Chapter 20

Practical Judgment and the Power of Choice

Habituation has a strange power to lead men onward by a gradual familiarization of the feelings.

Plutarch

§ 1. The Transcendental Ideas in the Practical Standpoint

In Kant's system the logical division of our power of thinking that pertains to the capacity for the determination of the particular through the general – which we term "reasoning" – is examined from the practical Standpoint in a critique of pure Reason.[1] The Object of the practical Standpoint is conduct, i.e. the determination of non-autonomic actions through reasoning. The subject-matter of our inquiry turns at this point to considerations of how the Organized Being can come to determine, plan, and choose from among the manifold of possible actions presented to Reason's appetitive power by the process of reflective judgment.

In all our considerations of this topic, our central concern must be with the issue of practical objective validity in all our deductions of the process of practical judgment and the determination of choice in the appetitive power of pure Reason. This means that the ground for inferring the *Dasein* of the intelligible objects of our theory must be found in sensible experience, wherein our cognitions of experience are to be viewed as effects for which the corresponding causes must trace their *Realerklärung* back through the causality of freedom. In the previous chapters we have deduced the *Realerklärung* of motivation, the motivational dynamic, and the idea of a value structure constructed in practical judgment. These considerations lay out before us the topical objects of our present task. But knowledge of the *Dasein* of these objects does not suffice for the completion of our theory. To this knowledge we must also deduce the *Existenz* of the processes of the power of Reason, by which we come to understand the psychological Nature of these objects. Because these objects without exception are intelligible objects (*noumena*) our deduction of this *Existenz* can have objective validity only if this deduction is firmly anchored in the metaphysics proper of the Critical Philosophy. Our first task, then, is to re-visit the transcendental Ideas – this

[1] see Chapter 10, §2.

time in the practical Standpoint.

As before, we will need to carry out our examination in terms of the four reflective perspectives of Kant's system. This means that the logical-, transcendental-, hypothetical-, and empirical- reflective perspectives contained in the general principles of transcendental Ideas are to be given an objective expression as seen from the purely practical Standpoint. Once again, and unfortunately, Kant leaves this work to us because his corpus of philosophical work contains no explicit expression of the Ideas regarded from the practical Standpoint. This omission tends to focus the spotlight for the practical Standpoint in Kant scholarship upon the applied metaphysic of morals and moral judgments that dominates Kant's practical works, e.g. as in [PALM1: 247-288]. However, we have argued in this treatise that Kant's applied metaphysic is not fundamental and that we must regard the categorical imperative in a more general light. What, then, shall be our approach?

The answer to this question is found when we remember that the theoretical, judicial, and practical Standpoints are inseparably joined together in Kant's system as the three *synthetic* poles of transcendental deduction where Kant's three interests of Reason are concerned. Kant's explicit discussion of the transcendental Ideas in *Critique of Pure Reason* and the *Prolegomena* were given from the theoretical Standpoint. We have in this treatise examined them from the judicial Standpoint. We shall arrive at their statement in the practical Standpoint by means of a synthesis of these other two Standpoints.

§ 2. The Logical-practical Perspective

We begin with the logical-practical perspective. The logical reflective perspective pertains to the metaphysics proper of Rational Physics, and when we take up this perspective from the practical Standpoint our first task must be to explain how Rational Physics – which deals with Objects of outer sense – is pertinent to the practical Standpoint (the Objects of which are supersensible). This is not so difficult as it might at first seem, and the key consideration here is found in our oft-repeated principle that the *practical* objective validity of any supersensible Object stems from its necessity for the possibility of sensible experience. In the theoretical Standpoint the principles of Rational Physics focus upon the metaphysical laws for the representation of appearances. In the judicial Standpoint, the focus is shifted to the synthesis in continuity between reflective judgment and the adaptive *psyche* (Chapter 16), wherein the Organized Being is regarded as a sensible object in Nature. Now, the appearance of spontaneity in the actions of the Organized Being can only be understood with objective validity if we posit the agency for these actions with the

noumenal character of the Organized Being. Spontaneity is not an objectively valid idea for dead matter because such an idea violates the law of continuity in Relation (*in mundo non datur casus*). Objective validity in the theoretical Standpoint requires the connection of concepts under the category of causality and dependency, and chance is not an object of any possible sensuous experience.

If, then, we seek to understand sensible appearances of the agency of the Organized Being, our idea of this agency must be such that any action laid to the causality of freedom must be one for which this explanation can, at the same time, be capable of expression in non-teleological terms of physical causality. This means that the practical Standpoint of Rational Physics is the Standpoint in which the necessity for this possibility is given clear expression in the principles of Rational Physics. We can therefore expect that the statements of the principles of Rational Physics in the practical Standpoint will be such as to express practically necessary boundary conditions on how we may view psychological agency in an Organized Being. Put another way, the principles of Rational Physics in the practical Standpoint are laws of concordance between the power of pure Reason and the *logical appearance* of the *mental* Self in an Organized Being. We seek to understand the logical structure of acts of practical judgment and appetitive power.

§ 2.1 Axioms of Intuition in the Practical Standpoint

The general principle of Quantity in Rational Physics is the principle of the Axioms of Intuition. The expression of this principle from the theoretical Standpoint was given by Kant in the first edition of *Critique of Pure Reason* as: All appearances are (as regards their intuition) extensive magnitudes. It is the reference to appearances that alerts us to the theoretical Standpoint being taken in this statement of the principle. The theoretical Standpoint pertains to knowledge of objects, thus to phenomena, and an appearance is the undetermined object of an intuition. When we shift to the judicial Standpoint and consider objectivity as the continuity function of Nature, the Axioms of Intuition is restated as Kant did in the second edition of *Critique of Pure Reason*: All intuitions are extensive magnitudes [KANT1a: 286 (B: 202)]. It is this form of the principle that pertains to the topological synthesis of space (Chapter 17 §6.2) and which speaks to the synthesis in objectivity as reciprocal binding of reflective judgment and somatic processes that actualize specific perceptions by means of motoregulatory expression (Chapter 16 §6.1).

Now, it is wholly incorrect and a violation of the Copernican hypothesis to say that this process of the synthesis in apprehension is carried out *for the sake of* presenting an appearance. To say so would be to merely sneak in the copy-of-reality hypothesis in yet another guise. It is true that consciousness (perception) in objective form (intuition) takes the character of objective

apprehension, but this is an outcome in sensibility. As such, we are required under the theoretical Standpoint to posit a cause for this effect. At the same time, we cannot place this cause within any *sensuous* causality chain of concepts for the simple reason that the logical succession of concepts of appearances has no knowable absolute origin in sensuous Nature. All appearances are contingent for this very reason. The marking of an intuition by the process of reflective judgment obeys the principle of formal expedience, and here we remember that the idea of expedience (*Zweckmäßigkeit*[2]) refers to and serves a purpose of pure Reason.

We make our own object representations, but this construction process is regulated by the power of Reason and Reason knows no cognitions of empirical objects. An intuition viewed as an appearance is the representation of an object, and although this object is undetermined in sensibility so far as empirical Nature is concerned it is nonetheless already *practically* determined through the regulated synthesis of apprehension. The extensive magnitude *in* an empirical intuition is the outcome of the topological synthesis and, so far as active perception (as a process) is concerned, the actions of motoregulatory expression through which this representation is put together are precisely those that have passed the censorship of practical Reason in the determination of the appetitive power. This means that these actions have passed the validation of the motivational dynamic (Chapter 19). But the only criterion for this validation is practically universal compatibility under the categorical imperative as evaluated against the manifold of practical rules. We thus come straight to the practical form of the principle of Axioms of Intuition: **The extensive magnitude in an intuition is the aggregation of effects in sense of those practical acts of appetitive expression that are validated under the manifold of rules**.

We will later see that the most primitive of the appetites so validated are Kantian **instincts**. In the early stages of life the manifold of rules is undeveloped and, consequently, validation under the practical form of the Axioms of Intuition is not subject to many constraints. Childish syncretism is one manifestation of this. As experience progresses the manifold of concepts in understanding (which contributes to the *materia* in sensibility) and the manifold of rules in practical judgment both mature, and this opens up perception to an ever-increasing set of "boundary conditions" that practical validation requires. At this level we can speak of appetites of perceptual **inclinations**. It is not an unreasonable speculation[3] that this maturation process might underlie some of the phenomena of Gestalt psychology as well as some of the more common optical illusions to which human visual perception is subjected. One well-known example is the

[2] One literal rendering of *Zweckmäßigkeit* is "purpose-like-ability" – i.e. "to be able to be like a purpose."
[3] But nothing more than a speculation at our present stage of knowledge. A scientific study of this speculation is a task for empirical psychology within a framework of mental physics. As the latter is not yet established as a science, it may be some time before this speculation can be put to the test.

tendency for people to “fill in” an image to perceive the shape of a cube. This is illustrated in Figure 20.2.1. Another well-known example is illustrated in Figure 20.2.2. Some people see this

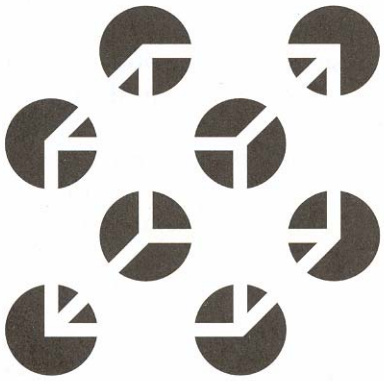

Figure 20.2.1. Most people are able to perceive a cube figure even though the contours of the cube edges are illusory. With some practice it is also possible to perceive this cube in two different orientations in space.

Figure 20.2.2. Some people perceive this image as an old hag seen in profile. Others perceive it as a well-dressed young woman looking away. Many people can see both images, being able to shift back and forth between them. Still other people are unable to see either.

image as the face of a wrinkled old hag facing to the left. Other people perceive a well-dressed young woman facing away. Many people, with a small amount of practice, can see either image at will. And some people are unable to perceive either.

§ 2.2 Anticipations of Perception in the Practical Standpoint

In the theoretical Standpoint the principle of Anticipations of Perception is: In all appearances the sensation, and the real which corresponds to it in the object, has an intensive magnitude, i.e. a degree. This principle, as stated in the first edition of *Critique of Pure Reason*, puts the main emphasis of the principle on sensation as the matter of an empirical intuition. Kant gave a similar but slightly different expression of this principle in the second edition: In all appearances the real, which is an object of the sensation, has intensive magnitude, i.e. a degree. In the second form of expression Kant has shifted his emphasis to focus upon the transcendental object "behind" the appearance, i.e. to the power of the object to affect the Subject in sensation. This form of stating the principle in the second edition (1787) is aligned with his applied metaphysic of Nature (1786), which we looked at earlier in Chapter 18 §4. Thus, both statements are to be regarded as being made from the theoretical Standpoint.

From the judicial Standpoint the Anticipations of Perception principle is the principle of judicial continuity in the aesthetic Idea (Chapter 16 §6.2). The intensive magnitude (degree) of sensation presents the complete condition for marking sensibility at a moment in time and we might call this the closure of the structure of sensibility. In Kant's words, intensive magnitude is the "magnitude of the unity" (or 'one-ness') in sensible representation.

> Magnitude which cannot be immediately intuited as magnitude is appraised by way of sequence. I represent it to myself as quality. That the amount of quality is degree . . . is wholly correct, i.e. it is not immediately represented as amount, but mediately, namely through a sequence. Likewise one can also say: amount of ground is degree. Degrees are opposed to extensive magnitudes, which are space and time and everything that is within them. For inner magnitude one uses the expression degree, not magnitude which holds only of extensive magnitudes. All reality has a degree. There are degrees from sensation to thought, i.e. up to apperception, where I think myself with respect to understanding. Something can have so little degree that I can scarcely mark it, but nonetheless I am still always conscious of it. There is, properly speaking, no largest and smallest in experience [KANT19: 192 (29: 834)].

Judicially considered, the idea of degrees takes its objective validity from an ordering procedure. Theoretically considered, the degree of perception is seen as an amount in coalition that undergoes variations from moment to moment in subjective time. Practically considered, we must lay the possibility of this variation to some cause, and again this cause cannot lie with external (or, strictly speaking, even with somatic) objects else once again the copy-of-reality error enters in to our considerations. The process of perceiving is an active process, and thus a process

in which the validation of possible actions presented in reflective judgment is an act of regulation which logically antecedes the actuality of the actions that formulate the *Gestaltung* of sensibility in a coherent sequence.

One says that the degree of perception can increase, diminish, or stay the same. This speaks to an on-going process of validation in practical Reason wherein specific actions retain validation from moment to moment in subjective time (hold steady), or become disvalued (diminishing degree), or which are introduced through reevaluation (increasing degree). In terms of consciousness, we often describe this process as remaining focused on, or ignoring, or concentrating on something. Thus we come to the statement of the principle of Anticipations of Perception from the practical Standpoint: **The degree of perception is a consequence of the regulation of sensibility through validation of acts of reflective judgment.**

§ 2.3 Analogies of Experience in the Practical Standpoint

From the theoretical Standpoint the general principle of the Analogies of Experience is: As regards to their *Dasein*, all appearances stand *a priori* under rules of the determination of their relationship to each other in one time. These rules of determination of the relationship of appearances go to relationships of persistence in time (substance and accident), succession in time (causality and dependency), and coexistence in time (community in reciprocal relationships). In the judicial Standpoint, the Analogies of Experience principle grounds the principle of continuity in Self-*Existenz* (the judicial Idea, Chapter 16 §8.1). With respect to the threefold *modi* of time, we have seen the judicial character of the principle of Analogies of Experience in terms of the generalized power of locomotion, the noetic expression in the particular of motivation, and the reciprocity in somatic and noetic representations in the data of the senses. These three *modi* of the Analogies are captured in Kant's expression of the principle in the second edition of *Critique of Pure Reason*: Experience is possible only through the representation of a necessary connection of perceptions [KANT1a: 295 (B: 218)].

But how, without invoking the copy-of-reality hypothesis, are we to see any connection of perceptions or appearances as necessary? The only answer open to us is contained in the idea that all such connections stand *a priori* under rules of determination of their relationships. But what sort of rules? Here there comes into the picture the agency of the Organized Being in the causality of freedom: It is not something subsisting in the *materia* of representation where we find this called-for necessity, but rather it is in the regulation of the process of perception by practical Reason that these connections are *made necessary* in the validation of acts of reflective judgment by practical Reason. Practical Reason as a process does not itself come under the condition of

inner sense (time), but acts of Reason are nonetheless made manifest in subjective time through the persistence of an action, the successive appearances of coherent actions, and the reciprocity between actions taken and perception. From the practical Standpoint the principle of Analogies of Experience is: **The rule of determination of relationships in perception is the enforcement of continuity in Self-*Existenz* by acts of validation in practical Reason.**

In the logical-theoretical perspective the first analogy of experience is the principle of persistence: All appearances contain the persistent (substance) as the object itself, and the changeable as its mere determination (the way in which the object exists). In the logical-judicial perspective (Chapter 16 §8.1) the persistent is laid to the transcendental Subject and the principle of persistence is the principle of motoregulatory expression through a determination of the appetitive power of Reason. This we have called the principle of the power of generalized locomotion. Combining these two perspectives in the logical-practical perspective, we come to the practical Standpoint's statement of the first analogy of experience: **All non-autonomic actions contain an appetite as the persistent in the changeable appearances of the action.** The immediate consequence of this principle is that an appetite has to be regarded as more than merely a moment-by-moment copy of some part of the manifold of Desire; rather, an appetite is to be conceptualized (in our theory) as a representation in which moment-by-moment presentations of Desire in reflective judgment are assimilated. **Motivation is the accommodation of perception; appetite is its assimilation**, i.e. **practical attentiveness**.

