unity of the *natural world* unprovable by experience. **Kant** agreed with **Hume** that this unity could not be proven by empirical induction and concluded from this, that the *natural world* must therefore conform to the *a priori* conditions of objective experience. This fact, said **Kant**, enables us to know *a priori* certain truths which lie at the foundation of **Newtonian Physics** such as, for example, “*all change accords with causality*.” Of course this so-called *a priori* does not fit in with quantum physics which enthrones the concept of indeterminacy. Thus *Critical Natural Philosophy* addressed the problems raised by **Hume**, but was deprived of the natural robust flexibility which springs from a free-floating ontology.⁸

⁸ **Avicenna** (980-1037) made this very same mistake when he tied his reversal of the meaning of interiority to **Aristotelian Physics** and **Ptolemaic Astronomy**. This served only to cause his epistemology to be discarded along with **Ptolemy** with the advent of the **Copernican Revolution** and to insure to a large measure its complete and utter unintelligibility to the modern mind. Here it is enough to note in passing this phenomenological homology between their respective approaches and a few salient details which differentiate the two.

Avicenna mapped *his* reversal of the meaning of interiority onto the **Aristotelian** spheres of emanation, as **Newton's** physics didn't even exist yet. Furthermore as **Avicenna** was working with **Aristotelian** rather than **Newtonian** physics his observed criteria by which the *laws of awareness* were governed as well as expressed, were as different from **Kant's** observed criteria (his so-called *a priori categories*) as was the difference between the respective physics which they served as *categories* for. Nevertheless **Avicenna's** world of experience *did* represent a synthesis of the innate categories with the ineffable, as did **Kant's**. He also had a prototype version of **Kant's** second synthesis which he called the individuation of form and which also was mediated by the imagination. All of which represents a remarkable adumbration of **Kant's** philosophical “*Copernican revolution*.” [See **Henry Corbin**, *Avicenna and the Visionary Recital*, ©1980, Spring Publications, Inc.]

As **Newtonian Physics** reflected only deterministic, finite and local laws of awareness, there was no place in it for the unconditioned (*non-deterministic*) world of free will, the immortal soul and G-d. It was therefore necessary to subsume these non-deterministic, infinite, and non-local entities under a different set of categories, which **Kant** called the categories of **Reason**. Free will, the immortal soul, and G-d were thus *not possible objects of experience* as they were *not* part of the *natural world*. Deprived of any possibility of existing as objects of experience, they could not exist as objects of knowledge and they existed only as the limits of reason, that is as *noumena* or *things-in-themselves* (*Ding an sich*).

Categorical Analysis agrees with **Kant** and **Hume** in so far, as it recognizes that even **Modern physics** postulates a unity of the *natural world* unprovable by experience and further that this unity can not be proven by empirical induction and furthermore like **Kant**, *Categorical Analysis* concludes from this, that the *natural world* must therefore conform to the *synthetic a priori* conditions of objective experience. However *Categorical Analysis* parts company with **Kant**, for it denies that this fact enables us to know *as synthetic a prioris*, the *synthetic a priori* certain truths which lie at the foundation of *any Physics paradigm*, whether the paradigm be **Newtonian**, **Modern** or whatever. *Categorical Analysis* allows only that these *synthetic a priori* certain truths can be known as empirically derived *objects-of-knowledge*.

From the perspective of *Categorical Analysis*, principles such as “*all change accords with causality*” are themselves “*objects-of-knowledge*” dependent upon the *Cognitive Synthesis* for their existence and as such are empirically derived approximations of the *synthetic a priori laws of awareness*, which as *noumena* represent the limit which are approached asymptotically but never reached.

Even more significant is the fact that **Modern Physics** does reflect indeterminacy, infinite, atemporal and non-local *laws of awareness*. Suddenly there is a place for free will, the immortal soul and G-d as *objects-of-knowledge* in the *natural world*, not as *objects-of-knowledge* of physics perhaps, but as *objects-of-knowledge* of the *categoreal world* which is itself, in its role as an *object-of-knowledge*, part of the *natural world*. Of course, in its role as *noumena*, the *categoreal world* remains separate from the *natural world*, that is it remains the limit, which in its role as an empirically derived *object-of-knowledge* and part of the *natural world*, it approaches asymptotically.

