The Role of Standpoints in Applied Metaphysics

1. Unity in a Metaphysic's Formal N-LAR

An applied metaphysic plays a unique role in Critical metaphysics overall. It occupies the middle position between metaphysics proper (the acroams of the transcendental Ideas) and the study of empirical nature by a special science. Kant tells us,

> Applied metaphysics, which contains the knowledge of objects *a priori*, makes a system out of pure reason, and that system of pure rational knowledge is called metaphysics in the strict sense. Transcendental philosophy is the propaedeutic of metaphysics proper. Reason determines nothing [in metaphysics proper] but rather speaks always of only its own ability, and in metaphysics proper it makes use of this ability, and metaphysics is always understood in this sense. . . . The word [transcendental philosophy] has been used and understood as ontology; but this is not how we are taking it . . . In ontology one speaks of things in general, and thus actually of no thing – one is occupied with the nature of understanding for thinking of things; here we have notions through which we think things, namely, the pure notions of reason. But that was also transcendental philosophy, thus [ontology] belongs to it [Kant (1783), 29: 752].

Put another way, human understanding of objects – and therefore *how* we know objects – conforms to the peculiar processes of the phenomenon of mind in *H. sapiens*. *What* we know, or think we know, of an object is fully contextualized by the process of how the representation of that object has been carried out by the individual human being who thinks about the object. When one pursues a *scientific* understanding of an object – when one practices an empirical science – what he is doing is attempting to understand an object with the minimum amount of *mis*-conception introduced into his understanding of it by the unavoidable influence of affectivity in the process of *making* concepts. This requires *discipline* in the practice of scientific theorizing. To *be* disciplined in the Critical practice of any science requires a scientist to recognize that human judgmentation has a natural propensity to stray from adherence to fixed rules establishing objective validity for one's concepts of the object. This is because of the role affectivity has in the making of concepts and because of the satisficing and impatient nature of pure practical Reason in its regulation of all non-autonomic human actions (including thinking). Discipline in science is in this context the self-compulsion through which one's constant propensity to stray from fixed rules is curtailed and finally extirpated [Kant (1787), B: 737].

This is the principal and practical role that an applied metaphysic is made to provide a special science. An applied metaphysic *makes a system*, as Kant says above, and makes it in such a way that the science Object is represented with its objective validity solidly grounded in the acroams of metaphysics proper (Rational Physics, Rational Psychology, Rational Cosmology, and Rational Theology). An applied metaphysic focuses the Critical acroams of knowledge on the special topic of the special science it is made to serve. It does not mislead to say that the making of an applied metaphysic is the making of *portable concepts* from the acroams of metaphysics proper. Applying it *carries* these portable concepts to the scientist so that he may use them in his *disciplined* theoretical practices.

Now, the manifold of Objects in a special science is usually quite broad in scope and so we find great diversity in the complexity of a science's empirically-primitive ontological objects. One should not find it surprising, therefore, that this diversity is reflected in an applied metaphysic by diversity in the structures possible for an applied metaphysic. In some cases, such as those particularly exemplified in Wells (2011a) and Wells (2011b), this structure is a 2LAR structure. In others, such as the Idea of the Social Contract as a *noumenal* Object, the structure needed for serving the purposes of social-natural sciences is a 4LAR. In other cases, the needed structure can

be a 3LAR, and in general one can say that the scope of possible structures is generally N-LAR, i.e., extending to N levels of analytic representation. Obviously N faces practical restrictions in how many divisions can be carried out. At the end of every N-LAR there are always three *momenta* functions of synthesis for each of the 2^N functional headings, making the size of the set of unique metaphysical syntheses combinatorially explode (3 raised to the 2^N power). By the time we reach a 4LAR structure, practical considerations will generally force us to pursue the framing of an applied metaphysic by means of application principles rather than applied functions. Such, for example, occurs in the 4LAR structure of the Idea of the Social Contract [Wells (2012)].

Yet it must always be remembered that, no matter what N-LAR level is employed in the making of an applied metaphysic, there must always be an enveloping overall synthetic unity in the formal structure of the metaphysic itself. An applied metaphysic supplies rules for the practice of a disciplined special science, and the application of these rules is always carried out as a synthesis of ideas. One can call this *the canon of synthetic unity in an applied metaphysic*. It is with this topic that the present paper is concerned.

2. The Master Standpoint of an N-LAR

Synthetic unity in an N-LAR requires that the N-LAR as a whole be regarded from a single master Standpoint overall. The technical term *perspective* was introduced by Palmquist and means a way of thinking about or considering something, or a set of ways from which an Object can be viewed [Palmquist (1993)]. Kant's Critical system is a system of perspectives operating at three practical levels. The highest level, the Copernican perspective, is the strategy of making the entire metaphysical system epistemology-centered. The lowest level, the *reflective* perspectives, correspond to four headings of any 2LAR, e.g., Quantity, Quality, Relation, and Modality. These perspectives, respectively, are the logical, transcendental, hypothetical, and empirical perspectives.

Operating between these are the three general perspectives or *Standpoints*. The reflective perspectives are analytical in nature and pertinent to second level analytic representation. The Standpoints are synthetical in nature because they pertain to the three processes of judgment (practical, determining, and reflective judgment) at work in the phenomenon of mental representation of knowledge. Each of Kant's three great Critiques dealt with one of these Standpoints: the practical Standpoint in *Critique of Practical Reason*; the theoretical Standpoint in *Critique of Pure Reason*; and the judicial Standpoint in *Critique of the Power of Judgment*. Palmquist wrote,

> The second level on which the principle of perspective operates is that of each of the three systems (i.e., the three *Critiques*) which compose the Critical philosophy. Just as each Critical system is formed around a set of four [reflective] perspectives, which define the rules and limitations for answering its various questions, so also the entire Critical philosophy is formed around a set of three *general perspectives*, each of which gives rise to a distinct 'system of perspectives.' These general perspectives determine the special way in which each part of the four 'subordinate' perspectives operate within each particular system. In a sense the same four subordinate perspectives appear in connection with each of the three general perspectives since . . . the structure of their relationship is fixed by a certain logical pattern, and since each system ultimately aims at realizing the same goal . . .; they appear in different forms, however, because the character of the general 'meta-perspective' which guides each system changes in each *Critique*. Thus, for example, Kant insists in the preface to the second *Critique* that 'the concepts and principles' discussed in the first *Critique* will have to be reexamined because they 'are now seen in transition to an altogether different perspective from that used in the first *Critique*.' [Palmquist (1993), pp. 56-57]