The second analogy of experience in the logical-theoretical perspective is the principle of generation: Everything that happens (begins to be) presupposes something that it follows in accordance with a rule. In the logical-judicial perspective, the principle of generation is seen as the principle of acting to negate the intensive magnitude of *Lust per se*. We have previously described this in terms of the activity loop in our model of information flow and the connection between reflective judgment and motoregulatory expression in *psyche*. Now, the negation of *Lust per se* is the psychic condition of equilibrium and this condition stands as the unconditioned condition for all non-autonomic activities of the Organized Being. Actions are appearances, and the changeable in a series of actions manifests in appearance a series of successive affective states that practically must be viewed as effects of a practical synthesis *a parte posteriori* with the condition of equilibrium as a primary cause. Thus in the logical-practical perspective the principle of generation is: **Every non-autonomic action is connected in a series in subordination to the practical unconditioned rule of acting to negate the degree of *Lust per se*.**

The third analogy of experience in the logical-theoretical perspective is the principle of community: All substances insofar as they are coexistent stand in thorough-going community (i.e.

interaction with one another). Now, motivation as the object of an idea is an object of the judicial Standpoint, namely a function of reflective judgment. Appetite, on the other hand, as an object of the practical Standpoint is a function of practical judgment and choice. Neither motivation nor appetite falls under the condition of inner sense (time), and so neither can be viewed as *ontological* substances. However, motivation and appetite *conceptualized* as intelligible objects may be termed *practical substances*[4] in the following sense.

Motivation is the accommodation of perception and, as such, we *understand* it in determining judgment as the logical character of an *Unsache*-thing.[5] Appetite, Kant tells us, is a *Lust* (or an *Unlust*) *insofar* as it is regarded as a ground of activity [KANT19: 69 (28: 254)]. It is thus a *representation* of "a reason" for actualizing a possible action, and inasmuch as "a reason" is understood as a *cause* it has the *practical* logical character of a *Sache*-thing.[6] Regarded as accidents of *Existenz* in the Self, the representations of motivation and appetite claim *information* as the substance common to both. *Lust*-organization is the function of *nexus* in *psyche* uniting the practical and judicial Standpoints, and its representation is understood as containing an idea of causality. It is in this sense that motivation and appetite can be logically viewed as co-determined causes on the noetic shore of *psyche*. Motivation is cause of an effect in appetite, and appetite is at the same time cause of an effect in motivation. Taken *jointly* they satisfy Margenau's rule.

We conceptualize the *Dasein* of both motivation and appetite from sensible appearances of actions we call non-autonomic. But between the *idea* of an *Unsache*-thing (motivation) and that of a *Sache*-thing (appetite) there is a *hiatus* unless there is an idea of *state* that binds them together. In appearances this idea is that of coordination of schemes of equilibration which are structured through interactions (Chapter 9). This function is indeed that which is represented by the dimensions of *Lust-Kraft* and *Lust*-organization in the representation of *Lust per se* in the adaptive *psyche*. Thus, from the practical Standpoint, it is the *coordination of actions* within an

[4] By the term *practical substance* we mean the object of a concept that is understood in theoretical Nature as coming under the principles of *practical* Rational Physics in the same manner as ontological substances come under these principles in the theoretical Standpoint of Rational Physics. Strictly speaking, practical substances properly belong to an applied metaphysic of mental physics rather than to the metaphysics proper of the Critical Philosophy. Nonetheless, their *deduction* is a task for metaphysics proper.

[5] Recall that an *Unsache*-thing is signified in a determinant judgment under the empirical-theoretical perspective of the category of causality and dependency. Regarded as a "thing" a "happening" is thought as {unity, reality, causality & dependency, *Dasein* & *Nichtsein*} from the empirical-theoretical perspective (Chapter 10 §1). Because its Relation is not judged under the category of substance & accident, it is not an ontological substance. The object judged under the four-fold combination of these categories is what we are calling the "practical substance" of the *Unsache*-thing. It is one, real, kinematical, and actual.

[6] From the empirical-theoretical perspective, the object we are calling a practical *Sache*-thing is judged as {unity, limitation, substance & accident, necessity & contingency}. The *ontological* substance for an appetite is laid to the *noumenal I* of transcendental apperception, with respect to which appetite is merely a characteristic. But the *practical* substance of an appetite differs in that its Quality is limitation rather than reality and in that Rational Physics applies to it only from the practical Standpoint.

interaction structure by which alone we can obtain an objectively valid statement of the third analogy of experience from the practical Standpoint. The principle is this: **All actions of equilibration involving multiple differentiable schemes are conditioned and co-determined by structures of coordinations in the manifold of practical rules.**

These three practical principles are the *modi* of enforcement of continuity in Self-*Existenz* which determine relationships in perception through actions. The first practical analogy grounds the cause of actions in the transcendental Subject's determination of appetitive power. The second practical analogy sets the causality of freedom as the form of determination under the categorical imperative as practical unconditioned cause. The third practical analogy is the principle of community in action schemes in Reason's enforcement of continuity through actions. These three *modi* of the general principle speak to the form of the form of Practical-rational Physics (that is, the logical-practical perspective of Relation in Reason).

§ 2.4 The Postulates of Empirical Thinking in General in the Practical Standpoint

Taking the practical Standpoint in regard to the principle of the Analogies of Experience as we have just stated it, by what standards or criteria is it to be determined how continuity in Self-*Existenz* is enforced? This question does not bear upon the relationship of actions and perceptions but, instead, pertains to the relationship of both to the determination of the acting Subject itself. Put in other words, this is a question for a principle of Modality.

Kant gave us no single statement of an overall principle for Modality in Rational Physics. From the theoretical Standpoint his statements of the three postulates of empirical thinking are merely real definitions of the terms possible, actual, and necessary in terms of sensibility and the manifold of concepts. From the judicial Standpoint the three postulates speak to the establishment of meanings in the synthesis of continuity in Meaning (the determinable in Meaning, the determination in Meaning, and the determining factor in Meaning; see Chapter 16 §8.2). Thus the principles in the theoretical Standpoint define the theoretical conditions in the synthesis of apperception for judgments of the possible, actual and necessary, while the judicial Standpoint speaks to the manner of judgmentation and the connection between teleological reflective judgment and the adaptive *psyche* by which *nous* is able to set up these conditions. The practical Standpoint deals with the *regulation* of the process of judgmentation by which it is *decided* which of the three *momenta* of Modality in determining judgment is to be the outcome of the process. As we are about to see, the postulates of empirical thinking in general when viewed from the judicial Standpoint have the logical character of *means*. But from the practical Standpoint the postulates speak to the Organized Being's ability to determine its capacities to act for specific

types of *ends*.

The first postulate of empirical thinking in general from the theoretical Standpoint is: What agrees with the formal conditions of experience is possible. The ability to speculate as well as the ability to know that one is speculating depends on this principle. The ability to adapt the manifold of concepts in the march of experience rests on the ability to make determinant judgments under the category of possibility-impossibility. From the judicial Standpoint, the first postulate speaks to the means by which it is possible to make meaning implications through the ability to join representations of sensibility to the motor capacities of the Organized Being. The first postulate in the judicial Standpoint is the idea of the determinable in Meaning: The representations in sensibility and the motor faculties of the Organized Being are such that the former can be joined to specific capacities for actions in the latter.

Now the mere fact that a representation in sensibility can be joined to a capacity for action does not imply that this sensibility and that capacity for action are either irrevocably joined or even that they are necessarily joined. Reason always has a veto power over the acts presented in reflective judgment. That act which fails the test of validation under the categorical imperative in the motivational dynamic can go no farther. The statement of the first postulate in the practical Standpoint is: **Those acts that cannot be validated under the conditions of the manifold of rules are impossible**. We will call the satisfaction of the conditions of the manifold of rules a *possible end*.

The second postulate from the theoretical Standpoint is: What coheres with the material conditions of experience (sensation) is actual. From the judicial Standpoint this principle speaks to the idea of determination in Meaning – that is, to the co-determination of a somatic action and a specific act of reflective judgment – and so the judicial statement of this principle pertains to the specific determination of an activity. We may state the second postulate from the judicial Standpoint thusly: That which coheres with the material conditions of meanings (somatic motoregulatory expression) is actual. But, again, Reason has its veto power through the criterion of validation in the motivational dynamic. Those acts of reflective judgment that *do* pass the criterion of validation are *ipso facto allowed* to cohere with motoregulatory expression, while those which do not have their connection to motoregulatory expression disallowed. These latter acts of reflective judgment are said to be disvalued by Reason, while the former are exhibited as behavior activities. The statement of the second postulate in the practical Standpoint is: **The act of reflective judgment that coheres with the conditions of the manifold of rules becomes an action**. We will call the equilibrium established by the action an *actual end*.

The third postulate from the theoretical Standpoint is: That whose context with the actual is

determined in accordance with the general condition of experience is necessary (exists). The construction of ideas through judgmentation always involves a *noumenon* as an object, and the theoretical objective validity of ideas hinges on this third postulate insofar as logical deduction is concerned. That acceleration is proportional to applied force can be observed in sensible Nature; that there is a property of sensible bodies called *mass* that determines this proportionality is an idea, and its objective validity is grounded in the theoretical necessity as stated in this postulate.

We have seen from the judicial Standpoint that the principle of the third postulate speaks to the enforcement of coherence in Meaning by the regulation of Reason. Teleological reflective judgment is tasked with making a system of Nature, and in this the context with the actual of our perceptions must be generally coherent (through Meaning) if Nature is to be constructed as a system. The *acts* of construction are laid to the spontaneity of *nous*, and we have seen (Chapter 16 §8.2) that the possibility of coherent meanings is grounded in the combination of acts of reflective judgment with the determination of appetitive power in Reason. Coherence in sensibility is a condition of sensible equilibrium, thus a real condition of experience, and so judicial necessity takes its *Realerklärung* from regulation by practical Reason that enforces coherence in Meaning.

All necessity in understanding is thus *made* a necessity by the requirement of pure Reason for coherence in Meaning. But since Reason is not concerned with perception, feelings or concepts, necessity in understanding and action has its penultimate ground in the process of valuation of Desire according to the practical manifold of rules. Kant tells us,

> All imperatives are formulae of a practical necessitation. Practical necessitation is a made-necessary free act. But all our acts can be necessitated two-fold; either they can be necessary in accordance with laws of free choice – and then they are practically necessary – or they can be necessary in accordance with laws of sensuous feelings of inclination – and then they are pathologically necessary. Accordingly, our acts are practically necessitated (that is, according to laws of freedom) or pathological, i.e. according to laws of sensibility. Practical necessitation is an objective necessitation of free acts. Pathological necessitation is a subjective necessitation. Accordingly, all objective laws of our acts are practically necessary, not pathologically. All imperatives are only formulae of practical necessitation and express a necessity of our acts under the condition of goodness. The formula that expresses the practically necessary is the *causa impulsiva*[7] of a free act, and because it is objectively necessitated one calls it a *motivum*[8]. The formula that expresses the pathological necessitation is *causa impulsiva per stimulos*[9], because it is subjective necessitation. Thus all subjective necessitation is necessitation *per stimulos* [KANT11: 14 (27: 255)].

This brings us to the practical statement of the third postulate. It is: **That whose context with the actual is determined in accordance with general conditions of valuation is made necessary**

[7] impelling cause.
[8] motive.
[9] stimulated impelling cause.

(necessitated).

§ 2.5 Summary of the Logical-practical Principles

To sum up: The principles of Rational Physics under the practical Standpoint are the logical rules for the representation of acts of Reason. We will use these principles to understand the *momenta* of practical judgment from the logical-practical perspective. These logical-practical principles are:

> **Axioms of Intuition:** The extensive magnitude in an intuition is the aggregation of effects in sense of those practical acts of appetitive expression that are validated under the manifold of rules.
>
> **Anticipations of Perception:** The degree of perception is a consequence of the regulation of sensibility through validation of acts of reflective judgment.
>
> **Analogies of Experience:** The rule of determination of relationships in perception is the enforcement of continuity in Self-*Existenz* by acts of validation in practical Reason;
> 1. All non-autonomic actions contain an appetite as the persistent in the changeable appearances of the action;
> 2. Every non-autonomic action is connected in a series in subordination to the practical unconditioned rule of acting to negate the degree of *Lust per se*;
> 3. All actions of equilibration involving multiple differentiable schemes are conditioned and co-determined by structures of coordinations in the manifold of practical rules.
>
> **Postulates of Empirical Thinking in General** (General postulates in action):
> 1. Those acts that cannot be validated under the conditions of the manifold of rules are impossible;
> 2. The act of reflective judgment that coheres with the conditions of the manifold of rules becomes an action;
> 3. That whose context with the actual is determined in accordance with general conditions of valuation is made necessary (necessitated).

§ 3. The Transcendental-practical Perspective

The transcendental reflective perspective is the perspective of the metaphysic proper of objects of inner sense, i.e. of Rational Psychology. The general psychological Idea is the Idea of absolute unity of the thinking Subject; the four particular psychological Ideas refine what is meant by the general Idea. The principal applications of the psychological Ideas are negative ones; that is, the psychological Ideas tell us what we may not presume in our model of Nature and of the Organized Being. In this mode of application the psychological Ideas guard us from errors of transcendental subreption. For example, we may logically speak of a manifold of concepts for

determining judgment, a manifold of Desires for reflective judgment, and a manifold of rules for practical judgment. We may not, however, presume there to be a *real* division within the Organized Being such that we could *presume* these manifolds would be, for example, indicative of distinct, independent, and separable somatic structures. Neuroscience can speak objectively of such brain structures as the visual cortex, the primary motor cortex, etc., but when it does so what we must remember is this: What justifies the names for these brain structures is the observable correlations between activities (and damage) in these brain regions and a person's "psychological experience" of, e.g., perception in the form of vision, corporeal locomotion following upon a decided action, etc. When one observes activity in the visual cortex this is not the same as observing the perception of vision regardless of what we *name* it (Lavoisier's dictum).

The objects of biological neuroscience and those of empirical psychology occupy different positions within the study of Nature, and this is due to the epistemological differences in our knowledge of these objects. Kant draws for us this distinction thusly:

> In the previous parts of metaphysics nature in general was treated, and objects were considered in general. In this regard nature means the embodiment of all inner principles and all of that which belongs to the *Dasein* of the thing. But when one speaks of nature generally, it is only according to the form, and then nature does not mean an object but rather only the manner *in which* an object exists. – Nature is in *Dasein* what essence is in the concept. In Cosmology the nature of each thing in general, the nature of the world, or nature in the general sense where this means the embodiment of all natures, was spoken of, and then nature is the embodiment of all objects of the senses. This knowledge of the objects of sense is *physiology*. Now what is no object of the senses goes beyond nature and is hyperphysical. Accordingly, the embodiment of all objects of the senses is nature, and the knowledge of this nature is physiology. This knowledge of nature or physiology can be twofold: *empirical* and *rational*. This classification of physiology applies only to the form. – *Empirical* physiology is the knowledge of the objects of sense so far as it is obtained from principles of experience. *Rational* physiology is knowledge of objects so far as it is obtained not from experience but rather from an idea of reason . . . There is accordingly a physiology of objects of *outer* and a physiology of objects of *inner* sense. The physiology of outer sense is *physics*[10], and the physiology of inner sense is *psychology* . . . The general determination of the act, or the general character of the object of inner sense, is *thinking*; and the general character of the object of outer sense is *moving*. Thus in general psychology thinking beings in general are treated, which is *pneumatology* . . . Empirical psychology *is the knowledge of objects of inner sense insofar as it is obtained from experience*. Empirical physics is knowledge of objects of outer sense insofar as it is borrowed from experience. Rational psychology *is knowledge of objects of inner sense so far as it is borrowed from pure reason* . . .
>
> Psychology is thus a physiology of inner sense or of thinking beings, just as physics is a physiology of outer sense or of corporeal beings. I consider thinking beings either merely from ideas, and this is rational psychology, or through experience, which in part happens internally within myself, or externally, where I perceive other natures and recognize according to the analogy that they have in me; and that is empirical psychology, where I consider thinking natures through experience. The *substratum* which underlies and which expresses the consciousness of inner sense is the *idea of I*, which is merely an idea of empirical psychology . . . This *I* can be taken in a twofold sense: *I as*

[10] In Kant's time the term "biology" had not yet come into use and all "natural philosophy" of corporeal things was called physics. The word "physiology" literally means "doctrine of nature."