Therefore *Categorical Analysis* subsumes **Kant's Categories** of both *Understanding* or *Reason* under the four observed criteria. In *Categorical Analysis* they express and govern the fermion-like realities of the mortal mind as conscious temporal awareness packages *and* the boson-like realities of the divine mine as conscious atemporal awareness packages and thus the parameters of what **Henry Corbin** has termed the *imaginal world* are easily and naturally mapped into the *categoreal world*.

These four criteria also span the complexes of the subconscious mind as unconscious temporal and atemporal awareness packages, allowing much of **Carl Jung's Analytic Psychology** and all of **Victor Frankl's Existential Psychoanalysis** to be mapped into the *categoreal world* as well (*to name just a few*). Piaget's genetic epistemology can be mapped as is or can be turned completely inside out and be mapped as epistemological genetics. These expanded capabilities are a direct result of applying **Kant's Copernican Revolution to modern physics**.

Categorical Analysis freely embraces and applies the **Kantian** “*Copernican Revolution*” to both **Modern Physics** (*relativity theory and quantum mechanics*) and recent Mathematical developments such as, **Cantor’s** transfinite number theory, **Robinson’s** infinitesimals and **Godel’s** incompleteness theorem. For a demonstration of the feasibility of incorporating special relativity into the framework of *Categorical Analysis* see **Bias Transforms**, © John E. Range. Papers on the others are forthcoming.

But just what precisely has been accomplished by this dogmatic separation, beyond the fact that for centuries, the battle of morality has been fought between the empirical orientation of looting socialist thugs who preach like **Hegel** that because mortal mind has been conflated with the divine mind by denying any separation that the ultimate good is a counterfeit relativity requiring self-sacrifice for the sake of incompetents on earth because your life belongs to your neighbor and the rationalist orientation of the mooching mystic who preaches like Plato that because the mortal mind has been separated from the divine mind by denying any unity that the ultimate good is a counterfeit absolute requiring self-sacrifice for the sake of ghosts in heaven because your life belongs to G-d. One idolizes sex and emotion and the other demonizes them.

“Both sides have agreed that morality demands the surrender of your self-interest and of your mind, that the moral and the practical are opposites, that morality is not the province of reason, but the province of faith and force. Both sides agreed that no rational morality is possible, that there is no right or wrong in reason — that in reason there is no reason to be moral” [Ayn Rand, *Atlas Shrugged* pg 930]

Whatever else they fought about, it was against man’s independent mind that they stood united. It was man’s independent mind that all their preaching was intended to despoil and destroy. Perceiving this, **Ayn Rand** proclaimed that the world today must choose to learn that the anti-mind is the anti-life or to perish.

Modern physics (*relativity, quantum physics*) by going beyond absolute time and absolute space, and the deterministic and myopic locality of **Newtonian physics** has together with **modern mathematics** (*Cantor’s set theory, Abraham Robinson’s non-standard analysis and Godel’s incompleteness theorem*) de-constructed the **Kantian** arguments for separating knowledge and the sacred, reason and faith, science and metaphysics. *The very same arguments that Kant advanced in support of the rupture of rational knowledge and the unconditioned sacred, now support the unity of rational knowledge and the unconditioned sacred.* That is the arguments for the synthetic a priori existence of innate categories of the mind. The mathematics of relativity theory empirically demonstrate that relativities presuppose an absolute and vice versa. A rational way now exists for extending science into the metaphysical realm, that is, for establishing an objective morality based upon reason. A morality which sees the in relation matter to energy, a reflection of the relation of the *synthetic a priori* of the mortal mind to the *synthetic a priori* of the divine mind. A unity *with* separation. A life-affirming morality which holds sacred, the individual decision making process, exalts the independent mind, and treats sex and emotions as facts of life, not gods or demons. A moral attack on polarizing misshapen life-denying values is now not only *not* out of bounds but is clearly mandated by reason itself!