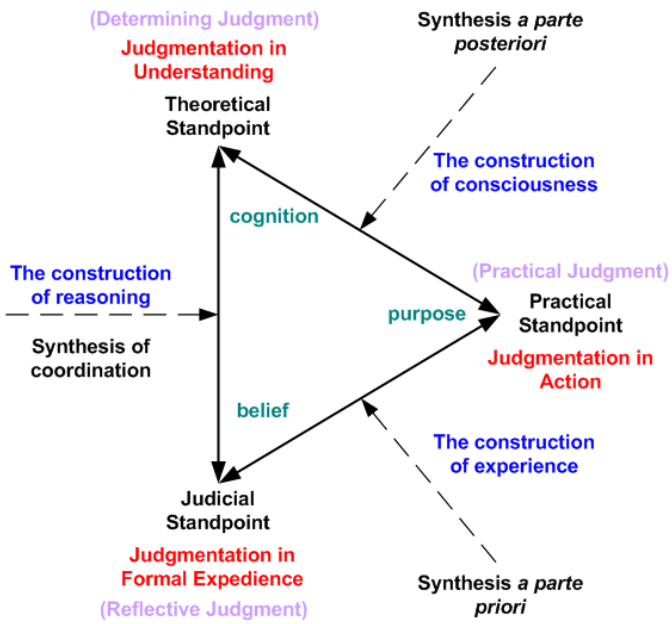

Figure 1: The threefold synthesis of the Standpoints in a closed cycle of judgmentation.

The specific passage in *Critique of Practical Reason* Palmquist refers to here states,

> So much by way of justifying that in this work the ideas and fundamental principles of pure speculative reason, which have already undergone their special critique, here are now and again subjected to examination; although this would not elsewhere be well suited to the systematic procedure for erecting a science . . . it was *here allowed*, yes necessary, because reason is considered in transition to a quite different use of those concepts from what it made of them *there* [in *Critique of Pure Reason*]. Such a transition makes it necessary to compare the old use with the new, in order to distinguish well the new track from the previous and at the same time to mark their context. [Kant (1788), 5: 7]

A Standpoint pertains to *the use to which the power of representation is put* in judgmentation. The usage establishes the context of meaning for the representing act, and *the reality of any thing is always understood in relationship to some specific context*.

All three Standpoints are always involved in a single and complete closed cycle of judgmentation that assimilates new representation. Figure 1 illustrates this three step process of synthesis and the use to which each step in the cycle is put. Figure 2 illustrates the mathematical structure of the cycle of judgmentation and the mathematical place of each process of judgment within the cycle. In the absence of a cycle-rupturing disturbance to the equilibration process, the synthesis takes the dynamical form of a cycle such as

cognition	+	belief	→	purpose	(practical Standpoint);
purpose	+	cognition	→	belief	(judicial Standpoint);
belief	+	purpose	→	cognition	(theoretical Standpoint); etc.

An N-LAR is always a mathematical depiction of a represented Object. However, this Object representation always is made in a specific transcendental place: in the manifold of concepts for an object of appearance; in the manifold of Desires for the affective state of the Subject (the human being); or in the manifold of rules for the representation of the congruence of a rule of action in regard to the master formula of the categorical imperative of pure practical Reason. This

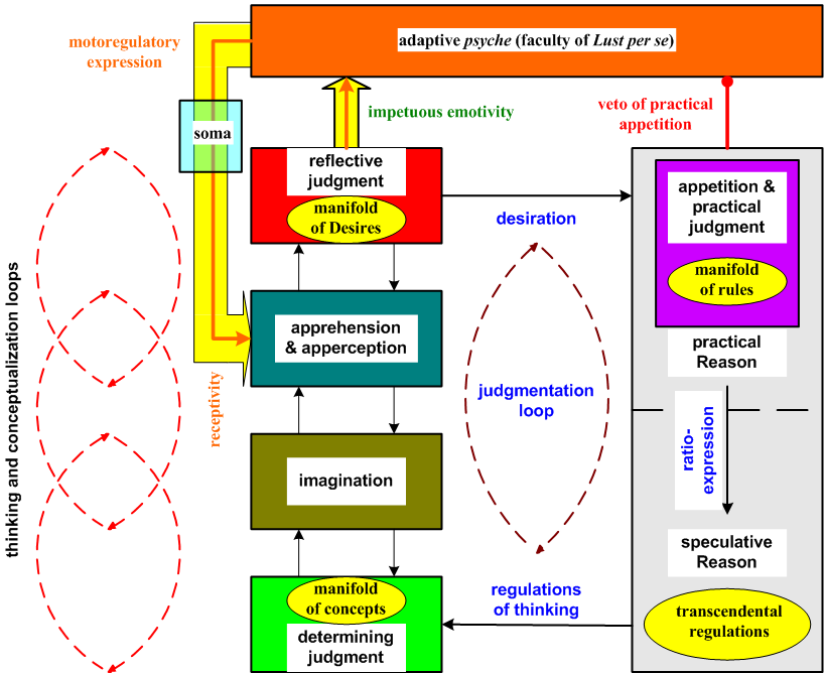

Figure 2: Mathematical structure and processes in human epistemology. Detailed mathematical representation of the system is carried out using the theory of embedding field networks and the methods of adaptive resonance theory in the theoretical description of the operations.

placement is always made by the process of judgment immediately pertinent to that manifold, and this means that the placement is specific to the usage a human being makes of the representation. The usage constitutes the *real meaning* of the representation, and this is what Kant is telling us when he wrote,

> When it has to do with determination of a particular [potential] power of the human soul according to its sources, embodiments, and bounds, then, from the nature of human knowledge, one can begin only with the *parts*, with precise and complete presentation of them . . . But there is a second consideration, which is more philosophic and *architectonic*: namely, to grasp correctly the *Idea of the whole* and from this to grasp all those parts in their mutual reference to one another by means of their derivation from the concept of that whole in a pure capacity of reason. This examination and warranty is possible only through the most intimate acquaintance with the system; and those of erstwhile listless consideration of the first inquiry, proscribing as not worth their toil acquiring acquaintance, cannot reach the second stage, namely the subsequent reunion, which is a synthetic return to that which had come to be given analytically [Kant (1788) 5:10]

This note concerning a "subsequent reunion, which is a synthetic return to that which had come to be given analytically" alerts us to a necessity for a unity of meaning that an N-LAR analysis must conserve. This is *why* any particular N-LAR stands under one Standpoint that *sets* the usage to which the Object of representation (which is being represented by the N-LAR) is put. This is what I have here called the *master Standpoint of the N-LAR*.

3. The Schematic 2LAR of an N-LAR

An N-LAR is constructed through a series of analytic divisions. The end result is a depiction (a *parástase*) of some represented object, and this *parástase* is made for some use or application. Epistemologically, then, an N-LAR has either a theoretical, a judicial, or a practical application.