> *human being*, and *I as intelligence*. I, as *a human being*, am an object of *inner* and *outer* sense. I *as intelligence* am an object *of inner sense only*; I do not say: I am a body, but rather: what attaches to me is a body. This intelligence, which is combined with the body and constitutes a human being, is called *soul*; but *considered alone* without the body it is called intelligence. Soul is thus not mere thinking substance, but rather constitutes a unity insofar as it is combined with the body. Accordingly the changes of the body are my changes [KANT19: 42-45 (28: 221-225)].

Rational Psychology's four psychological Ideas discipline us against allowing the trespass of ideas of rational physiology over into transcendent paralogisms in empirical physiology. In Kant's day Wolffian philosophy regarded "rational psychology" as a doctrine of spiritualism from which came such epistemologically baseless ideas such as: that "the soul" was a simple substance; that it could be investigated as something apart from the body (that is, the Wolffian philosophers drew a real division between body and soul); and, generally, that "soul theory" could be a science. Schwegler summarized Wolff's position as follows:

> The soul is that within us which is self-conscious. The soul is also conscious of other objects besides itself. Consciousness is either clear or indistinct. Clear consciousness is thought. The soul is a simple incorporeal substance. There dwells within it a power of perceiving the world. In this sense brutes also may have a soul, but a soul which possesses understanding and will is mind, and mind belongs alone to men. The soul of man is a mind joined to a body, and this is the distinction between men and superior spirits. The movements of the soul and of the body harmonize with each other by virtue of the pre-established harmony. The freedom of the human soul is the power according to its own arbitrament to choose of two possible things that which pleases it best. But the soul does not decide without motives; it ever chooses that which it holds to be the best. Thus the soul would seem impelled to its action by its representations; but the understanding is not constrained to accept any thing as good or bad, and hence also the will is not constrained but free. As a simple being the soul is indivisible, and hence imperishable; the souls of brutes, however, have no understanding, and hence enjoy no conscious existence after death. This belongs alone to the human soul, and hence the human soul alone is immortal [SCHW: 259-260].

Kant refutes all this as hyperphysical and transcendent illusion. He attacked this brand of so-called "rational psychology" as a false doctrine utterly lacking in any possible objective validity and as a line of speculation impossible to make into a science.

> Thus there is no rational psychology as *doctrine* that might provide us with an addition to our self-consciousness, but only as *discipline*, setting impassable boundaries for speculative reason in this field, in order, on the one side, not to be thrown into the lap of a soulless materialism, or on the other side not to get lost wandering about in a spiritualism that must be groundless for us in this life; on the contrary, it rather reminds us to regard this refusal of our reason to give an answer to these curious questions, which reach beyond this life, as reason's hint that we should turn our self-knowledge away from fruitless and extravagant speculation - which, even if it is always drawn only to objects of experience, for all that takes its principles higher, and so determines attitudes as if our determination reaches infinitely far above experience, and hence above this life - toward fruitful practical uses.
>
> From all this one sees that rational psychology has its origin in a mere misunderstanding [KANT1a: 452-453 (B: 421)].

Some scholars tell psychologists that Kant held psychology to be impossible as a science; what Kant actually said was that *Wolff's* psychology was impossible as a science.

§ 3.1 Quantity in the Transcendental-practical Perspective

The psychological Idea of Quantity is the Idea of unconditioned unity in the multiplicity in time. Differences in the appearance of the Subject at different times do not imply numerical difference (different Selves at different times), but rather the Idea is that of unity in appearances and of one and the same Subject at all moments in time.[11] In the theoretical Standpoint this Idea regulates for unity in association of concepts, which we saw in the *Realdefinition* of the categories from the transcendental-theoretical perspective and which we can call the *logical* unity of cognition. In the judicial Standpoint (Chapter 14 §3.1) we saw this Idea regulating for the *functional* unity of affective and objective perception in sensibility.

In the practical Standpoint our concern is with actions. Thinking, perceiving and reasoning are noetic actions, just as motoregulatory expression is expressed through somatic actions. There can be no real division in how we regard noetic action as opposed to somatic actions. The psychological Idea of Quantity rather tells us we must find the unity that contains both types and, furthermore, that this unity must be unconditioned. We have said that acts of reflective judgment "bridge" the chasm between sensibility and cognition on the one side and practical Reason on the other, and even that Quantity in reflective judgment is the continuity function of objectivity. The unconditioned *unity* in all these acts is understood in terms of *rules*, and it is in regard to rules that the Idea is applied in the practical Standpoint. **We may therefore state the practical form of the regulative psychological Idea of Quantity as: Unconditioned unity of the rules of action in the multiplicity in subjective time**. Accordingly, the *Realdefinition* of the categories of freedom in practical judgment from the transcendental-practical perspective will be understood in terms of how the manifold of rules is to be regarded always in terms of its practical unity as universal law in accordance with the categorical imperative of pure practical Reason. It is the practical regulative principle of want, regarded as the practical association of rules, in the motivational dynamic.

§ 3.2 Quality in the Transcendental-practical Perspective

The second psychological Idea is: unconditioned unity of Quality in experience. From the theoretical Standpoint this Idea tells us that our knowledge can have no objective validity unless all objects of experience are regarded as appearances. In the judicial Standpoint this Idea tells us that the division between objective and affective perception is a merely logical division and that

[11] When we later look at the idea of the so-called "split mind" and revisit the topic of "multiple selves" in hysterical neurosis, this Idea will feature prominently in how we are to view the phenomena from which these transcendent ideas arise. What we will see is that these ideas must properly be viewed in terms of properties of intelligence rather than in terms of mind.

affective and objective perception in combination make up the complete state of conscious representation. We further saw (Chapter 14 §3.2) that the feeling of subjective expedience in sensibility is joined to the appetitive power as the matter of intent. Aesthetic Quality deals with the function of compatibility, whereas aesthetic Quantity pertains to association in the *Verstandes Actus* of the synthesis of apprehension.

In the practical Standpoint Quality in the motivational dynamic is called drive. When we view compatibility in the matter of intent as a unity in an appearance what we have is *the value of an action.* Now, the valuation of a presentation of reflective judgment is valuation with regard to the manifold of rules. As a regulative principle, then, **the psychological Idea of Quality is the Idea of unconditioned unity of value**. This is to say that the unity of value is the Idea of the compatibility of desires and the rule structure.

We have called the principle of the interplay among feelings, cognitions, and appetites by the name *common sense* (Chapter 14 §3.2). Reason, as the executive power of *nous*, is the determining factor in how common sense 'plays out' in action, which is as much as to say that drive is the value of intent. To re-quote Santayana, "Intent is action in the sphere of thought; it corresponds to transition and derivation in the natural world . . . [While] the feeling of intent is a fact like any other, intent itself is an aspiration, a passage, the recognition of an object which not only is not part of the feeling given but is often incapable of being a feeling or a fact at all." The *valuation* of Desire is the *determination* of intent as matter of the matter in practical judgment. Inasmuch as intelligence is regarded as the use of Reason in directing conduct, the unconditioned unity of value is the regulative principle for the application of the power of intelligence.

§ 3.3 Relation in the Transcendental-practical Perspective

The psychological Idea of Relation in the transcendental-theoretical perspective is: unconditioned unity of all relationships. In the transcendental-judicial perspective the unity of relationships is a connection of *interest* and the principle is: Unconditioned unity of all relationships is grounded in the *a priori* anticipation of the form of connection of perceptions in time according to the *modi* of persistence, succession, and coexistence (Chapter 14 §2.3). Immanent, transeunt, and reciprocal interest are the *momenta* of Relation in aesthetical judgment under this principle in the judicial Standpoint.

We have seen (Chapter 14 §3.4) that there is a close interrelationship between the value structure of Reason and the *sense of value* (aesthetical interest) of aesthetic Relation in reflective judgment. Likewise, *consciousness* of a maxim requires objective representation through the manifold of concepts, and so there is a three-way binding of interest, value and transcendental

anticipation[12] at work under the psychological Idea of Relation. The aesthetical judgment of interest provides "that by which Reason becomes practical"[13], the valuation of interest in practical judgment provides the condition for the determination of appetites, and the cognition of the form of the maxim weds interest and value to objective representations in determining judgment. **This three-way binding is the psychological Idea from the practical Standpoint: Unconditioned unity of all three-way relationships of interest, valuation, and cognition**.

§ 3.4 Modality in the Transcendental-practical Perspective

The psychological Idea of Modality in the transcendental-theoretical perspective is: Unconditioned unity of *Dasein* in space. Kant amplified this statement in the first edition of *Critique of Pure Reason* in saying that this is an Idea of consciousness but

> not as the consciousness of several things outside it[14] but rather **only of its own *Dasein*** and of other things merely as its representations [KANT1a: 443 (A: 404)].

Seen from the transcendental-judicial perspective, this Idea is: Unconditioned unity in apperception of all perceptions in the interrelationships of meaning (Chapter 14 §3.5). Judgments of Modality are judgments of judgments, and we previously discussed the transcendental-judicial perspective of Modality in terms of subjective possibility, actuality, and necessity. We saw that these affective Modalities have a relationship to accommodation, equilibration, and assimilation, respectively, in the faculty of pure consciousness.

In the transcendental-theoretical perspective, on the other hand, this psychological Idea pertains to investment of symbolic meaning in a concept. This is the cognitive *outcome* of the synthesis of apperception, against which the transcendental-judicial relationship of subjective possibility, actuality, and necessity to consciousness stands as the means to this outcome. Now, a *means* regarded as an *end* is that which we regard as an *end in itself*, and this idea is one in which we see the significance of the psychological Idea in the transcendental-practical perspective. Pure Reason knows no cognitive objects nor judicial objects. Reason knows only two *practical* Objects, to which we give the names *good* and *evil*. We provided Kant's explanation of these terms in Chapter 13: A necessary object of the appetitive power according to a principle of Reason is good; a necessary object of the power of detestation according to a principle of Reason is evil; the power of detestation is nothing else than appetitive power determined to effect or to maintain the non-existence (non-*Existenz*) of an object of perception. Good and evil *as* Objects of

[12] see the *Realdefinition* of the categories of Relation in Chapter 10 and the discussion in Chapter 14 §2.3.
[13] [KANT3: 70 (4: 459fn)] and Chapter 14 §3.4.
[14] "It" refers here to the Kantian "soul", i.e. to the transcendental *I* regarded as intelligence.

Reason are neither cognitions nor affective perceptions. Rather, the appropriate explanation of these Objects is captured by the idea of a *mind set*, by which I mean the *coherence in a practical context* for the determination of appetitive power.

Thus, practical good and practical evil are *modi* of the causality of freedom (see Kant's explanation of the moral categories in Chapter 18 §5.1). From this perspective practical good and practical evil are disjunctive members of a higher Object we could call the Ideal of Good *per se* in the sense that anything regardable as an end in itself elected by the free choice of an Organized Being is judged to serve the pure purpose of Reason. However, I think there is a troublesome ambiguity attending this particular terminology, namely that it is too easy to slip into habits of thinking in which this *noumenal* good is mistaken for either an object of perception or for an innate objective (rationalist) idea. Thus I prefer to call this Object of pure Reason by the classical name ***summum bonum***, all the while bearing firmly in mind that this term *means* nothing more and nothing less than an Ideal of unconditioned coherence in a practical context. With this we arrive at the statement of the fourth psychological Idea in the practical Standpoint: **Unconditioned unity in the apperception of coherence in the Ideal of *summum bonum***.

§ 3.5 Summary of the Transcendental-Practical Principles

To sum up, the statements of the psychological Ideas in the practical Standpoint are as follows.

In general: Absolute unity of the thinking Subject;

In Quantity: Unconditioned unity of the rules of action in the multiplicity in subjective time;

In Quality: Unconditioned unity of value;

In Relation: Unconditioned unity of all three-way relationships of interest, valuation, and cognition;

In Modality: Unconditioned unity in the apperception of coherence in the Ideal of *summum bonum*.

§ 4. The Hypothetical-practical Perspective

The general Idea of Rational Cosmology is absolute completeness in the series of conditions. The theoretical Standpoint teaches us that in phenomenal Nature this Idea can never be more than an Ideal and a direction sign for progress in thinking. Every sensible appearance is conditioned by another, and that other is itself conditioned by a third, etc. The phenomenal series is *unendlich*.

From the judicial Standpoint, on the other hand, at every moment in time every series of concepts has a highest concept *a parte priori*, and is held-to-be complete in judgments of *belief*. This is the *judicial* (not determining) notion of absolute completeness in the series and is necessary for the possibility of experience. The objective validity of this notion is an entirely practical one serving teleological reflective judgment in its task of making a system of Nature.

From the practical Standpoint, the manifold of rules in practical judgment stands as the highest regulatory determinant of behavior, although in a curious and largely negative way. Acts proposed in reflective judgment are not permitted to gainsay the manifold of rules in the determination of appetitive power. But if the proposition of reflective judgment is not discordant with this manifold then the action it proposes is permitted. It is this default condition of judgment that provides the possibility for the construction of new practical rules in the march of experience by allowing actions to be undertaken in the absence of foreknowledge of their outcomes. Thus, in the practical Standpoint the manifold of rules constitutes the highest condition of acting, but does so only in the connotation of conditions viewed as practical *regulations* stemming from the law of the categorical imperative. We can see in this communion of acts of reflective judgment and regulations of actions by acts of practical judgment both the theoretically *unendlich* character of phenomenal Nature and the judicially bounded (complete) character of intelligible Nature. This is the synthesis of the theoretical and judicial perspectives of the cosmological Idea in the practical Standpoint.

§ 4.1 Quantity in the Hypothetical-practical Perspective

The first cosmological Idea in the theoretical Standpoint is: Absolute completeness of the composition of the given whole of all appearances. We see in the *Realdefinition* of the categories in the hypothetical-theoretical perspective that this is the Idea of the form of composition (form of the matter) of *context*. As a regulative principle for determining judgment it is the Idea necessary for the possibility of *structure* in the manifold of concepts.

In Chapter 18 (§2.3) we deduced the statement of the first cosmological Idea as the law of the form of composition in logical expedience: Absolutely complete equilibrium in judgmentation through the suppression or equilibration of innovations. It is through this Idea that we ground our *Realerklärung* of the ideas of a gap and of a disturbance in the form of composition of belief in the context of an empirical meaning through continuity in judgment (transcendental Meaning). Now this principle of the Idea is, so to speak, “kinematical.” The psychological *Realerklärung* of meanings is connection of perception to actions, and reflective judgment judges the attainment of this from the absence of further innovations in perception. The symbolic theoretical meaning of a

concept in a context rests on this dynamical character of acts of reflective judgment.

However, the realization of an act in an action must come to pass according to a rule, and for composition in Quantity such a rule in reference to the practical motivational dynamic is the rule of a want. While Quantity in desiration is the representation of the form of a particular want *in concreto* (and is therefore a partial representation of Desire), **absolute completeness in the composition of all wants is the practical Idea of Quantity in the hypothetical-practical perspective**. Considered from the practical Standpoint, this Idea is the Idea of the law of form of composition in practical judgment and is the regulative Idea of *the structuring of practically universal law* under the categorical imperative.

§ 4.2 Quality in the Hypothetical-practical Perspective

The second cosmological Idea is: absolute completeness in the division of a given whole in an appearance. From the theoretical Standpoint this is the Idea of the regressive synthesis in a series of conditions by which contradictions are transformed into mere contraries, and by which is established the matter of composition (matter of the matter) of a context under the categories of understanding. We recall from Chapter 4 (§2.3) that the cosmological Idea of Quality is not the Idea of the quantitative detail found through a series of divisions of a concept, but is instead the Idea of absolute *completeness* in such a division. However, a positive judgment of "completeness" in the division of a concept is not possible; all that is within one's power to judge is the recognition of incompleteness, and from this perspective the Idea of Quality has the flavor of a negative principle: to seek resolution of contradiction by finding a condition under which contradictories become mere contraries. Absent of contradiction there is no ground in Reason for the continuation of a regressive synthesis of a series.