This application sets what has just been called the master Standpoint of the representation. Let us look at representation-in-general making abstraction of what specifically is being represented so that we can examine the constructive activity of representation. That human beings make mental representations is nothing more and nothing less than a fact of experience lying at the root of what is meant by the term *phenomenon of mind*. Kant called representation "the primitive act of mind" and described it from the Copernican perspective as

> Representation is mental (internal) determination where a thing is being referred to as if it were separate from myself . . . It is that determination of the soul[1] that is related to other things. But I call it related if its quality is conformable to the quality of outer things or if it gives shape to external things-in-the-world. [Kant (1753-59), 16: 76-77]

It is clear that analysis begins with a first division of a concept dividing it into two poles of representation. This is the basic 1LAR division, and Kant termed analysis into these two poles *mathematical* (matter of analysis) and *dynamical* (form of analysis). An analytic division is used to bring greater distinctness to a concept the person re-presenting it had already presented clearly to himself insofar as he made a presentation of the *Dasein* of some object. However, he has not yet made a distinct presentation by which he understands the *Existenz* of that object. An analytic representation determines nothing if the analytic representation is not conjoined to a mental process of *synthesis* whereby the polar presentations are reunited in a conjunction with each other to make a *combination*:

> All *combination* (*conjunctio*[2]) is either *composition* (*compositio*[3]) or *connection* (*nexus*). The former is the synthesis of a manifold of what *does not necessarily* belong *to each other* . . . and of such a sort is the synthesis of the *homogeneous* in everything that can be considered *mathematically* (which synthesis can be further divided into that of *aggregation* and of *coalition*, of which the first is directed to *extensive* magnitudes and the second to *intensive* magnitudes). The second combination (*nexus*) is the synthesis of that which is manifold insofar as they *necessarily* belong *to one another*, as, e.g., an accident belongs to some substance or the effect to the cause – thus also as *unhomogeneous* but yet as combined *a priori*, which combination, because it is not arbitrary, I call *dynamical* since it concerns the combination of the *Dasein* of the manifold (which can again be divided into the *physical*, of appearances with one another, and *metaphysical*, their combination in the *a priori* faculty of knowledge. [Kant (1787), B: 201-202fn]

When a mathematician defines a *set* he has in mind first some Object that he represents in terms of a collection of other objects (the "members" or "elements" of the set) – and this is his act of composition – *and* that he represents as *necessarily* in connected-in-combination (which is 'the' set *qua* set, i.e., as *a* specific manifold). Famous historical problems in mathematics such as the Russell Paradox arise because the mathematician, as he drives towards the goal of achieving the greatest possible level of abstraction in his notion of what he is defining, forgets that the *composition* of his set *necessarily* requires objects-being-composed so that he has grounds for necessitating their conjunctive union. In effect, he forgets that the subsequent synthesis of the *parts* of his idea (the members and the set *qua* a manifold) back into a meaningful whole-of-representation requires him to attend to and provide rules for this synthesis. The Russell Paradox was resolved, to at least the satisfaction of mathematicians, when the axioms of set theory were made to incorporate today's divers axiom schemata, i.e. the axiom schema of replacement and the axiom schema of separation [Suppes (1960)]. Axiom schemata can be regarded from one point of view as prescriptions of rules for set constructability.

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[1] Kant frequently uses the words "soul" and "mind" interchangeably, much as the ancient Greeks did.
[2] the act of joining together, uniting.
[3] the act of placing or fitting together.

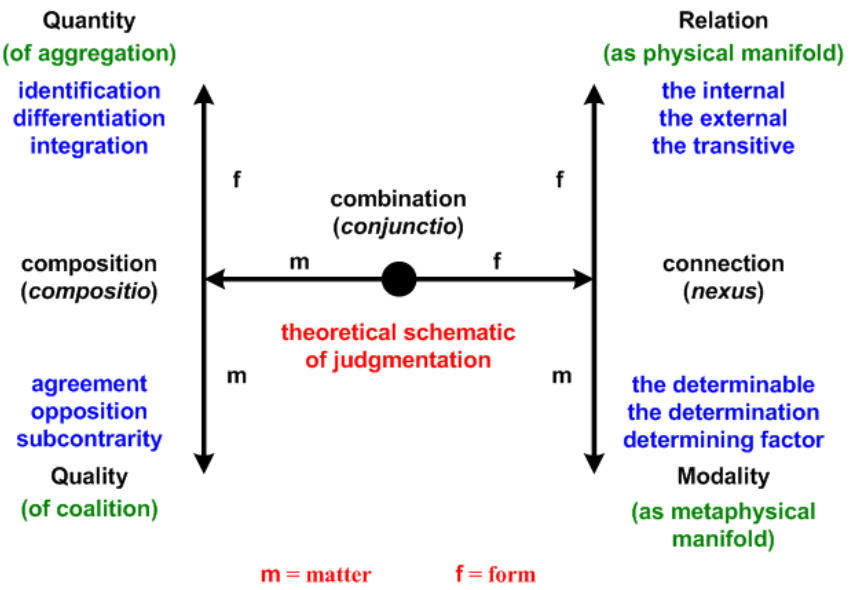


Figure 3: the schematic of combination. This schematic belongs to the theoretical Standpoint.

The example provided by axiom schemata in mathematics brings us to an important if subtle factor pertaining to how one must correctly regard what an N-LAR presents in its depiction. The deduction of any N-LAR is carried out by a schematism of judgmentation. A schema is a *rule* governing the form of a synthesis in the manifoldness and order of the parts. A schematism is the *procedure* for synthesizing that schema. An N-LAR is, therefore, the represented *schematic* produced by the rule-governed procedure. Put another way, it is a *parástase* of the outcome of synthetically uniting a schema with a schematism. These are not the usual, and largely non-technical, usages of these words one finds in a common dictionary.

While 1LARs have occasional usages as portable concepts in metaphysics, the great majority of portable concepts are provided by 2LARs. A 2LAR results from applying a further analytic division to the mathematical and dynamical poles of a 1LAR. This is a direct consequence of the basic mathematics structure of Critical metaphysics proper. Because any schematic is the product of human judgmentation, there are three general categories of schematics at the 2nd level of analytic representation, one corresponding to each of the three processes of judgment employed in judgmentation. Each category properly belongs to one of the three Standpoints. Mental physics calls these: (1) the general theoretical schematic of judgmentation or ***theoretical schematic of combination***; (2) the general judicial schematic of judgmentation or ***the judicial schematic of transcendental topic***; and (3) the general practical schematic of judgmentation or ***the practical schematic of appetition***.