From the judicial Standpoint (Chapter 18 §2.5) it is the Idea of absolute completeness in a common ground of beliefs in all reflective judgments. Judgment of the matter of composition in desiration is judgment of a Kantian *Triebfeder* or "mainspring," and we have previously seen that this is a judgment grounded in the principle of happiness (the absolute condition for all dispositions for actions). It is in the judicial Standpoint that the cosmological Idea of Quality can be viewed as a positive principle of judgment, but only insofar as judgment is concerned with affective perceptions.

Under the theoretical Standpoint the cosmological Idea of Quality is seen as a negative principle (a principle of "something-is-wrong" as a spur to the synthesis of cognition). Under the judicial Standpoint, the Idea comes forth as a positive or affirming principle (a principle of holding-to-be-binding in the reflective judgment of belief). The practical Standpoint of the Idea

we find from the synthesis of these two poles, which is to say that from the practical Standpoint this Idea is expressed as a principle of subcontrarity for the determination of appetitive power. Let us define the term **practical notion** to mean a rule for the production of an appetite. A contradiction viewed as a mainspring for action is a driver of the mind (*elater animi*), which is to say that this is **drive** as a *practical notion of Quality* in the motivational dynamic.

> *Choice has in it a double side in regard to the ground of determination*. There lie in human beings, namely, drivers of the mind or grounds of determination, sources of the possibility to produce the represented, determining, or impulsive causes, and these *lie either in understanding as in the law of the act, or in sensibility, namely in the feeling of* Lust *or* Unlust, and are therefore either sensitive causes and drivers or intellectual causes and drivers – the former are called *stimuli*, the latter *motiva* [KANT19: 484 (29: 1014-1015)].

The idea of "the drive behind an action" is an idea of a condition under which what is contradictory to equilibrium is resolved, i.e., it is a notion that there must be a way to *balance* a disturbance so that what is contrary to equilibrium under some conditions is not contrary to equilibrium under some other condition. Now, a means for *organizing* a process of equilibration is a *value* (Chapter 19 §6.1). Projected to an Ideal of equilibrium, **the second cosmological Idea is: Absolute value in the division of a given whole of *Existenz***. It is the Idea of the Ideal matter of composition for a perfect organization of equilibration under the structure of practical rules from the hypothetical-practical perspective.

§ 4.3 Relation in the Hypothetical-practical Perspective

The cosmological Idea of Relation is: Absolute completeness in the origin (beginning) of an appearance generally. In the theoretical Standpoint this is the Idea of context seen as Object in the search for explanation, i.e. the "because" of appearance. The Idea underlies the notions of the thing, the series of conditions, and the world as notions of formal contexts in thinking. But from the judicial Standpoint the Idea of absolute completeness in the origin of an appearance generally is a fundamental acroam of the law of compatibility in representation (Chapter 18 §2.2). Seen thusly, the Idea of cosmological Relation in the judicial Standpoint is: The causality of freedom is the absolute beginning of all appearances (Chapter 18 §5.3).

Now, the law of compatibility serves as a standard gauge for Reason as a condition of equilibrium. But acting to satisfy this condition presupposes the determination of the act, which is laid to the causality of freedom from the practical Standpoint. Nonetheless, even this causality must presuppose a rule for the determination of the act else the *dependence of the appearance* must be laid to chance, which is forbidden to us by the principle of continuity (*in mundo non datur casus*). Indeed, the notion of rule-determined choice is the original notion by which we

understand the idea of a drive state of the motivational dynamic in its theoretical character.

No special difficulty attaches to the determination of appetite in those circumstances where no idea of a need to make a choice enters in (e.g. the sucking reflex of the infant). It is only in the case of those actions where conscious alternatives are presented and intellectualized maxims oppose sensuous *Triebfedern* where the issue at hand steps forward into the full light of our considerations. Our treatise has stepped at last upon the centuries-old battlefield of the classic debate over free will vs. mechanism. As a *phenomenon* the Organized Being is an object in Nature to which the category of causality and dependency must apply (and this is mechanistic causality and dependency). But as a *noumenon* the Organized Being is an intelligible Object not bound by the condition of sensuous experience (time), thus free of the requirement for mechanistic determination under the category and coming instead within the scope of transcendental freedom, wherein the acts of *nous* are not bound in necessity to sensuous conditions. The third cosmological Idea seen in the practical Standpoint calls for the *unification of these opposites* and is an Idea of their synthesis.

How shall we effect such a synthesis? The practical cosmological Idea of Relation is a keystone for any possibility of a *science* of mental physics, and so our deduction of this synthesis is of clear and obvious importance. Owing to the long and sometimes bitter history of the "free will" debate we must proceed with extra-special care here because we not only need to erect an objectively valid statement of the Idea, but also we must pay heed to clearing away some ideas of long-standing habits of thinking which, however self-consistent they may be, fail to meet up with objective validity in their grounds.

On Religious Doctrines of Free Will

The fathers of the Protestant reformation did away with human free will by means of a transcendent prosyllogism. They took free will away from man and vested the causality of man's actions with either God or the devil.[1] This view we might call "religious mechanism," and its theological opponents often find this view irreconcilable with the fundamental tenets of moral theory on the grounds that no person can be logically viewed as morally culpable for his actions if that person is not responsible for choosing his own actions. The Protestant doctrine is called "predestination" and to those of us who are not of this faith this would seem to be a doctrine that inevitably leads to the idea that some people are simply predestined to be "good" people (instruments of God) while all others are simply predestined to be "evil" people (instruments of

[1] see our brief remarks in Chapter 12 §3.1.

the devil). There is little room to doubt that not a few fundamentalists hold to this world-view, and such a view clearly is one that makes it easier to Self-justify intolerance for and the persecution of people whom the zealous regard as belonging to the latter classification. After all, if God determines the will of the faithful then no blame attaches to the faithful person if God determines he should smite the wicked. But the price paid by this faith is thorough amorality.

One must ask, "What of conscience?" Under predestination it is not logically consistent to call any bothersome pangs of conscience attending the smiting of the wicked a test of one's "true faith." Should conscience under predestination be viewed as nothing other than feeling the tug-of-war over one's soul between God and the devil? After all, in the absence of free will God could have little use for any test of one's faith. Conscience could then be nothing else than the feeling of a soul at risk. But, again, absent of free will would one care about the outcome? A being without free will is a being without blame and a predestined being will come to his inevitable end whether he feels his conscience or not. A pawn on a chess board cares not whether it is captured or queened. If a predestined being is tortured by conscience, does this make God a torturer? That conclusion is rejected by most modern faiths.[2] It is a role suited to the devil, but if God is omnipotent would He allow the predestined good people to suffer so? Here the fogbank of ultimate mysticism envelops the religious position since the inevitable antinomy of speculative reason leads us into a quagmire of contradictions.

It could perhaps go without saying that views similar to this do not belong exclusively to people who adhere to the transcendent idea of predestination nor even to people who call themselves "Christians." They can be found, in one or another form, in all faiths that draw a line between the faithful and the infidels or the gentiles. Religious adherents to a doctrine of free will most often deposit this freedom in the soul of the individual. Morality is then possible because culpability and blame can be attached to the free choice to carry out an immoral act, and for the church and its society it becomes a matter of determining what is and what is not moral.

But, again, this is not an easy matter nor does it escape the antinomy of speculative reason without a full-fledged retreat into mysticism to escape an unflattering indictment of the character of God (even if the character of mankind is left indicted). For example, when the AIDS[3] epidemic burst upon the widespread attention of the public in the United States some right-wing religious leaders called AIDS a punishment from God visited upon the victims of the disease. Its victims in

[2] Two most obvious exceptions were the ancient Greeks, whose Zeus was often a despot and rapist, and ancient Israel, whose Lord of Hosts promised to visit the iniquities of the fathers upon the children of the third and fourth generation, and to greatly multiply the pain of childbearing for women of all generations because of Eve's disobedience.

[3] Acquired Immune Deficiency Syndrome.

the U.S. at that time, primarily homosexuals and drug addicts, were vilified by these denouncers as people who had chosen an immoral lifestyle with AIDS an act of divine justice for this choice. But the lions of this doctrine of moral ignorance chose not to answer the obvious corollary question put to them: How did this explain the millions of non-homosexual, non-drug-addicted people dying of AIDS in Africa? None of these evangelizing Nimrods dared to suggest, at least within public earshot, that it might be because these victims were non-Christians or immorally adulterous or racially non-white[4]. Any of these suggestions would have most likely turned the narrow squall of protest against the first vilification into a hurricane. If these evangelists did not hold with any such views their position on U.S. AIDS victims was logically absurd. If they did hold with any of these views, their refusal to answer the corollary question bespeaks of either a lack of courage in their convictions amounting to moral cowardice or a move to mask their un-Christian intolerance from the public eye. The first is contemptible, the second sinister.

Most religious proponents of spiritual free will regard free will as a power given to man by God. Yet at the same time it would seem a strange gift if it is also held that God is not indifferent to man's choices and resorts as much to threats and intimidation as to the carrot of an afterlife to give mankind reasons to hold to a morally straight-and-narrow behavioral path, e.g.,

> "And now, Israel, what does the Lord your God require of you, but to fear the Lord your God, to walk in all his ways, to love him, to serve the Lord your God with all your heart and with all your soul, and to keep the commandments and statutes of the Lord, which I command you this day for your own good? . . . For the Lord your God is God of gods and Lord of lords, the great, the mighty, and the terrible God, who is not partial and takes no bribe . . . You shall fear the Lord your God; you shall serve him and cleave to him; and by his name you shall swear" [*Deuteronomy* 10: 12-20].

Morality in its major context is a doctrine of right-acting, and the majority of religious doctrines on morality take the view that "right-acting" means acting in such a manner as to achieve a happy life in a state of grace. The moral question, from this view, is: What does it take to achieve this? St. Augustine wrote,

> How then do I seek Thee, O Lord? For when I seek Thee, my God, I seek a happy life. I will seek Thee that my soul may live . . . Is not a happy life what all will, and no one altogether wills it not? Where have they known it, that they so will it? where seen it, that they so love it? Truly we have it, how I know not . . . Where, then, and when, did I experience my happy life that I should remember, and love, and long for it? Nor is it I alone, or some few besides, but we all would fain be happy,

[4] Some cults of so-called Christians hold that dark skin pigmentation is the mark of Cain. This view contradicts that of another ignorant cult which says Ham, son of Noah, descendent of Seth [*Genesis* 5: 1-32] was the progenitor of "the negro race" on the illogical ground of *Genesis* 9: 18-27, i.e., "God enlarge Japeth, and let him dwell in the tents of Shem; and let Canaan [son of Ham] be his slave." The "mark of Cain" doctrine also runs into problems with *Genesis* 9: 19, "These three were the sons of Noah; and from these the whole earth was peopled." It would thus seem on the basis of biblical authority that Cain's entire line perished in the Flood unless we suppose a son of Noah married a descendent of Cain.

> which, unless by some certain knowledge we know, we should not with so certain a will desire . . . Far be it, Lord, far be it from the heart of Thy servant . . . I should therefore think myself happy. For there is a joy which is not given to the ungodly, but to those who love Thee for Thine own sake, whose joy Thou Thyself art. And this is the happy life, to rejoice to Thee, of Thee, for Thee; this is it and there is no other. For they who think there is another pursue some other and not the true joy [AUGU1: X: 29 – 32].

In Augustine's doctrine, every person seeks for perfect joy and happiness, but this is not to be found anywhere on earth but, rather, in God. He asks, how do we know this thing called happiness even exists unless we have some idea, or, rather, an imperfect remembrance, of it? and where could this come from but God? Here we may note the congruence of Augustine's doctrine with that of Plato and the Platonic Ideas imperfectly remembered after the fall of the soul. In the face of this imperfect remembrance,

> Is not the life of man upon the earth all trial?[5] Who wishes for troubles and difficulties? Thou command them to be endured, not to be loved. No man loves what he endures, though he loves to endure. For though he rejoices that he endures, he had rather there were nothing to endure. In adversity I long for prosperity, in prosperity I fear adversity. What middle place is there betwixt these two, where the life of a man is not all trial? . . . Is not the life of man upon earth all trial, without any interval? [AUGU1: X: 39].

According to this doctrine it might seem that man's free will is more a burden than a blessing since he must grope to discover true happiness, and this groping makes life a trial for the spirit. But can this be reconciled with an all-good, omniscient, omnipresent, omnipotent God? Where is "the good" in man's continual struggle against adversity?

> Lord, since eternity is Thine, art Thou ignorant of what I say to Thee? or dost Thou see in time what passes in time? Why then do I lay before Thee so many relations? Not, of a truth, that Thou might learn them through me, but to stir up mine own and my readers' devotion towards Thee, that we may all say, 'Great is the Lord, and greatly to be praised.' . . . Truth hath said, 'Your Father knows what you have need of, before you ask.' It is then our affections which we lay open unto Thee, confessing our own miseries, and Thy mercies upon us, that Thou may free us wholly, since Thou has begun, that we may cease to be wretched in ourselves and be blessed in Thee, seeing Thou has called us to become poor in spirit, and meek, and sojourners, and hungering, and athirst after righteousness, and merciful, and pure in heart, and peace-makers . . . For Thou art good, for Thy 'mercy endures for ever' [AUGU1: XI: 1].

Without free will, according to the Augustinian view, man would be slave to his animal passions. Only by virtue of free will can man discover the nature of holiness, the meaning of goodness, justice, happiness, and the other virtues and thereby become god-like in spirit.

> The soul is charged with guilt, not because by nature it lacks knowledge or is incapable, but because it did not make an effort to know and because it did not work adequately at acquiring the capability of doing well.[6]

[5] Augustine here quotes the Old Vulgate passage Job vii. 1.
[6] St. Augustine, *De libero arbitrio*, 3.22.64.

We might liken this doctrine by analogy to a school, where the child may prefer recess and play but needs the classroom lessons as preparation for adult life. The God of the Gospels is "the Father," not "the Lord of Hosts," and *all* men and women are his "children," not merely a chosen few. The morality lessons in the Bible are instructions for mankind's education, not marching orders for a self-proclaimed holy few. The role of religious theology is instruction, and under this doctrine no church without a theology can fulfill its mission. It is not without reason that religious authorities of medieval Europe regarded the widespread publication of the Bible with misgivings, as its proper interpretation was regarded as beyond the grasp of the uneducated lay majority.

Still, for all this the religious doctrines of free will serve only to connect the idea of one *noumenon*, namely spiritual will, to another, namely God. The prosyllogism is transcendent and provides no means by which the union of the causality of freedom with causality and dependency in Nature can be achieved, owing to the character of the spiritual soul in religious doctrine. For example, St. Thomas Aquinas writes,

> The word choice implies something belonging to the reason or intellect, and something belonging to the will; for the Philosopher says that "choice is either intellect influenced by appetite or appetite influenced by intellect." Now whenever two things concur to make one, one of them serves as form for the other . . .
>
> Now we must observe, as regards the acts of the soul, that an act belonging essentially to some power or habit receives a form or species from a higher power or habit, according as the lower is ordered by the higher . . . Now it is evident that, in a sense, reason precedes the will and orders its act, that is in so far as the will tends to its object according to the order of reason, since the apprehensive power presents the object to the appetite. Accordingly, that act by which the will tends to something proposed to it as good is, from the fact that it is ordered to the end by reason, materially an act of the will but formally an act of the reason. Now in matters of this kind the substance of the act is as the matter in relation to the order imposed by the higher power. Therefore choice is substantially not an act of the reason but of the will, for choice is accomplished by a certain movement of the soul towards the good which is chosen. Consequently, it is evidently an act of the appetitive power [AQUI: Pt. II.1, Q.13, art.1].

According to Aquinas' view, reason presents particular objects of choice as *form*, but the choice to act or to not act on this presentation belongs to the soul, and the soul will act accordingly as it is oriented toward what is good.

> We must say of good and evil in actions just what we say of good and evil in things because such as everything is, such is the act that it produces. Now in things, each one has as much of good as it has of being, since good and being are convertible . . . But God alone has the whole fullness of His Being in a unified and simple way, while every other thing has its proper fullness of being according to a certain multiplicity. And so it happens with some things that they have being in some respect and yet they are lacking in the fullness of being due to them. Thus the fullness of a human being requires a composite of soul and body, having all the powers and instruments of knowledge and movement. Therefore if any man is lacking in any of these, he is lacking in something due to the fullness of his being. So that as much as he has of being, so much has he of goodness, while so far as he is lacking in the fullness of his being, so far is he lacking in goodness, and is said to be evil

[AQUI: Pt. II.1, Q. 18, art. 1].

When argument enters the domain of the supernatural, science can no longer participate. Accordingly, our purposes in this treatise cannot be met by a religious doctrine of free will. But neither can free will be addressed in terms of the dead matter of physics. Let us turn our attention there for awhile.

Mechanistic Causality in Science

Why cannot science deal with soul theory? The answer should be obvious. The cosmological Idea of Relation in the theoretical Standpoint is concerned with context in an Object and this Object must be such as to yield to understanding in terms of natural laws (today more often phrased as 'physical principles'). For every phenomenal event science seeks to explain how (not why) that event comes to pass. The spiritual soul is a transcendent thing that not only cannot be observed as a phenomenon (it is supersensible) but one which stands altogether outside of natural law (it is supernatural). It is this latter transcendent postulate made of "soul" that removes it from any possibility of scientific doctrine.[7]

Any impartial examination of the methods of science will reveal that science in practice does not actually pursue causality in the sense of attempting to obtain an absolutely complete causal chain. Scientific theory is content when it attains an explanation of relationships between objects, and so long as one of these objects does not admit to a further breakdown as a composition of other more "elementary" objects, science is satisfied with obtaining the objective rules that relate this object to other objects. For example, physicists may speculate on the question of whether or not the electron has an internal structure, but until and unless someone "splits the electron" in the laboratory or some phenomenon is discovered that yields no explanation save one that requires the electron to be regarded as a composite body, the electron will remain ontologically "simple" in the sense of being "the end of the line" of inquiry into "electronic phenomena." The *Oxford Dictionary of Physics* (4th edition, 2000) defines "causality" as

> **causality**: The principle that effect cannot precede cause. The principle is particularly useful when combined with the principle that the highest attainable speed in the universe is the speed of light in a vacuum. Causality is used to analyze the results of scattering experiments and in optics.

Neither chemistry nor biology use "causality" as an official technical term.

[7] As we have pointed out previously, merely being supersensible does not remove an Object from the scope of science. Science successfully introduces and treats many supersensible Objects.

Yet even this is not quite so straightforward as it might sound when one gets down to the intimate details of modern physics. In the current ontology of modern physics there are two classes of "particles" distinguished by the probability laws they are said to follow. These are the "bosons" and the "fermions."[8] The electron belongs to the class of fermions, and all fermions are by definition particles that obey the famous Pauli exclusion principle college freshmen learn about in chemistry. Among "particles" (fermions) regarded as "elementary," the current theory of elementary particle physics holds that there are four fundamental "interactions" between these particles exhibited as the "fundamental forces of nature." These are: the strong force, the electromagnetic force, the weak force, and gravity. The "interaction" between fermions is said to take place by means of the exchange of boson "particles," probably the most familiar and least putative of which is the "photon" or "light particle."[9] These exchanged bosons are very strange things indeed in the sense that the theory allows them to, in a manner of speaking, wink in and out of observable existence. (This is a consequence of the boson not being bound to the exclusion principle). Feynman shares with us an anecdote describing how he once attempted to explain this boson idea to his father:

> He said, "I understand that when an atom makes a transition from one state to another, it emits a particle of light called a photon."
>
> "That's right," I said.
>
> He says, "Is the photon in the atom ahead of time?"
>
> "No, there's no photon beforehand."
>
> "Well," he says, "where does it come from, then? How does it come out?"
>
> I tried to explain it to him – that photon numbers aren't conserved; they're just created by the motion of the electron – but I couldn't explain it very well. I said, "It's like the sound that I'm making now; it wasn't in me before." (It's not like my little boy, who suddenly announced one day, when he was very young, that he could no longer say a certain word – the word turned out to be "cat" – because his "word bag" had run out of the word. There's no word bag that makes you use up words as they come out; in the same sense, there's no "photon bag" in an atom.)
>
> He was not satisfied with me in that respect. I was never able to explain any of the things that he didn't understand. So he was unsuccessful: he sent me to all these universities in order to find out

[8] More precisely, bosons are characterized by what is known as Bose-Einstein statistics. Fermions are characterized by Fermi-Dirac statistics. Electrons, protons, neutrons, neutrinos, and quarks are fermions. Photons, phonons, and mesons are bosons.

[9] The four fundamental classes of "exchange particles" postulated by elementary particle physics are, in order of the four fundamental interactions listed above, gluons, photons, intermediate vector bosons, and gravitons. Although to a lesser degree in the case of the photon, for which there is a directly observable phenomenon known as the photoelectric effect, the *Dasein* of these particles falls into more or less the same category as that of "mass"; that is, their *Dasein* is postulated on the ground that the idea of them unifies theory across a broad scope of phenomena. The *Dasein* of the photon is less putative in degree in that a broader number of experimental manipulations in phenomenal Nature are available to us, the outcomes of which all concur with theoretical expectations based on the theory of photons. The idea of interaction by exchange of gluons, intermediate bosons and gravitons is postulated by analogy to the highly successful theory of photon exchange in quantum electrodynamics. The most speculative of all these particles is the graviton, for which no experimental evidence at all has yet been found.

those things, and he never did find out.[10]

In terms of our Critical ontology, a fermion is a *Sache*-thing. Regarded as "particles," bosons stand as mechanisms for the four fundamental interactions. Their *Dasein* is grounded in their roles in explaining fermion interaction, and therefore in the context of phenomenal "happenings." This is the *Dasein* of an *Unsache*-thing. Note that Feynman said above that "photon *number*" is not conserved; the role of the four classes of bosons in physics is a mathematical role. In terms of general Relation in representation, the objective validity of the idea of the boson rests on an idea of an external Relation in Nature. Neither the boson nor the fermions that exchange it are regarded by physics as either cause or effect; rather, the theory seeks to explain the *Existenz* of a mechanism. If causality is to be imputed at all, it can only come from the form of the mathematical expression for the interaction, and here causality can be imputed only if the form of the equation is such as to fit Margenau's criterion (Chapter 10 §5.2).

When we turn to psychological causality, we likewise find that psychology follows physics in taking a cautionary stance on the idea of causality. Reber's *Dictionary* describes "causality" in the following terms.

> **causality:** This term is used for what is essentially a philosophical issue and denotes the abstract quality that links occurrence of some event or state contingent upon the prior occurrence of some other event or state. Because the term is philosophical and refers to an abstract relation it is sometimes distinguished from **causation**, which is preferred in psychological parlance.

And as for "causation" he tells us,

> **causation:** A basically empirical principle which states that for whatever effects are observed there was a cause that preceded them. The principle of causation (or cause and effect) is asymmetric and unidirectional. In *simple* causation, where there is a single known or knowable cause, it functions as the necessary and sufficient conditions of the effect observed; in *multiple* causation, where there may be several distinguishable causal factors for a particular observed effect, the issues of sufficiency and necessity are weakened. Multiple causation is the modal case in the social sciences.

We can note that psychology's "causation" and physics' "causality" mean more or less the same thing, although Reber is more helpful in fleshing out the particulars of the term. We might though wonder how "causation" is any less of a "philosophical issue" than "causality." Merely because a principle is "empirical" it is not thereby made less "philosophical." The situation we have here, both in physics and in psychology, is an ontological aftermath of the era of positivism and one of its lingering effects. Whether one likes to admit it or not, science sets up "some prior event or state" upon which a following "event or state" is contingent. This is whence science obtains the

[10] Richard P. Feynman, *"What Do <u>You</u> Care What Other People Think?"*, NY: Bantam Books, 1989.

objects imputed to be involved in the explanation of any phenomenon of *change*.

The cautionary stance taken by physics or by psychology in regard to the issue of causality is in one sense a tacit admission of the dubitable nature of all sciences, a reminder that science seeks to explain "how" rather than "why." But upon what ground does even this *practice* obtain its objective validity? Scientific laws makes statements of prediction and in the absence of contradictory evidence holds that the outcomes it predicts follow upon the conditions of the effect with necessity. Even in the face of seemingly contradictory evidence which gainsays a well-established theory of long standing, science will go to great lengths to resolve the contradiction before it gives up on its hard-won law. But why is this "science" rather than "stubbornness"?

Most scientists will bristle if you tell them that this practice of linking events "now" to prior states or conditions is an act of faith, although under the definition of "faith" used in this treatise it is fair to use this characterization. Faith, as we use it here, is an expression of "I could be wrong, but I don't think so." In this it differs from *dogma*, which is a term more characteristic of many of the positions taken in religious fundamentalism. The "principle of causation" that Reber describes above *is* an axiom of science even if it is not held to be a "self-evident truth." In regard to causation, Hume wrote:

> To begin regularly, we must consider the idea of *causation*, and see from what origin it is deriv'd. 'Tis impossible to reason justly, without understanding perfectly the idea concerning which we reason; and 'tis impossible perfectly to understand any idea, without tracing it up to its origin, and examining that primary impression, from which it arises. The examination of the impression bestows a clearness on the idea; and the examination of the idea bestows a like clearness on all our reasoning.
>
> Let us therefore cast our eye on any two objects, which we call cause and effect, and turn them all sides, in order to find that impression which produces an idea of such prodigious consequence. At first sight I perceive, that I must not search for it in any of the particular *qualities* of the objects; since, which-ever of these qualities I pitch on, I find some object, that is not possessed of it, and yet falls under the denomination of cause or effect. And indeed there is nothing existent, either externally or internally, which is not to be consider'd either as a cause or an effect; tho' 'tis plain there is no one quality, which universally belongs to all beings, and gives them a title to that denomination.
>
> The idea, then, of causation must be deriv'd from some *relation* among objects; and that relation we must now endeavour to discover. I find in the first place, that what-ever objects are consider'd as causes or effects are *contiguous*; and that nothing can operate in a time or place, which is ever so little remov'd from those of its existence. Tho' distant objects may sometimes seem productive of each other, they are commonly found upon examination to be link'd by a chain of causes, which are contiguous among themselves, and to the distant objects; and when in any particular instance we cannot discover this connexion, we still presume it to exist. We may therefore consider the relation of CONTIGUITY as essential to that of causation; at least may suppose it as such, according to the general opinion, till we can find a more proper occasion to clear up this matter, by examining what objects are or are not susceptible of juxtaposition and conjunction.
>
> The second relation I shall observe as essential to causes and effects is not so universally acknowledg'd, but is liable to some controversy. "Tis that of PRIORITY of time in the cause before the effect . . . 'Tis an establish'd maxim both in natural and moral philosophy, that an object, which exists for any time in its full perfection without producing another, is not its sole cause; but is

> assisted by some other principle, which pushes it from its state of inactivity, and makes it exert that energy, of which it was secretly possest. Now if any cause may be perfectly co-temporary with its effect, 'tis certain, according to this maxim, that they must all of them be so; since any one of them, which retards its operation for a single moment, exerts not itself at that very individual time, in which it might have operated; and therefore is no proper cause. The consequence of this wou'd be no less than the destruction of that succession of causes, which we observe in the world; and indeed, the utter annihilation of time. For if one cause were co-temporary with its effect, and this effect with *its* effect, and so on, 'tis plain there wou'd be no such thing as succession, and all objects must be co-existent [HUME1: 74-76].

Thus, Hume points out, the ideas of contiguity (coincidence in a place) and priority in time are two essential features at work whenever we link two objects as cause-and-effect. In this regard it is worth a passing note that the representations of interactions in physics, in the form of the famous "Feynman diagrams" of quantum electrodynamics, has the feature of contiguity, albeit in a statistical form of Hamilton's principle.[11]

But, he goes on to point out, these two features are not sufficient for conveying the full import of the idea of causation.

> Shall we then rest contented with these two relations of contiguity and succession, as affording a compleat idea of causation? By no means. An object may be contiguous and prior to another, without being consider'd as its cause. There is a NECESSARY CONNEXION to be taken into consideration; and that relation is of much greater importance than any of the other two above-mention'd.
>
> Here again I turn the object on all sides, in order to discover the nature of this necessary connexion, and find the impression or impressions from which its idea may be deriv'd. When I cast my eye on the *known qualities* of objects, I immediately discover that the relation of cause and effect depends not the least on *them*. When I consider their *relations*, I can find none but those of contiguity and succession; which I have already regarded as imperfect and unsatisfactory . . .
>
> We must, therefore, proceed like those, who being in search of anything that lies conceal'd from them and not finding it in the place they expected, beat about all the neighbouring fields, without any certain view or design, in hopes their good fortune will at last guide them to what they search for . . .
>
> First, For what reason we pronounce it *necessary*, that every thing whose existence has a beginning, shou'd also have a cause?
>
> Secondly, Why we conclude, that such particular causes must *necessarily* have such particular effects; and what is the nature of the *inference* we draw from the one to the other, and of the *belief* we repose in it? [HUME1: 77-78].

Hume undertakes a lengthy examination of these questions, and his quest ends in skepticism owing to the subjective nature of the formation of ideas as this must be viewed by the empiricist.

> *What is our idea of necessity, when we say that two objects are necessarily connected together?* Upon this head I repeat what I have often had occasion to observe, that as we have no idea that is not deriv'd from an impression, we must find some impression that gives rise to this idea of necessity if we assert we have really such an idea. In order to this I consider, in what objects necessity is commonly suppos'd to lie; and finding that it is always ascrib'd to causes and effects, I turn my eye to two objects suppos'd to be plac'd in that relation . . . I immediately perceive, that they are *contiguous* in time and place, and that the object we call cause *precedes* the other we call

[11] For an explanation of this in a form accessible to the non-physicists, see [FEYN1], chapters 2 and 3.

effect. In no one instance can I go any farther, nor is it possible for me to discover any third relation betwixt these objects. I therefore enlarge my view to comprehend several instances where I find like objects always existing in like relations of contiguity and succession . . . But upon farther enquiry I find, that the repetition is not in every particular instance the same, but produces a new impression, and by that means the idea, which I at present examine. For after a frequent repetition, I find, that upon the appearance of one of the objects the mind is *determin'd* by custom to consider its usual attendant, and to consider it is a stronger light upon account of its relation to the first object. 'Tis this impression, then, or *determination*, which affords me the idea of necessity [HUME1: 155-156].

Tho' the several resembling instances, which give rise to the idea of power, have no influence on each other, and can never produce any new quality *in the object* which can be the model of that idea, yet the *observation* of this resemblance produces a new impression *in the mind*, which is its real model. For after we have observ'd the resemblance in a sufficient number of instances, we immediately feel a determination of the mind to pass from one object to its usual attendant, and to conceive it in a stronger light upon account of that relation. This determination is the only effect of the resemblance; and therefore must be the same with power or efficacy, whose idea is deriv'd from the resemblance. The several instances of resembling conjunctions leads us into the notion of power and necessity . . . Necessity, then, is the effect of this observation, and is nothing but an internal impression of the mind, or a determination to carry our thoughts from one object to another. Without considering it in this view, we can never arrive at the most distant notion of it, or be able to attribute it either to external or internal objects, to spirit or body, to causes or effects.