Figure 3 illustrates the schematic of combination. It is frequently referred to as "the general ideas of representation" because the schematic pertains to determined appearances of objects. Kant introduced the notion of this 2LAR in *Critique of Pure Reason* as a part of his explanation of comparison and distinction [Kant (1787), B: 316-326]. Unfortunately, his treatment there was *en passant* and he seems to have missed recognizing the key role it plays in applied metaphysics. A complete *parástase* of this 2LAR was not presented until the publication of Wells (2006). Even then Wells did not yet fully grasp the scope of the role this schematic has in the whole of Critical metaphysics, although he did recognize the importance of this 2LAR in its applications to the development of mental physics. The 2LAR is synthesized by uniting the process of determining judgment with the transcendental schema of imagination. The general formula for this is

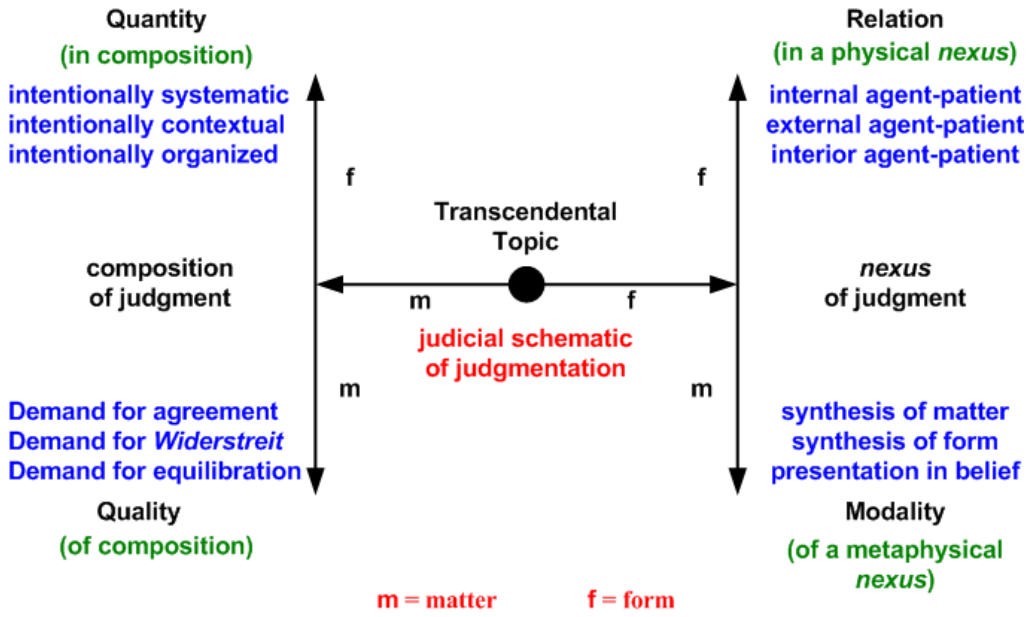


Figure 4: the schematic of transcendental topic. This schematic belongs to the judicial Standpoint.

determining judgment + transcendental schema of imagination → schematic of combination.

When we shift Standpoints and view representation from the judicial Standpoint we obtain the schematic of transcendental topic. Figure 4 illustrates this schematic structure. Kant likewise introduced the notion of transcendental topic in *Critique of Pure Reason* although, again, there was a paucity of detail presented in that work and Kant himself seems never to have returned to it as the topic of any of his subsequent lectures or publications. For the schematic of transcendental topic the pertinent process of judgment is reflective judgment and the pertinent schema is named the natural schema of judgmentation. Thus the synthesis formula is

reflective judgment + natural schema of judgmentation → schematic of transcendental topic.

The application of both these 2LARs to the deduction of applied metaphysics was previously discussed in Wells (2011a) and (2011b). Their deductions as products of a synthesis between a process of judgment and the schema of a representational process was discussed in [Wells (2009), chap. 8 §4]. The third schematic was never discussed by Kant at all, although its necessity and its place within the Critical system is obvious as its lack leaves a hole in Kant's overall architectonic. The schematic of appetition is being formally discussed for the first time in this paper.

The natural schema of judgmentation is the schema of the process in reflective judgment that is the homologue, in the affective division of Organized Being, of the process of imagination in the cognitive division. In the practical division the process that is the homologue of imagination is called the appetitive power of pure practical Reason and its schema is therefore called the schema of appetition. The formula for the schematic of appetition then follows immediately from the transcendental forms depicted in the first two formulae as

practical judgment + schema of appetition → schematic of appetition.

Figure 5 illustrates the 2LAR structure of the schematic of appetition. It is the close affinity each of the schematics have with schemata of representing processes in judgmentation that requires the

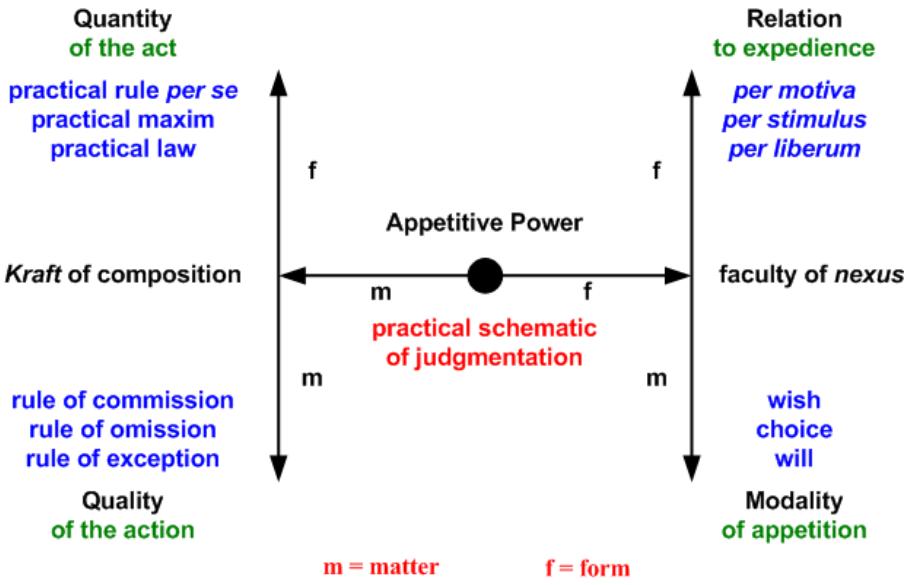


Figure 5: the schematic of appetition. This schematic belongs to the practical Standpoint.

subtle and somewhat hair-splitting distinctions in terminology (schema, schematism, schematic) that have been defined and used in this paper.

For all N > 1, any N-LAR structure embeds within it 2^{N-2} 2LAR substructures. This property of N-LARs is easily proved constructively using mathematical induction. Thus a 3LAR can be understood in terms of the two 2LARs its structure contains, a 4LAR in terms of the four 2LARs it contains, a 5LAR in terms of the eight 2LARs it contains, etc. Because any N-LAR is analyzed under a single master Standpoint, each of the 2^{N-2} 2LAR substructures within it likewise inherits the same master Standpoint as the general N-LAR.

This conclusion of Kant's transcendental Logic is of crucial importance in the development of any applied metaphysic. This is because the terminals of its N-LAR structure must conclude with three synthetic functions under each of the 2^N headings of the N-LAR. These are the functions of synthesis by which the analytic structure of the N-LAR is reunified in an understanding of the general Object the N-LAR represents. Therefore an N-LAR formally terminates in $3 \cdot 2^N$ synthetic functions of unity. Thus in a 2LAR we have 12 functions, or *momenta*, in a 3LAR there are 24, in a 4LAR there are 48, in a 5LAR 96 functions, etc. The N-LAR itself presents a total of 3^{2^N} *functional ideas* synthesized by taking one synthetic *momentum* from each of its 2^N headings. For each of these functional ideas to be a presentation of some *natural* real-explanation – i.e., to be a real-explanation with objective validity for understanding Nature – the *momenta* must all be grounded in Critical metaphysics proper, and it is the particular schematic of judgmentation that applies to the N-LAR which determines the Critical general perspective for this grounding.