The necessary connexion betwixt causes and effects is the foundation of our inference from one to the other. The foundation of our inference is the transition arising from the accustom'd union. These are, therefore, the same . . . This therefore is the essence of necessity. Upon the whole, necessity is something that exists in the mind, not in objects; nor is it possible for us ever to form the most distant idea of it, consider'd as a quality in bodies. Either we have no idea of necessity, or necessity is nothing but that determination of the thought to pass from causes to effects and from effects to causes, according to their experienc'd union [HUME1: 164-166].

Experience is a principle, which instructs me in the several conjunctions of objects for the past. Habit is another principle, which determines me to expect the same for the future; and both of them conspiring to operate upon the imagination, make me form certain ideas in a more intense and lively manner than others, which are not attended with the same advantages. Without this quality, by which the mind enlivens some ideas beyond others . . . we cou'd never assent to any argument, nor carry our view beyond those few objects which are present to our senses . . . The memory, senses, and understanding are, therefore, all of them founded on the imagination, or the vivacity of our ideas.

No wonder a principle so inconstant and fallacious shou'd lead us into errors, when implicitly follow'd (as it must be) in all its variations. 'Tis this principle which makes us reason from causes and effects; and 'tis this same principle which convinces us of the continu'd existence of external objects when absent from the senses . . . And how must we be disappointed when we learn that this connexion, tie, or energy lies merely in ourselves, and is nothing but that determination of the mind, which is acquir'd by custom, and causes us to make a transition from an object to its usual attendant, and from the impression of one to the lively idea of the other? Such a discovery not only cuts off all hope of ever attaining satisfaction, but even prevents our very wishes; since it appears, that when we say we desire to know the ultimate and operating principle, as something which resides in the external object, we either contradict ourselves or talk without a meaning [HUME1: 265-267].

Causation as it was viewed by the old school of deterministic mechanism did not consist solely of contiguity in place and succession in (objective) time, but also required the necessity of the connection of cause and effect. It was this necessity that Hume attacked as nothing but a habit of the mind (we would say the judgment of a judgment). As a consequence, the ideas of causation and causality lose their objective basis in a world, becoming merely subjective holdings-to-be-

true. In Hume's view, skepticism must predominate the philosophy of nature and, thereby, science as well. It is an argument that no non-Critical metaphysic, no view that our knowledge is knowledge of the world in itself rather than knowledge of Nature, has ever overcome. Science ignored the Great Skeptic until the crisis that gave birth to modern physics in the first thirty years of the twentieth century forced empirical science into adopting the view it holds today. The result was not so much the death of mechanistic determinism as it was the death of *deterministic mechanism*.

Mechanism and Psychological Causality

And how has the death of deterministic mechanism impacted psychology and neuroscience? We have seen above, in Reber's descriptions of causality and causation, the equivocal position in which present day psychology finds itself. We can note the almost wistful desperation with which science has tried to distance itself from having to come to grips with "philosophical issues." This, too, is positivism's legacy. Only in the past few years have scientists begun, howsoever reluctantly at first and more recently with less embarrassment, to admit that perhaps the philosophers could shed some light on matters of science. If philosophy can prove itself up to the task, this new and delicate coalition might even some day become fashionable.

The issue of "free will" is undoubtedly going to be one of the key proving grounds for this still fragile and cautious coalition. From the viewpoint of mechanistic determinism, how do matters presently stand? Reber provides us with the following description of science's present attitude towards "free will."

> **free will:** 1. A most general term used to refer to a broad class of philosophical positions all of which have in common the assumption that to some degree or another behavior is under control of the volition of an individual. Contrast with **determinism**.
> 2. A hypothesized (and often reified) internal agency that functions independently of externally imposed forces, as in the often-asked question, 'Don't you think people have free will?'

Note well the parenthetic remark "and often reified" in the second definition. Science rightly views the reification of free will with deep suspicion because the reification of the will has often been used as a doorway that leads to spiritualism and supernatural argumentation. What, though, is the "determinism" with which we are to contrast the "philosophical position" of free will? Reber has much to say about this.

> **determinism:** Very loosely, the doctrine that assumes that every event has causes. In classical mechanics it was assumed that were one to know the position and momentum of every particle

> of matter at one instant in time, then one could, in principle, know their position and momentum at any other point in time future. Such a position is ultimate in 'hard' (or *nomo-logical*) determinism. This particular view was 'softened' somewhat with the development of quantum mechanics in which the deepest knowable levels of cause and effect appear to be probabilistic in nature, shifting the notion of perfect prediction to probabilistic prediction. In psychology the debate is somewhat less cosmic and considerably less well defined. It generally revolves around the existentialist's and humanist's insistence on a measure of 'free will,' with which a person can remain outside the ever-probing tentacles of the behavioral and cognitive sciences. The debate, however, is probably an empty one. If one wishes to study behavior and the mind scientifically it must be assumed that the things one does have causes and that they are ultimately knowable. The question is really whether there is some 'thing' called *free will* which stands outside scientific analysis of cause and effect or whether it is merely (?) a particular mental/ affective state which itself plays a role in the causation of behavior. Most contemporary social scientists, if they think about the issue at all, take a position that can best be described as 'uncomfortable pragmatism.' That is, in their day-to-day work they treat their subjects as probabilistically determined, chalk up what they cannot predict accurately to as yet unknown factors of causation (and perhaps a variation of the uncertainty principle) and prefer to think of themselves as actually operating according to their own free choice independently of a crass determinism that diminishes their sense of their own humanity.

This is one of the best and most frank statements of the attitude I have above called mechanistic determinism that I have come across.

The idea of 'mechanism' is one that plays a key role in the development of all scientific theories. What is the modern view of 'mechanism'? As Reber tells us, there is more than one:

> **mechanism:** 1. A philosophical doctrine that maintains that all events or phenomena, no matter their complexity, can be ultimately understood in a mechanistic framework. The position is strongly deterministic and opposed to a host of other positions including dualism, idealism, and vitalism. Moreover, it implicitly assumes the possibility of **reductionism** to basic principles of physics and physiology.
>
> 2. A theoretical process through which events can be understood and explained. Note that a hypothesized mechanism in this sense can be quite concrete and 'mechanical' (e.g., classical conditioning as understood through the existing mechanism of the reflex arc) or it can be quite abstract (e.g., operant control of autonomic activity as understood through the mechanism of biofeedback). In the approach to science that characterizes most of Western psychological thought, a mechanism of this kind is considered essential for the establishment and acceptance of a phenomenon and the failure to provide one leads invariably to skepticism and often outright rejection of purported findings.
>
> 3. A habitual adaptive response. For example, the defense mechanisms of psychoanalytic theories.
>
> 4. A purely mechanical device or machine whose actions are clearly specifiable in terms of physical cause-and-effect systems.

Definition 2 here is the 'mechanism' of mechanistic determinism. We can note at once the congruence of this definition with the description given earlier of the practice of science and the role of the mathematical description of the "how" of a process. In practice the 'mechanism' which is "considered essential for the establishment and acceptance of a phenomenon" amounts to the clear identification of both an object to be viewed as cause ('the mechanism-through-which') and an object to be viewed as effect ('the phenomenon').

The idea of mechanism in the sense of definition 2 under the doctrine of determinism underlies the various ways in which *mind* is viewed in psychology and in neuroscience. Reber's *Dictionary* provides the following explanation of the different views of mind.

> **mind:** This term and what it connotes is the battered offspring of the union of philosophy and psychology. At some deep level we dearly love and cherish it and see behind its surface great potential but, because of our own inadequacies, we constantly abuse it, harshly and abruptly pummeling it for imagined excesses, and occasionally even lock it away in some dark closet where we cannot hear its insistent whines.
>
> The history of the use of the term reveals two conflicting impulses: the tendency to treat mind as a metaphysical explanatory entity separate and apart from mechanistic systems, and the tendency to view it as a convenient biological metaphor representing the manifestation of the, still not understood, neurophysiological processes of the brain. The following are the more important and common uses of the term and this basic conflict can be seen in all.
>
> 1. Mind as the totality of hypothesized mental processes and acts that may serve as explanatory devices for psychological data. In recent years this has become the dominant use of the term. Here, mental components are hypothesized because they have, in the proper theoretical frame, considerable explanatory power. Of interest here is the reluctance, even refusal, of those who adopt this position to speculate about the neurophysiological structures to which it might relate. The focus is typically on the effectiveness of the hypothesized model to explain – not merely describe – the observations of empirical studies. The most frequent users of this meaning are workers in artificial intelligence, modern cognitive psychologists and several schools of philosophy, e.g. functionalism.[12]
>
> 2. Mind as the totality of the conscious and unconscious mental experiences of an individual organism (usually, although not always, a human organism). Actually, this use represents an effort to avoid the above-mentioned metaphysical problem but it produces a second-order difficulty of the same kind because of the confusion over how to characterize *consciousness*. Often even those with a behavioristic approach will 'back door' themselves into speculating about mind in this fashion but they will invariably replace *consciousness* with *behaviors* and *acts*.
>
> 3. Mind as a collection of processes. Probably the next most commonly held view, the argument here is that the several processes generally studied under the rubrics of *perception* and *cognition* collectively constitutes mind. Here, there is no real effort to define, only to enumerate and to seek to understand those processes enumerated. Strip meaning 1 of theory and you get 3.
>
> 4. Mind as equivalent to brain. This position, which goes back to William James, must in the final analysis be true. Its major liability, of course, is that we know precious little about brain function. As a result, it is more of an article of faith than a true philosophical position.
>
> 5. Mind as an emergent property. The argument here is that of emergentism, that when a biological system reaches a point of sufficient complexity and organizational structure mind (or consciousness) emerges.
>
> 6. Mind as a list of synonyms. For example, *psyche*, *soul*, *self*, etc. Nothing is gained by this use and the definitional issues are compounded.
>
> 7. Mind as intelligence. Really only a colloquial use of the term in phrases like, "She has a good mind."
>
> 8. Mind as characteristic or trait. Also used nontechnically as in phrases like, 'the mind of an artist,' or 'the Northern European mind.'

[12] Specifically, functionalism in philosophy as an approach to the study of mind that views mental states as functional states without going so far as to argue that identical mental states are also physically identical, and sometimes arguing that only functional equivalence, not physical equivalence, can be stated. Although our treatise here presents 'functional' structures in our explanations, the viewpoint is not that of functionalism in this sense of that term. The mental vs. physical division is a logical, not a real, division.

Except for definition 4, we may note that none of the above usages of the term 'mind' view mind as thing-like, i.e. {unity, reality, substance, *Dasein*}. Probably the most frequent connotation of definition 1 is mind as {totality, limitation, causality & dependency, possibility}. Definition 2 makes 'mind' a synonym for 'experience' (or, more accurately, the sum total of 'experiences'). Reber defines 'experience' as follows:

> **experience:** Basically, the term is used in ways commensurate with lay language; that is:
> 1. Any event through which one has lived.
> 2. The knowledge gained from such participation in that event.
> 3. The sum total of knowledge accumulated.
>
> However, recent reintroduction of some classic philosophical problems of epistemology into the study of cognition has produced a nuance. Namely, some now use the term with reference to the real world, where experience is characterized in terms of 'what is out there', and others specifically use it only to refer to personal subjective phenomena and the experience is characterized in terms of what is 'in the head.' To appreciate this distinction consider whether or not the 'pink elephants' seen by an alcoholic count as *experiences.*

Definition 2 thus begs off from being a technical definition for 'mind.' Definition 3 is a mere aggregation, i.e. {plurality, limitation, causality & dependency, possibility}. Definition 5 makes 'mind' a term that denotes the collective actions of biological factors, i.e. {totality, negation, community, necessity & contingency}. Definitions 6 – 8 are nontechnical from a practical perspective. The lack of a thing-like context for 'mind' in these definitions means that we cannot with objective validity regard 'will' or 'choice' as a *Kraft* of 'mind' because a *Kraft* must be the property of a Kantian substance. These definitions place 'mind' within a merely semantic context.

Definition 4 is the dominant usage of the term 'mind' in science when the context of the term is physical. The nuance between 'mind' and 'brain' here is rather like Aristotle's subtle distinction between actuality & potentiality vs. matter & form (Aristotelian substance). There is, however, enough ambiguity with regard to the nature of this equivalence that definition 4 is not crisply divided from definition 5. Dr. Damasio, for example, proposes his 'movie-in-the-brain' metaphor in such a way that from one point of view 'mind *is* brain' (i.e. the 'theater of mind' has no spectators but rather the 'movie plays to itself') yet from another 'mind' is merely an emergency, i.e.:

> The first quandary involves the perspective one must adopt to study the conscious mind in relation to the brain in which we believe it originates. Anyone's body and brain are observable to third parties; the mind, though, is observable only to its owner. Multiple individuals confronted with the same body or brain can make the same observations of that body or brain, but no comparable direct third-party observation is possible for anyone's mind. The body and its brain are public, exposed, external, and unequivocally objective entities. The mind is a private, hidden, internal, unequivocally subjective entity.[13]

[13] A.R. Damasio, "How the brain creates the mind," *Scientific American*, vol. 281, no. 6, Dec., 1999, pp. 112-117.

But saying that ‘mind originates in brain’ places brain and mind in a Relation of causality and dependency, whereas an objectively valid idea of emergent property must be one of a Relation of community. If we take definition 4 in the signification of regarding ‘mind’ and ‘brain’ (body) as a merely *logical* division of the *phenomenon* of the Organized Being, we are then in a position to, with objective validity, regard ‘will’ or ‘choice’ as an intelligible characteristic (e.g. as a *Kraft* or as a power) assignable to *nous* in the logical division of ‘mind’ because ‘mind-is-equivalent-to-brain’ is then thought as {unity, limitation, substance & accident, *Dasein*}. ‘Mind+brain’ is then an Object in the phenomena of an Organized Being. Psychological causality (causality of freedom) can then be seen with objective validity as **a determination of a change by which the change is established according to general rules**, and this is the objectively valid *Realerklärung* of ‘causality’ from the theoretical Standpoint.

The Third Cosmological Idea

In the theoretical Standpoint the cosmological Idea of Relation is the Idea that for the appearance of anything that happens there exists (in the *Dasein* sense) some Object that stands as the ultimate origin, the first cause, in an absolutely complete causal chain. In the theoretical Standpoint we obtain no sure knowledge of the *Existenz* of this first cause, and attempts of speculative Reason to explain this first cause in terms of an understandable *Existenz* of a supersensible *noumenon* are doomed to be transcendent. This is because a “prime mover” or “absolute first cause” is not an object of any possible experience. Thus the objective validity of the third cosmological Idea in the theoretical Standpoint is limited to the role of a regulation of speculative Reason, by which the Organized Being can seek the ‘because’ in appearances, but which in no way is to be seen as a *constitutive* Idea of Reason. The latter is the role that physical laws fill in the sciences. Each instantiation of a physical law is a link in a chain expressing a ‘how’ in Nature in terms of Relations among Objects. A physical law is “more fundamental” when other physical laws are derived from it as its consequences, and in this sense the search for ever-more-fundamental laws is science forging the links in a causal chain. But the ‘how’ expressed by physical laws is a ‘how’ of Relation in *Existenz*, not in *Dasein*.

Antinomies in science arise when a transcendent *noumenal* object is posited, through the category of substance & accident, as a ‘prime mover’ or an ‘original cause.’ The physics of the 17th century, whether we look at the theories of Newton or those of Descartes or Pascal, posited God as the original cause, and under this transcendent presupposition the laws of Nature could be

seen merely as expressions of the will of God. This allowed an uneasy peace to be arranged between science and religious authority, but one periodically broken when scientific fact gainsaid religious dogma. British empiricism under the Baconian lines of the Royal Society, the French Enlightenment of the *philosophes* and the French Academy, and the German *Aufklärung* under the tolerance of Frederick the Great were the nurseries where science grew up and grew out from under suppression by the religious authorities.

There is, however, one *noumenon* which, for each of us, is transcendental rather than transcendent, and this is of course the transcendental *I* of apperception. As Self I am an Object of Nature; as *noumenon* I am the seat of my own experience who comprehends Nature through experience, although only as appearances. From the judicial Standpoint the third cosmological Idea is absolute completeness in the origin of my *understanding* of Nature through judgmentation, and the Idea expresses a law of compatibility for the representations of speculative Reason. As an acroam of judgmentation and a standard gauge for the speculative use of Reason, the Idea speaks to the causality of representation by the Organized Being, thus to the origin of all determinations of change in the perception of appearances.

However, to be an Idea of causality this determination must be bound to rules, and how are we to regard the establishment of such rules? It must on the one side be a transcendental Idea of the capacity of the Self to give such rules to itself. It must on the other side be a principle for judgmentation in the compatibility of perceptions and for motivation in the idea of the motivational dynamic. The categorical imperative is the supreme regulating law of the Organized Being, and this hypothetical-practical form of the third cosmological Idea is hence the Idea of Relation in the causality of freedom. But this form cannot vest its ground in mysticism, in the transcendent, or in the categories of understanding. It cannot be the Idea of a ‘why?’ but only of a ‘how?’ if it is to satisfy at once the requirements of both the phenomenal Self and the noumenal *I*. In short, it is **the Idea of the origin of appearances through conformity with an equilibrated structure of practical rules**. This is the first condition of the determination of actions in the motivational dynamic as well as the absolute first condition of understanding through the representation of appearances.

§ 4.4 Modality in the Hypothetical-practical Perspective

The fourth cosmological Idea is: Absolute completeness as regards the dependence of the *Dasein* of what is changeable in appearance. From the theoretical Standpoint this Idea is the Idea of the matter of the form in context for sensible appearances. The *absolute* completeness of the context of any appearance demands the connection of concepts in a series (particularly, in a causal series)

and we have seen that for every conditioned appearance *its* sensible condition also has a condition, which leads to an infinite regress. But, Kant pointed out, this contingency is the mere contingency of *representations* and is itself only a phenomenon. The causal series of appearances is a series founded upon connection in the pure intuition of time, and a *concept* that this series is sensibly *unendlich* is itself a concept of appearances.

However, an infinite regress is no more an object of possible experience than is any other type of infinity. The demand of Reason for absolute completion of the series must therefore either set for Reason a task impossible to satisfy *or* reasoning must posit the unconditioned condition which completes this series in the domain of *intelligible* objects. Kant wrote,

> Demanding the unconditioned must thus either remain a conflict with reason or this [the unconditioned] must be set outside the series in the intelligibles, where necessity is neither demanded nor granted by empirical condition, and thus, respective of appearances, is unconditionally necessary.
>
> The empirical use of reason (in regard to conditions of *Dasein* in the sensible world) is not affected by the admission of a merely intelligible being, but gets from empirical to higher conditions, which are likewise always empirical, according to the principle of thorough-going contingency. But just as little does this regulative first principle exclude the assumption of an intelligible cause which is not in the series when it has to do with the pure use of reason (with respect to purposes) [KANT1a: 549 (B: 592)].

The concept of a purely intelligible object – a *noumenon* – does not arise from receptivity, and although its representation in cognition must have a sensible exposition, the intelligible object is not sensibly conditioned in its origin. It is true enough that as reasoning attempts to "fill in more details" of the Nature of such an object antinomies are likely to arise. We see this in the dual conceptions of God as both a perfect, loving, all-knowing Father and a terrible and fearsome King willing to bring into the world children whom He will eventually destroy or damn to suffer for all eternity.[14] However, because an intelligible cause is never presented through receptivity it is not *sensibly* conditioned *by* appearances. It arises not as synthesis *a parte posteriori* but rather as synthesis *a parte priori*, and *in relationship to sensible appearances* is unconditioned. The *necessity* of the intelligible cause is merely the logical necessity of satisfying an interest of pure Reason. Thus judgments of Modality in the hypothetical-theoretical perspective can distinguish among possible, actual, and necessary contexts in Nature. Put another way, *practical* Reason can be satisfied by reasonable *guesses* brought into *Existenz* by the regulation through speculative Reason of the employment of determining judgment.

[14] In the Roman republic, as elsewhere in classical antiquity, the father had the right to put his own children to death. Thus the idea of fatherhood was not incompatible with the idea of a father killing his children. However, a Roman father would not know before his child came into the world that he would eventually kill this child. The situation presumably is different for an eternal and omniscient god (cf. St. Augustine, *Confessions*, Bk. XI-XII).

From the judicial Standpoint the fourth cosmological Idea is the Idea of the Modality of a practical purpose that underlies the manner of expedience in which a belief is held-to-be-true in consciousness. Specifically, the Idea is: The *I* of transcendental apperception *is* the unconditioned condition for thinking the *Dasein* of any object (Chapter 18 §5.4). Because the spontaneous actions of an Organized Being include all expressions of acts of judgment and objective representation, through which the *Dasein* of every known object becomes known by the Organized Being, judgments of *Dasein* are driven by expedience for the categorical imperative. The implications of this Idea for belief were discussed in Chapter 18 (§2.1). Belief is presentation through the causality of purpose.

Modality is the matter of *nexus* and, respective of judgments, is a judgment of a judgment. The categories of understanding in hypothetical-theoretical perspective are notions of possible, actual, and necessitated context. They *constitute* our *understanding* of Nature insofar as the matter of *nexus* is concerned. The *momenta* of reflective judgment in hypothetical-judicial perspective are preferences of judgment (the functionals of presupposing, demanding, or requiring judgments; Chapter 18 §5.4). They *regulate* our *construction* of Nature insofar as the matter of the *nexus* of desiration in teleological reflective judgment is concerned. In order to find the *momenta* of practical judgment in the hypothetical-practical perspective we must obtain a corresponding practical statement of the fourth cosmological Idea.

Now, the judicial Modality speaks to the freedom of the capacity for judgment in the Organized Being, thus to its ability to judge. The theoretical Modality speaks to the relationship of that which is judged to the manner in which the judgment is held by the Organized Being (i.e.: as merely possible, *I* think *x* might be *y*; as actual, *I* think *x* is *y*; and as necessitated, *I* think *x* must be *y*). Viewed practically, the *ability* to judge in such a manner of judging presupposes as a ground that each such manner of judgment leads to a particular manner of satisfaction of the interests of pure Reason. Modality in the motivational dynamic is that which we call the type-of-motive, the idea of which is that of determining factor in the determination of Reason, of reconciliation in validation, and of the problematic summoning of the determinable from the manifold of concepts and the manifold of rules in reevaluation (Chapter 19, §7.3). In this context absolute completeness in the dependence of the *Dasein* of the changeable in appearance, viewed in terms of the judicial unconditioned condition (transcendental apperception), is an Idea of causality from the *Dasein* of an Object that stands as the sole function of absolute unity as ground of every series of conditions. Causality in general is the determination of a change by which the change is established according to general rules, thus this Object is that in which subsists a general practical rule for the determination of all changes in the *Existenz* of the Self effected in

the faculty of pure consciousness (Chapter 5, figure 5.6.1).

Now, transcendental *good* is that which is unconditionally the object of appetitive power with regard to *Lust*, and transcendental *evil* is that which is unconditionally the object of appetitive power with regard to *Unlust* (i.e., appetitive power regarded as power of detestation). But these objects are the members of a disjunction of a practical Object according to a single principle of Reason [KANT4: 50 (5: 58)]. We call this Object the *summum bonum* of pure practical Reason and will discuss it further when we take up the empirical-practical perspective. The hypothetical reflective perspective, regardless of Standpoint, is always a perspective of unity in the series of conditions, and so the fourth cosmological Idea in the hypothetical-practical perspective is an Idea of *making a unity* in the series of conditions for all determined actions. The synthesis of the theoretical and judicial Standpoints of the cosmological Idea of Modality follows from this context. The Idea is: **Absolute completeness of the changeable in appearances is sought through apperception of *Existenz* in relationship to the transcendental Ideal of the *summum bonum***.

§ 4.5 Summary of the Hypothetical-practical Principles

The principles of Rational Cosmology under the practical Standpoint are the regulative principles for the structuring of the *nexus* in acts of Reason. The hypothetical-practical principles are:

General Idea: Absolute completion in the series of conditions.

Of Quantity: Absolute completeness in the composition of all wants;

Of Quality: Absolute value in the division of a given whole of *Existenz*;

Of Relation: The origin of appearances through conformity with an equilibrated structure of practical rules;

Of Modality: Absolute completeness of the changeable in appearances is sought through apperception of *Existenz* in relationship to the transcendental Ideal of the *summum bonum*.

§ 5. The Empirical-practical Perspective

The previous three practical reflective perspectives deal with the structuring of *Existenz* by the Organized Being. The first two concern the regulative Ideas for the composition of structuring, the third with the Ideas of Relation between the causality of freedom and the motivational dynamic ({want, drive, drive state, type-of-motive}). The empirical-practical perspective is the

perspective of regulative Ideas which pertain to the structuring of Reality, and thus regards structuring in terms of epistemological *Dasein*. Kant said the transcendental idealist is at the same time an empirical realist. Thus, while the hypothetical-practical perspective refers the causality of freedom to the motivational dynamic, the empirical-practical perspective refers freedom to **practical perfection** as the Object of the executive acts of Reason.

As noted previously, Kant did not leave us any detailed discussion of the metaphysics proper in practical perfection. Most of his discussions which involved the idea of practical perfection took place within his applied metaphysic of morals or his Critical analysis of religion and what he called the "practical postulates" of God, the soul, and immortality. These are of no concern to us in this treatise because our topic here is not directed toward moral theory nor to an applied metaphysic for religious theology. It seems likely that Kant saw little need to expound upon the idea of perfection because this was a current topic of philosophy in Kant's time, e.g. in the Wolffian school and in the well-known classical doctrines of the Stoics [KANT4: 36 (5: 40-41)]. Kant did, however, point out distinctions between logical (theoretical) perfection, aesthetical perfection, and practical perfection. Of practical perfection he wrote:

> The idea of perfection in the *practical* sense is the fitness or adequacy of a thing for all sorts of purposes. This perfection, as *property* of the human being and so as *intrinsic*, is nothing other than *talent* and what strengthens or completes this, *skill* [KANT4: 36-37 (5: 41)].

This description is that of something which is said of a thing in terms of its abilities or suitability, thus is the description of its characteristics taken in total. What we require for the practical Standpoint is a *Realerklärung* of practical perfection in terms of actions, the outcomes of which may be said to "make something more perfect" in terms of its characteristic marks (in logical perfection) or aesthetical distinctness (in aesthetical perfection) or in rules of actions (in practical perfection). As previously noted in Chapter 10 (§4.4),

> Practical perfection goes to our appetites, through which activity comes to be brought about [KANT8a: 268 (24: 809)].
>
> Practical perfection is determination of the purposes of human acts [KANT8a: 272 (24: 814)].

This explanation of practical perfection is, however, empty unless we presuppose some kind of standard or Ideal or rule *a priori* for such a determination. A purpose *of* an action viewed theoretically is an objective or *end* towards the realization of which the act is *directed*. However, pure practical Reason knows no theoretical objects, and therefore the Idea of such a determination must be *a priori* and we must seek it out only from either an idea of the *form* of the regulation of actions or in the form of a rule for *making* a choice. This is where the transcendental Ideas of

Rational Theology come into the picture.

Although it is quite easy to get from Kant's moral and religious writings the idea that practical perfection and 'morality' are one and the same, Kant tells us explicitly this is not so. Commenting on the Baumgarten textbook used in his lectures on ethics, Kant said,

> The author's statement, as the ground of obligation: *Quaere perfectionem quantum potes*[1], is indeed less indefinitely expressed; here it is not a total tautology, and so has a degree of usefulness. What, then, is perfect? The perfection of a Thing[2] and a man is different. The perfection of a Thing is the sufficiency of all that is needed to constitute the Thing, so in general it means completeness. But the perfection of a man does not yet signify morality. Perfection and moral goodness are different. Perfection is the completeness of a man in regard to his powers, capacity and readiness to carry out all and any purposes. Perfection can be greater or less; one can be more perfect than another. But goodness is the property of making use good and well of all these perfections: So moral goodness subsists in the perfection of the will, not the capacities. Yet a good will needs the completeness and capacity of all powers to carry out everything willed by the will. So we could say that perfection is indirectly necessary to morality, and to that extent belongs to it. Thus the proposition is indirectly a moral one [KANT11a: 58-59 (27: 265-266)].

Practical perfection, when viewed as a state-of-being, thus concerns completion in the structuring of determinations of purpose. The general Idea of Rational Theology, as expressed by Kant in his *Prolegomena*, is "the determination of all concepts in the Idea of a complete embodiment of the possible." We can see that this Idea so expressed in the theoretical Standpoint is congruent with Kant's descriptions and explanations of practical perfection quoted above.

As we begin the examination of the theological Ideas from the practical Standpoint it is worthwhile to take a look at Kant's practical description of Ideas and Ideals in general.

> An Idea is an idea that is universal, or the universal idea of a maximum, whose object cannot be presented *in concreto*. A practical Idea is a moral perfection whose object can never be adequately given in experience . . . An Ideal is the depiction of a single thing, in which we depict such an Idea to ourselves *in concreto*. All Ideals are fictions. We attempt, *in concreto*, to envisage a being that is congruent with the Idea. In the Ideal we turn the Ideas into a model, and may go astray in clinging to an Ideal since it can often be defective [KANT11a: 229 (29: 604-605)].

While all the transcendental Ideas are Ideas, in the case of the theological Ideas it is especially important to be clear about what they implicate, i.e., what sort of a 'maximum' they represent. We should begin with Kant's statement that a practical Idea is a 'moral perfection.' Here the issue is with how we should interpret what the word 'moral' means under the Critical epistemology. We can glean this from what Kant says of 'the moral law' in *Critique of Practical Reason*.

First, let us recall that in order for the idea of the causality of freedom to have objective validity, the Organized Being must have the capacity for a pure and *a priori* determining ground

[1] 'seek perfection as much as you can'
[2] Kant's word here was *Sache* (as in our term *Sache*-thing). I render it here as 'Thing' to distinguish it from *Ding*, which is 'thing' in our usual technical connotation.

of will. This is to say it must be possible for choices to be determined from strictly non-sensuous 'laws' that the Organized Being makes for itself and which can overcome immediate sensuous stimuli in the determination of appetite. It is the ability to choose against sensuous factors that entitles psychological causality to be named the causality of freedom, for 'freedom' means 'free of being bound to sensuous impulse.' When Kant analyzed this idea the conclusion he reached was that this was only possible if such a 'law' was determinable by nothing more than its mere form, free of sensuous matter. To be called a 'law,' the law-giving form must have the property of being *universal*, that is, applicable in all situations regardless of circumstance and material content. This law is what we name the categorical imperative of pure Reason.

When we view the Organized Being as an organism and formulate our Idea of the categorical imperative in terms of observable behaviors, we state the categorical imperative as the law of equilibration. However, it is also possible and necessary to state this law in noetic terms that tie it to the power of choice in the process of pure Reason, and this gives us Kant's statement of the categorical imperative in *Critique of Practical Reason*, i.e.,

> So act that the maxim of your will always can hold good at the same time as a principle of a universal legislation [KANT4: 28 (5: 30)].

In the context of Kant's moral theory this is a prescription for groping towards an understanding of one's individual moral principles as *theoretically* categorical imperatives which, as we earlier discussed, are never more than *practically hypothetical* imperatives in the manifold of rules. This is why such principles were characterized by Kant as expressing an 'ought to.' But in the metaphysics proper of the Critical Philosophy *the* categorical imperative is to be seen as a master regulator of all acts of Reason *driving* the structuring of the manifold of rules toward an *Ideal* of universal legislation.