4. The Formal Development of *Momenta* in a 2LAR Substructure

The formal development of a Critical applied metaphysic is greatly facilitated by exploiting the substructure of 2^{N-2} 2LARs contained in its N-LAR form. Strictly speaking, the N-LAR is not metaphysically completed until all of its $3 \cdot 2^N$ synthetic functions are obtained and given their primitive real-definitions. However, for $N \geq 4$ the applied metaphysician encounters an important practical limitation in actually applying functional *momenta*. This is the combinatorial explosion of functional ideas that is encountered as analysis increases N. For example, the Idea of the Social

Contract is represented by a 4LAR structure [Wells (2012), chap. 13], thus its formal metaphysical completeness requires 48 *momenta* and inherently contains over 43 million functional ideas.

Obtaining real-definitions for its 48 *momenta* is clearly an accomplishable task, but then one must ask: what is to be done with these 48 functions, i.e., what practical service is provided by applying them to social-natural sciences? Are we to directly apply the more than 43 million specific functional ideas obtained from these *momenta*? The impracticality of approaching the practice of a social-natural science in terms of 43 million different metaphysical ideas is, I think, fairly *selbstverständlich* (self evident) and no science actually attempts something like this in its practices. Rather, a science looks for empirical first principles, which are metaphysically nothing more and nothing less than *axioms* for the rational practices of the science. The metaphysical grounding of empirical axioms can be accomplished through the methods of model order reduction that are actually employed in scientific practice [Wells (2011c)].

Objective validity for empirical axioms is achieved by grounding them in *applied acroams* obtained from real-explanations of the headings of the applied metaphysic N-LAR. This is accomplished by treating these headings as *functionals*, i.e., functions having for their domains *sets* of functions and for their ranges other sets of functions. Such are, for example, the $2^4 = 16$ animating and organizing principles of the Idea of the Social Contract. In general, an N-LAR applied metaphysic produces 2^N applied acroams for its special science. Subdivision and specialization of topic *within* that science can then be pursued in partnership with the metaphysician by *locally* breaking down the metaphysically appropriate 2LAR substructure within the metaphysic as the current problems and issues faced by the empirical science require. This is the first, and perhaps the chief, benefit to a special science provided by 2LAR substructuring in its applied metaphysic. The tangible benefit provides a motive for close partnership between the applied metaphysician (who, to accomplish his part of the task with excellence must have some training and experience in the specific empirical science) and the practitioner of the special science (who *likewise* must be educated and trained in Critical metaphysics if he is to accomplish his part of the task with excellence and avoid making transcendent errors in science).

Even so, the doctrine of method cannot be called complete if it lacks methodology for carrying out the full analysis down to the level of primitive functions of synthesis. This methodology was illustrated for the special case of the applied metaphysic treated in Wells (2011b). What I aim to do in this paper is to treat generalization of the methodology in transcendental Logic. Towards this end, let us introduce some symbolic terminology used in the remainder of this paper.

Let the symbol + denote synthetic combination. Let the symbol $\Rightarrow$ be read "provides the." Let the symbol $\subset$ denote "subsumed under." Let the symbol $\overset{x}{\rightarrow}$ be read "when combined under the condition x produces." Let Σ denote one of the three transcendental schematics with $\Sigma 1$ denoting the heading of Quantity, $\Sigma 2$ the heading of Quality, $\Sigma 3$ the heading of Relation, $\Sigma 4$ the heading of Modality, and let ΣH be a general non-specific notation for a 2LAR heading in a schematic. Let ΣH_i (i = 1, 2, or 3) denote the i^{th} momentum under ΣH. For example, if Σ is the transcendental schematic of combination then $\Sigma 1_1$ denotes "identification," $\Sigma 1_2$ denotes "differentiation," and $\Sigma 1_3$ denotes "integration" (figure 3).

Headings in a general N-LAR are methodically specified for their particular applications by means of *specifying concepts* (denoted SC). Specifying concepts are concepts that *form the context* for an N-LAR heading in the application of metaphysics proper to a special science by means of the applied metaphysic. Context concepts are essential because in Critical epistemology *no object is real if it has no context given to its concept* by which the concept of the object is connected to other concepts that establish meaning implications for the concept of the object. An object is a real (rather than merely mathematical) object *only insofar as it is an object of possible*

experience. This acroam lies in the core of Kant's Critical Philosophy. It is what Kant was driving at when he said,

> All philosophy is rational knowledge from mere concepts, but mathematics is rational knowledge from the construction of concepts. I construct concepts when I present them in intuition *a priori* without experience, or when I present an object in intuition that corresponds to my concept. – *A priori* intuition is that which does not depend on experience but rather is that which everyone can give himself [4]. – The mathematician can never avail himself of his reason merely according to concepts, just as the philosopher can never avail himself of his reason according to the construction of concepts. – In mathematics one avails oneself of reason *in concreto*, but the intuition is not empirical; rather, here one makes something *a priori* the object of his intuitions. We thus see that mathematics has an advantage here over philosophy, because the former knowledge is *intuitive*, the latter *discursive*. – Philosophy in the scholastic sense is thus the system of philosophical rational knowledge from ideas . . . The *practical* philosopher is the *genuine* philosopher. . . .
>
> Two parts belong to philosophy in the scholastic sense: (1) a sufficient supply of rational knowledge; (2) a systematic context for them. . . . The philosopher must be able to determine:
>
> 1. the sources of human Knowledge;
> 2. the scope of its possible and serviceable use;
> 3. the boundaries of reason. [Kant (*c*. 1790-91), 28: 532-533]

The applied metaphysician, who always has one foot on the shoreline of Critical metaphysics proper and the other on the shoreline of empirical science, must combine the skills of both the philosopher and the mathematician. If he lacks one or the other he is merely a beachcomber and not a bridge builder, which is to say he is not an applied metaphysician at all. Specifying concepts provide the contextual connections by which metaphysical knowledge is made applicable to mathematical knowledge and, thereby, to scientific knowledge of an empirical special science.

In addition to specifying concepts, an applied metaphysic requires *orienting acroams* obtained from metaphysics proper and general ideas of representations, logical functions, and categories of understanding that function as what system theorist William K. Linville once called *portable concepts*. An applied metaphysician is a metaphysic engineer and can be called a model-maker in the context that a model is a representation that mirrors, duplicates, imitates, or in some way illustrates a pattern of relationships observed in data or in nature. Linville wrote,

> Really significant concepts can be shorn of their special restrictions and should be presented in as clear and uncluttered fashion as possible. *Portable concepts* are necessary because of the wide technical range of system problems. At the detailed and sophisticated level no two problems are sufficiently alike so that the same specific methods of solutions apply. The system engineer brings his system problem into focus by applying concepts to it. After such focusing, the finer resolution of the problem may require detailed analysis, but the rarer and more valuable element required for design is the portable concept. [Linville (1962)]

Within an N-LAR headings are methodically specified by specifying concepts. However, this immediately raises the question: What does it mean to be "methodical" in *choosing* specifying concepts for the N-LAR? If they are to be methodically specified this implies there is a *principle of methodology* that must be employed by the analyst. What is this principle and to what aspect of transcendental Logic – its material aspect or its formal aspect – does it belong?

[4] through the synthesis of creative imagination; all intuitions are *made parástase* – rbw.

Here is where the crucial significance of what Kant told us about *transitions* is central. In *Critique of Practical Reason*, quoted earlier, he said a transition "makes it necessary to compare the old use with the new, in order to distinguish well the new track from the previous *and at the same time to mark their context*." The Critical notion of **context** (*Zusammenhang*) is the determining factor governing the whole of the methodology.

When a metaphysical analysis is performed, the analyst is doing nothing else than extracting coordinating concepts said to be "contained in" the initial concept being analyzed. That initial concept is then said to be "contained under" the coordinating concepts so "extracted" from it. But these coordinating concepts do not present themselves to the analyst. If they did, then the initial concept *would have already been a distinct concept* and because *the purpose of analysis is to make a clear concept distinct* no analysis would have been necessary at all:

> All our knowledge has a *twofold* interrelation, *first* a relationship to the Object, *second* a relationship to the subject[5]. In the first consideration it refers to *representation*, in the latter to *consciousness*, the universal condition of all cognition in general. – (In reality consciousness is a representation that another representation is in me.)
>
> In every cognition we must distinguish *matter*, i.e. the object, and *form*, i.e., *the way in which* we know the object. . . . The difference in the form of the cognition rests on a condition that accompanies all recognition, on *consciousness*. If I am conscious of the representation, it is *clear*; if I am not conscious of it, *obscure*.
>
> Since consciousness is the essential condition of all logical form of cognitions, logic[6] can and may occupy itself only with clear but not with obscure representations. In logic we do not see how representations arise, but merely how they are congruent with logical form. In general logic cannot deal at all with mere representations and their possibility either. This it leaves to metaphysics. [Logic] itself is occupied merely with the rules of thinking in concepts, judgments, and inferences, as that through which all thinking takes place. . . .
>
> All clear representations, to which alone logical rules can be applied, can now be distinguished in regard to *distinctness* and *indistinctness*. If we are conscious of the whole representation, but not of the manifold that is contained in it, then the representation is indistinct. . . .
>
> Distinctness itself can be of two sorts:
>
> *First, sensuous*. This subsists in the consciousness of the manifold in intuition. I see the Milky Way as a whitish streak, for example; . . . But the representation of this was merely clear, and it becomes distinct only through the telescope because then I catch sight of the individual stars in the Milky Way.
>
> *Secondly, intellectual; distinctness in concepts* or *distinctness of understanding*. This rests on the analysis of the concept in regard to the manifold that lies contained in it. . . . By thus making it distinct [through analysis], however, we add nothing to a concept; we only explain it. With distinctness, therefore, concepts are improved not as to *matter* but only as to *form*. [Kant (1800), 9: 33-35]

Specifying concepts pertain to the *matter* the N-LAR represents, not its form. They therefore belong to *methodology* of analysis but not *to* the analysis itself. It is only when analysis has been fully extended to the terminus, that is, to the 2LAR substructures at the endpoints of the N-LAR, that a simple and formulaic methodology for synthesis of the terminal *momenta* is obtained. For the remainder of this section, I deal with that methodology as it pertains to the 2LAR substructure

[5] i.e., the knowing person
[6] Kant is speaking here of mathematical logic, not transcendental Logic as a whole. The former is part of the latter and can be called its methodological part.

of an N-LAR. In the following section I discuss the general analysis of the N-LAR overall.

The SCs define the *scope* of each 2LAR heading, whereas the three functional *momenta* of that heading are each deduced using a function of the transcendental schematic in synthesis with a metaphysical axiom (MA). The MA, in turn, is deduced from a Critical acroam, i.e., from a transcendental Idea (TI) of Critical metaphysics proper. Transcendental Ideas (represented by the transcendental regulations in figure 2) are fundamental regulative principles of judgmentation. In the 2LAR, one transcendental Idea is employed as *the major acroam*, and this Idea is an acroam under the master Standpoint of the N-LAR construction. The remaining three are each subsumed under it as minor acroams, with one minor acroam being applied to each of the three *momenta* under the heading.

If we denote the major acroam as M and the minor acroam as μ, then the formula of a metaphysical acroam in Kant's transcendental Logic is

$$\mathrm{MA} = \mu \subset \mathrm{M}\,.$$

The deduction of the metaphysical function (*momentum*) is then carried out according to the formula

$$\Sigma\mathrm{H}_i + \mathrm{MA}_i \overset{\mathrm{SC}}{\rightarrow} \text{metaphysical function } i, \quad i \in \{1, 2, 3\}$$

where

$$\mathrm{MA}_i = \mu_i \subset \mathrm{M}\,.$$

There will always be three metaphysical axioms and three syntheses for each heading in the N-LAR of the applied metaphysic. Wells (2011b) provides a full and detailed example of this doctrine of method for a case where ΣH is the schematic of transcendental topic and M is the psychological Idea of Critical metaphysics proper regarded from the judicial Standpoint.

5. The Methodological Principle of N-LAR Analysis

Once the analyst has obtained the 2^{N-2} 2LAR substructures at the terminus of the N-LAR, and the specifying concepts that go with them, what remains in obtaining the terminal *momenta* is formulaic, as per the procedure of the previous section, and becomes almost a "turn the crank" intellectual task. He is left with operations more logical than metaphysical insofar as how they are carried out (although the metaphysical – knowledge from concepts – aspect is not altogether absent from the process). The methodology for *getting to* these endpoints, on the other hand, is a different matter altogether and more metaphysical than mathematically logical (knowledge from the *construction* of concepts). It is of uttermost importance that one recognizes that *doing an analysis* is an intensely human activity. The final product *of* this activity is an analysis, but *doing* the analysis involves not only making analytic judgments (the dividing of the initial idea into N-LAR branches) but *synthetic* judgments as well. In mental physics this thorough union of analysis and synthesis is called ***anasynthesis*** and the process is called ***anasynthetic re-presentation*** [Wells (2006), chap. 4, §4]. I can hardly put it better than to say *metaphysical analysis cannot be performed by a computer*, as Hilbert's childishly forlorn hope for mathematical formalism or the dogmatic idealism of the Bourbaki mathematicians would have had it be. Such idealism is all-too-easy to fall into because *all* of us have, from childhood on, constructed *habitual* maxims of thinking based not on objective reflections but subjective judgments of taste. A computer can be programmed to automate the analyst's steps; it cannot replace the him, nor can it program itself.

To apprehend the methodology, we begin at the beginning, namely the Idea of the Object that is being analyzed. Here the distinction between an Idea and an idea is important. Before any analysis is possible at all, the analyst must have already had a clear (but indistinct) *concept* of what it is that he is about to analyze. That concept is his idea. But an Idea is a *pure* concept made up entirely of notions and as an Object its sole objective validity subsists entirely in being a *regulative principle of actions* – in this case, the analyst's actions in performing his analysis. At each and every step as the analysis proceeds, the steps must be *regulated by a principle*.

This principle is always tied to a purpose, namely, the reason for doing the analysis in the first place. Thus, the principle is in an interrelationship with the analyst himself. Because in this paper we are concerned with analysis in making an applied metaphysic, the purpose is clear: it is to ground the objective validity of a special science (or a sub-science within a larger scientific scope). But a science is a doctrine *constituting a system* in accordance with a disciplined whole of knowledge. In Critical epistemology, a *system* is the unity of various knowledge under one Idea. From here the principle of applied metaphysical analysis is almost self-evident. It is the principle of *universal context in the Idea of the science*. The analysis must produce an N-LAR representing only such subject-matter as lies within the scope of the science and must present in the analysis those connections necessary for the Object of the analysis *to be a real Object for that science*.

Examples of specious non-real Objects in science grow ever more abundant day by day. My favorite example is the so-called "Big Bang" that over the past few decades has become popular in physics. It is now being taught in high schools and trumpeted on so-called "science" television shows *as if it were a fact*, but it is nothing of the sort. It is an hypothesis. The hypothesis comes out of the simple idealism of projecting a mathematical formula to an arithmetically correct but objectively meaningless point. The formula is called the Robertson-Walker metric. This formula is an approximation of Einstein's metric in general relativity theory. As the Einstein equation is nonlinear and we have no closed form solution for it, the Robertson-Walker metric is obtained through a series of approximations that are reasonable and appropriate for the state of the cosmos as we know it today [Robertson and Noonan (1968), pp. 335-369]. The "moment of the big bang" is defined by running "time" in the RW metric "back to zero." However, long before this "beginning point" is reached, *the approximations that justify the RW metric no longer hold* and the procedure, while mathematically correct, is no longer being applied to an Object of experience in nature but to a phantom of formalism. Maybe a "big bang" really happened and *maybe it didn't*. I couldn't care less if it did or it didn't, but physicists don't actually *know* if it did or didn't. I *do* care about teaching children it did *as if it were a fact*. That turns science into Neo-Platonism, at which point what we have *is-not* science. Shame on the physics community.

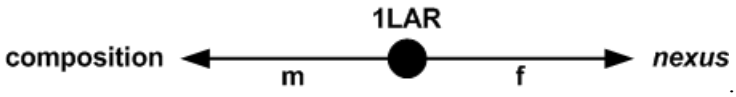
The *metaphysical error* in this Big Bang theory is: the hypothesis projects a function beyond the domain of that function (the range of parameters that justify the RW approximation). That isn't even proper mathematics, much less an objectively valid scientific procedure. An applied metaphysic has for one of its tasks setting the boundary limits beyond which scientific questions cannot be asked in a meaningful way. Bacon wrote,

> Man, as the minister and interpreter of nature, does and understands as much as his observations on the order of nature, either with regard to things or the mind, permit him, and neither knows nor is capable of more.
>
> The unassisted hand and the understanding left to itself possess but little power. Effects are produced by means of instruments and helps, which the understanding requires no less than the hand; and as instruments either promote or regulate the motion of the hand, so those that are applied to the mind prompt or protect the understanding. [Bacon (1620), pg.11]

That is what the Idea of the applied metaphysic is used for: to prompt or protect understanding of

what it is that we obtain through the practice of the science.

Before the first analytic division is made, the analyst must ask and answer, *what is the nature of the Object of this analysis?* If he cannot answer this knowing wherein the objective validity of his answer subsists, he is not ready to do the analysis. Once he can, the first division produces two new endpoints, a matter-term and a form-term pictured as



Next he must repeat this for each of the two 1LAR poles, asking the same question of the Objects of each endpoint. His answers must have *continuity in context* with the original Object. He introduces at this step new specifying concepts, one for each endpoint, and these SCs must each pertain to both the endpoint Object and the original Object *in the same context*. This we will call ***the principle of continuity in context*** and requiring the analyst to follow this principle is to do no more than to require him to ascertain that his analysis is *consistent with his purpose* at each step. The synthetic union of specifying concept with the endpoint Object synthesizes *a coordinate concept of the original Object*, coordinated according to the purpose of the analysis.

He then repeats the division again at each endpoint, producing a 2LAR. If he decides analysis can terminate at this point, he chooses a transcendental Idea congruent with the original purpose as his major acroam and makes his schematic the appropriate one for the Standpoint under which he is conducting the analysis. He may then follow the formulaic procedure of the previous section after he has introduced four more specifying concepts chosen to be contextually continuous with those of the composition and *nexus* endpoints *and* the original undivided Object.

If the analysis does not terminate at this first 2LAR, he repeats this step again. That division and each subsequent one *define sub-contexts* and constitute the making of higher concepts that are immediately *coordinate to* the concept of the Object that has just been divided and *subordinating* the lower concepts that the divided Object understands. The principle of continuity in context is followed in introducing these new specifying concepts. Each specifying concept added *makes the N-LAR more specific* as to its precise scope (range) and conceptual domain. When he eventually decides to terminate further analysis, then the formulaic procedure is followed for every terminal 2LAR substructure. The major acroam in each case will be a transcendental Idea congruent with the purpose of the *previous* level of division (because it applies to the 2LAR as a whole).

The analyst is not without epistemological guidance in his choices of specifying concepts as he proceeds to a 3LAR, a 4LAR, etc. because at each division from the 3LAR onwards the progress of his analysis *up to that point* has yielded intermediate 2LARs. For example, the 3LAR structure has a matter-2LAR (at the composition pole) and a form-2LAR (at the *nexus* pole). The further division of the pole presents a 2LAR to the starting point and *viewed from that initial point* each 2LAR is making distinct a special object, regarded as contained in the original Object, that must be epistemologically placed in terms of its representations as: (1) object of external sense (metaphysics proper of Rational Physics); (2) object of inner sense (metaphysics proper of Rational Psychology); (3) object of reason with regard to Nature (metaphysics proper of Rational Cosmology); and (4) object of reason with regard to All-of-Reality (metaphysics proper of Rational Theology). For example, for the Idea of the Social Contract the first 2LAR to appear in the analysis (which eventually terminates in a 4LAR structure) is shown in figure 6. The Ideas regulating the four endpoints ***regulate the determination of the specifying concepts that are introduced for the next act of analysis***. The regulation is applied *to the process of carrying out the analysis method* and not to the eventual deduction of its terminal *momenta*. If the specifying concepts are congruent with the original Object at this stage, those of the *next* act of division have

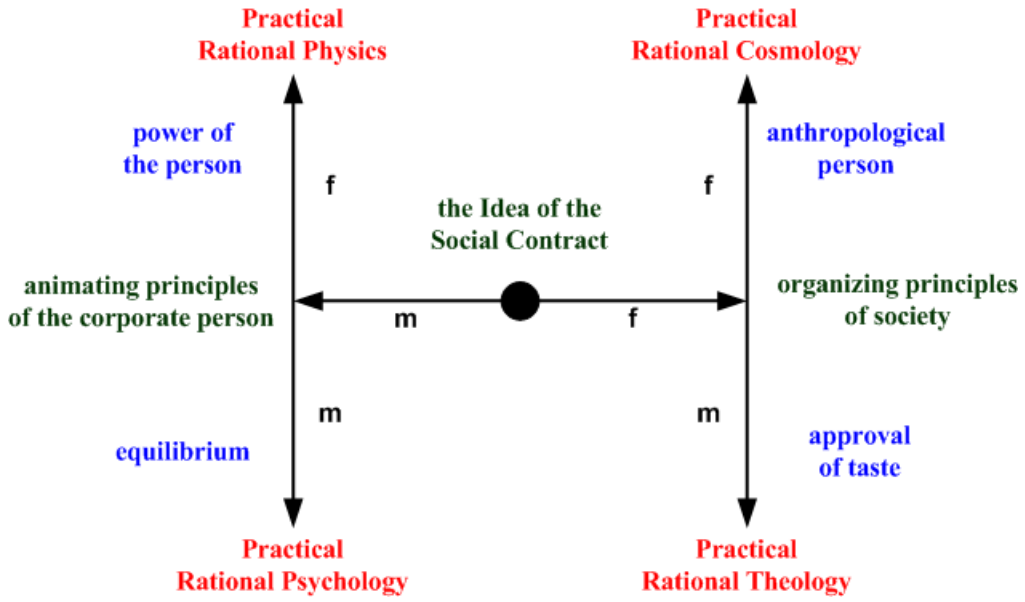


Figure 6: Analysis of the Idea of the Social Contract at the 2LAR stage of its analysis.

their continuity warranted by congruence with the 2LAR "center points" of the subsequent 3LAR. The specifying concepts of the division after that one have their continuity warranted by congruence with the 2LAR "center points" of the 4LAR division, etc.

The process being described here is analogous to mathematical induction, but in Critical epistemology it is called a *regressive synthesis* carried out *a parte ante* as a prosyllogism [Wells (2011d)]. Figure 7 shows the 4LAR analysis produced by applying this procedure of regressive synthesis to the example begun by figure 6. It is perhaps fairly obvious at this point why the process of deducing an applied metaphysic is not a mere analysis but rather an anasynthesis.

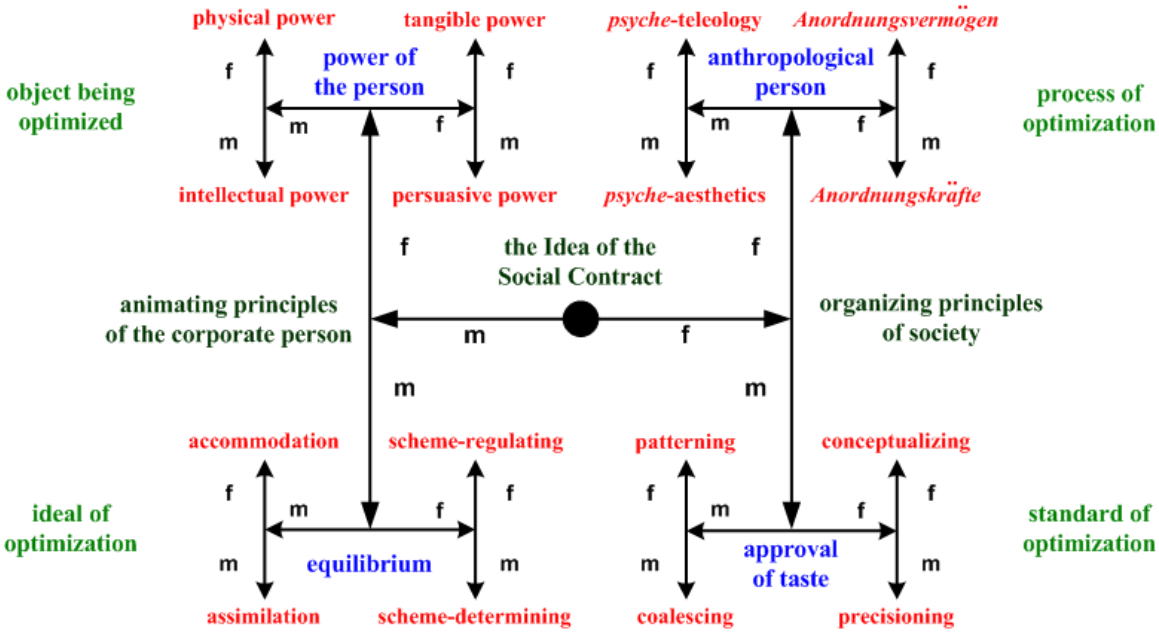


Figure 7: Final 4LAR analysis structure for the Idea of the Social Contract.

Each analytic division introduces additional objects, all of which are regarded as being contained *in* the original Object being analyzed. Deduction of the N-LAR is a sequence of object determinations restricted by the principle of continuity in context and guided by the epistemology principle of regarding every special object: (1) as it is to appear in outer sense, Rational Physics; (2) as it is to coalesced in inner sense, Rational Psychology; (3) as it is to be reasoned about in regard to a manifold in physical Nature, Rational Cosmology; and (4) how it is to be reasoned about in regard to a metaphysical manifold in Reality, Rational Theology. Put another way, each special object introduced by analysis must always have: (1) a form of appearance; (2) a matter of coalition in the mind of the analyst; (3) a formal place in Nature; and (4) a specific material Meaning in Reality. This is the master principle of *the regulation of specifying concepts* in metaphysical analysis. I merely reiterate at this point that all of this *is carried out under one master Standpoint*, which is the Standpoint of the analysis itself.

6. Brief Summary of this Paper

This paper has discussed the central and crucial role played by Standpoints in the deduction of an applied metaphysic. It has discussed the formal doctrine of method to be employed in the making of this deduction and sketched the parts played in this doctrine by the transcendental Ideas of Critical metaphysics proper. The concept of the transcendental schematic of an applied metaphysic has been clarified and the three basic forms of schematics have been identified in 2LAR form. The exact technical definitions for the functions depicted in figures 3 through 5 can be found in Wells (2009). The role played by specifying concepts has been discussed and the procedure for the formal deduction of metaphysical axioms has been given. The Copernican perspective for applied metaphysics has been discoursed upon at some length, as has been the linkage between this doctrine and Kant's system. A mathematical symbol convention has also been introduced here in more general form than was previously given in earlier papers.

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