So far there is no moral implication in what we have said if by 'moral' we understand such maxims as 'do not steal', 'do not murder', 'do not tell lies', etc. Theoretical maxims such as these are typically found in the societal moral code of what psychologists call the 'normal population' of a society, although history provides examples of societies that viewed affairs rather differently. For example, in ancient Sparta boys were trained and encouraged to steal; it was regarded as a skill necessary in warfare when a soldier became separated from his fellows and had to forage from the enemy. All Spartan men were required to be soldiers, and stealing and telling lies in and of themselves were not punishable offenses in Sparta; *getting caught* stealing or lying was punishable because it meant you weren't good at it. How, then, did Kant segue from his first statement of the categorical imperative to the categorical imperative as 'the moral law'? He took this next step rather boldly in a corollary to the statement above:

> Pure reason is practical of itself alone and gives (to the human being) a universal law which we name the *moral law* [KANT4b: 29 (5: 31)].

Thus far, all Kant has done is to give the categorical imperative an alias, an 'also known as.' But what does the adjective 'moral' used here imply? Kant immediately goes on to say:

> The previously mentioned fact is undeniable. One need only dissect the judgment that men pass on the lawfulness of their acts: Thus would one always find that, whatever inclination may say between times, their reason, incorruptible and through itself self-contained, always holds up to pure will the maxim of the will in an act, i.e., to itself inasmuch as it regards itself as practical *a priori*. Now this principle of morality, just because of the universality of the legislation that makes it the formal supreme ground of determination of the will regardless of any subjective differences, reason accounts at the same time to a law for all rational beings so far as they generally have a will, i.e. a capacity, to determine their causality through the representation of rules, hence so far as they are capable of acts according to fundamental principles, consequently also according to practical principles *a priori* (for these alone have that necessity which reason demands for fundamental principles) [KANT4: 29 (5: 32)].

Whether you are a Spartan, a Prussian, an Englishman, or whatever, the fact remains that all human beings are capable of 'acting on principle' even when doing so runs contrary to sensuous self-interest. The 'moral principles' can and do differ widely among different societies and even among members of the same society, but this means nothing more than that hypothetical imperatives – even those held by the person to be theoretically categorical imperatives – are *personal*, the product of the individual's own experiences. The *conviction* with which a person clings to certain of his principles, the *reproach* that person visits upon himself for failing to live up to his own standards and the *j'accuse* he feels towards others who violate this code of his: these go into the makeup of the phenomena that constitute the 'fact' to which Kant refers. We saw in Chapter 13 (§3.3) that *moral realism* is a universal characteristic of young children. Institutionalized moral realism in a cult or a society allows its members to stone the adulterous woman or picket the funeral of a murdered homosexual to the torment his relatives and friends. No social force is more dangerous than moral realism institutionalized and made dogmatic, especially when ignorance is its handmaiden.

It is easy to object that Kant had no right to append the adjective 'moral' to the law of the categorical imperative. On the other hand, Kant appears to have made a habit of naming principles and ideas teleologically – that is, naming them for a particular phenomenon or outcome that served as a good exemplar of the Idea in action. Among the normal population of the society in which Kant lived 'moral law' was probably as good a name as any. We can wonder whether he might have named it 'the law of honor' if Kant had been a samurai in feudal Japan. Viewed in the Critical perspective the adjective 'moral' can only imply *robustness* in the structure of the manifold of practical rules insofar as hypothetical imperatives are resistant to accommodation.

A practical Idea, described above as a ‘moral perfection,’ is thus a robust rule structure for determination of appetitive power characterized by a scope of applicability held-to-be not merely widely applicable but *universally* applicable under the condition of the rule. (Recall that from the practical Standpoint the manifold of practical laws is a manifold of practically hypothetical imperatives; there is only one practically categorical imperative of pure Reason). Practical Ideas are nuclei of assimilation; theoretical cognitions of these structures as maxims and laws are the representations of Ideals of these Ideas. Conformity to practical universality is thus the standard of the determination of appetite, although in practical judgment this purely formal criterion is a negative principle, which is to say failure to conform is all that can be judged of Desire.

Now, we have seen that empirical meanings are constituted in a logic of actions, and that such meanings underlie the cognition of objects through notions of coherence in Nature (the *Realdefinitions* of the categories of Modality in the empirical-theoretical perspective, Chapter 10 §1). The transcendental Ideas of Rational Theology are the regulative principles by which mere objects of representation are so characterized (in understanding) as to take on those properties we broadly think as ‘being thinglike.’ This is at root the *Realerklärung* behind the idea of what it is to be ‘empirical.’ From the theoretical Standpoint these Ideas are regulative for the perfection of understanding; from the judicial Standpoint they are regulative for the perfection of Desires; from the practical Standpoint they are regulative for the perfection of the realization of those Self-organizing transformations that create systematic structure, in consequence of which we call the Organized Being *organized* insofar as intelligence extends physiological structure. Taken together, the Ideas of Rational Theology paint a picture of a transcendental Ideal. From the theoretical Standpoint the transcendental Ideal is the Ideal of the perfection of knowledge and is the standard gauge of Reason in the speculative employment of one’s powers of understanding. From the judicial Standpoint it is the Ideal of perfect happiness. From the practical Standpoint it is the Ideal of a perfect realization of the conditions demanded under the categorical imperative and is called the *summum bonum* of pure Reason.

§ 5.1 Quantity in Empirical-practical Perspective

Perhaps not surprisingly, most of what Kant wrote or lectured regarding the theological Ideas is found in the corpus of his writings and lectures on the Critical analysis of religion. This is not because these Ideas are religious principles in the Critical Philosophy. Rather, it is because the religious ideal of God, as dealt with by eighteenth century philosophers and theologians in Germany, is a transcendent version of these Ideas. The terms Kant appropriated and adapted were widely used by Wolffian scholars. They likewise play an important role in what Palmquist has

called Kant's Critical religion, which can be viewed as the applied metaphysic for a doctrine that follows once one has made what we can call the 'hypothesis of faith,' namely: God exists. The details of this applied metaphysic do not concern us here, but some of Kant's remarks concerning human beings that he made while illustrating the Critical ideal of God are of use to us.

We begin with the empirical Idea of Quantity, *entis realissimi*. From the theoretical Standpoint this is the regulative principle of what it means to make a predication 'to be X.' If we take the widest signification of the word 'predicate' (*praedico*), the Idea of *entis realissimi* is the Idea of the synthesis of all possible predicates in one Object. From the theoretical Standpoint this Object is Reality and *entis realissimi* is the Idea of what is to be looked for as the essential characteristic in a representation that signifies thinghood in its object (Chapter 4 §5.1). From the judicial Standpoint *entis realissimi* is the Idea of what is 'essential' for the subsumption of imagination under the condition of understanding, thus is the Idea of the synthesis of all possible aesthetic predicates of expedience for happiness, and this same Object is aesthetically perfect satisfaction (Chapter 14 §4.4).

> The idea of an *entis realissimi*[3] contains at the same time the ground for every other idea. Consequently it is the fundamental measure according to which I must think or even pass judgment on all other things . . . From here it equally follows that the idea of an *entis realissimi* is at the same time the idea of an *entis originarii*[4] from which all the ideas of other things are derived. But obviously this is only an *entis originarii logice tale*[5], a being whose idea from no other idea can be derived because from it all other ideas of things must be derived [KANT12a: 359-360 (28: 1014)].

An All-of-Reality is an idea of such a logical point of origin for all real things as limitations placed upon this idea. Similarly, the satisfaction of the judicial interest in happiness stands in the same role for aesthetical representation. From the practical Standpoint all appetites for actions logically derive as limitations of an Idea of the synthesis of all possible action 'predicates.' This is to say that **the practical Idea of *entis realissimi* is the Idea of the synthesis of all practical perfections in one Object, namely *universal law* subsisting in a manifold of rules**. Again, though, this Idea can never be a constitutive or ontological principle but only a regulative principle of practical Reason, for as Kant said,

> If I undertake to prove the possibility of an *entis realissimi* (that is, the possibility of the synthesis of all predicates in one Object), then I try to know *a priori* through my reason and with apodictic certainty that all perfections can be united in a single stem and derived from a single principle. But this oversteps the possible insight of all human reason [KANT12a: 368 (28: 1025)].

Thus *entis realissimi* remains nothing beyond an Idea of the form of the composition of a

[3] most real of being
[4] (point of) origin of being
[5] logical kind of origin of being

transcendental Ideal, valid as a regulative principle for pure Reason but lacking objective validity as a constitutive principle.

§ 5.2 Quality in Empirical-practical Perspective

The theological Idea of Quality is *ens originarium* (original being). From the theoretical Standpoint this is the Idea of a primitive essence as the matter of an Ideal, i.e. the 'one single possibility' with regard to which all else is derivative. It is the regulative principle underscoring the requirement in Critical ontology that the representation of a thing must contain a notion of the real in appearance (sensation). Under this Idea all real things stand as limitations set out against a backdrop of an unlimited All-of-Reality.

From the judicial Standpoint we apply the Idea of *ens originarium* to the issue of what must go into the presentation of the *Existenz* of the Organized Being's state of happiness. It is judicially to be regarded as the Idea of an original Quality of an affective state of being (namely, happiness) from which all desires are derivative as limitations of the Idea. Satisfaction is the mark of a state of happiness. We come to the Idea of an original Quality for choosing among desires, from which all actions are derived, when we make the synthesis of the possibility of an original source (sensation) being taken-to-be a satisfaction. This is the Idea of **good choice** as the original source of actions. The relationship between satisfaction and good choice goes through the idea of appetite from the determination of the Organized Being's appetitive power. Kant remarked,

> In human beings satisfaction is *Lust* in an Object. Thus I find, for example, a satisfaction in a house even if I can only see the plans. But satisfaction in the *Existenz* of an Object is called *interest* . . . The stoics thought the ideal of the sage, as one who would feel no compassion for distress but would feel no greater delight in anything than in remedying all distress. This is not possible for human beings; for here a mainspring [*Triebfeder*] must be added to my knowledge of the good before I can actually bring forth the good. This is because my activity is limited, and thus if I am to apply my powers to the production of some good I must first pass judgment on whether I would not want to deplete my capacity for the production of some other good in this way. Therefore I need certain mainsprings to direct my powers to determine this or that good, since I do not have enough capacity for the actual production of everything I know to be good. – Now these mainsprings subsist in certain subjective regards through which is determined my satisfaction in choosing, subsequent to the first determination of my satisfaction in judging or my knowledge of the good. If this subjective regard were taken away then my selection of the good would be removed [KANT12a: 400-401 (28: 1065-1066)].

Obviously what Kant has described here is mature determination of choice, which requires more than merely an original Quality of good choice. A little child looking through a toy catalog usually wants half the toys in it. But note that what Kant describes here is not merely one simple choice but the phenomenon of choosing from among choices. This is what points us toward an Ideal of choice, from the Idea of which all specific choices are represented in terms of

affirmations, negations, and limitations. This is an Idea of the Quality of a transcendental Ideal of an original good. **Practical *ens originarium* is the regulatory principle of good choice under an original Ideal of absolute goodness**, i.e. under the Ideal of *summum bonum*.

§ 5.3 Relation in Empirical-practical Perspective

From the theoretical Standpoint *ens summum* is the Idea for the principle of regulative structure, which directs that the representation of a thing contain a notion of substance and accident and be connected in a series of conditioned to condition. From the judicial Standpoint we have it as the Idea of connection of desire (desiration) in a manifold of Desires, and it is the principle of aesthetical context in the presentment of Reality.

What, though, does this Idea convey in the practical Standpoint? To deduce this we first ask ourselves, "what is the practical substance in relationship to which an appetite is its practical accident?" This is easily seen to be the idea of some 'good' to be actualized or some 'evil' averted through the action of the appetite. Clearly it is not the desire or even the Desire that stands in the role of a Kantian substance to an appetite because the satisfaction of a desire extinguishes the desire. An action is realized 'because it is good to do.' The desire is merely a mainspring (*Triebfeder*) for the pronouncement in practical judgment that it is particularly good to take action. Now, just as every particular 'reality' presupposes All-of-Reality as a necessary substratum, against which the particular 'reality' is a limitation, a particular 'good' must likewise presuppose a universal 'good' in relationship to which the particular 'good' is seen as a limitation. The Ideal of this universal 'good' is what we have named *summum bonum*. Just as Reality stands as the highest Kantian substance[6] in the theoretical Standpoint, and a perfect aesthetical context of Desire (happiness) is the corresponding ideal in the judicial Standpoint, *ens summum* regarded as *summum bonum* stands in this role from the practical Standpoint.

Kant pointed out that the personification of this Idea of *ens summum* in religion is none other than the idea of God (the supreme being who has every reality, i.e. is also an *ens realissimum*). Kant said,

> How is an Idea of reason different from an ideal of imagination? Idea is a universal rule *in abstracto*, ideal is an individual case which I bring under this rule . . . This leads us to the Idea of the highest Being. We set before ourselves:
>
> 1. a Being which *rejects every deficiency* . . .
> 2. a Being which contains all realities in itself; only in this way will the concept be precisely determined. This concept can at the same time be thought as the most perfect nature,

[6] Recall that, viewed theoretically, the notion of substance is the representation of an object persistent in subjective time.

where all is combined with one another which belongs to the most perfect nature (for example, understanding and free will);

3. one can regard it as the highest good, to which wisdom and morality belong – the first is called transcendental, the second physical, the third practical perfection.

What is theology? It is the system of our cognition of the highest Being [KANT12a: 342 (28: 994-995)].

(Note that by 'theology' Kant is here referring to religious theology).

Now, although we may call the Object of the practical Idea of *ens summum* by the name *summum bonum*, *ens summum* is still nothing more than a regulative principle of practical Reason. A human being does not come equipped with a ready-made innate idea of a highest good; rather, through experience we each come to construct and structure a manifold of practical rules, maxims and imperatives that collectively define *practically* a personal ideal of a *summum bonum*. We are as individuals not free of being affected by the Nature around us, but rather each of us is in a Relation of community with our natural environment. Free will, for example, means nothing more nor less than that our power of choice is not *necessarily* bound to sensuous stimuli.

Freedom of will is the capacity to determine oneself to acts independently of *causae subjectae*[7] or sensuous impulses, or the capacity to will *a priori*. But since with us inclinations are the subjective conditions of self-contentment, the idea of human freedom is subject to many psychological difficulties. For the human being is a member of nature, and belongs to the sensible world, thus he is therefore also subject to the laws of appearances. All appearances are determined under one another by certain laws, and it is just this determination of occurrences in nature under universal laws which constitutes the *mechanism* of nature. The human being, therefore, as a member of nature is subject to this natural mechanism, or at least to a psychological mechanism. But how, then, can his acts be thought as independent of the natural occurrences or free? To be sure, the human being is conscious of himself as an intellectual Object, but this consciousness too has its difficulties, with which psychology must deal . . . The human being acts according to the Idea of freedom, he acts *as if he were free, and* eo ipso[8] *he is free* . . . The human being . . . can always decide something else, e.g. a human being, instead of being benevolent in this case, could also not be that. But it is precisely this which is a lack of freedom in the human being[9], since he does *not always* act according to his reason [KANT12a: 401-403 (28: 1066-1068)].

Not only do we each construct our ideal of a *summum bonum*, we each do so without any complete conception of the Object in terms of ends and means, and without knowing even if such an ideal Object can be finitely constructed. *Ens summum* can never be taken for a constitutive principle. Kant tells us,

[7] causes in the subject.
[8] by that very act.
[9] Recall that Kant said human will is a 'mixed' will because sometimes we place sensuous stimuli in the place of ground of determination for our actions. It appears likely that a newborn infant, lacking experience and therefore still lacking a constructed manifold of rules, does so all the time. But to the infant we still credit an *arbitrium liberum* rather than an *arbitrium brutum* because in time he does construct this manifold and thereby extends by means of his intellect his biological structure.

> Deciding whether in a certain thing is encountered an end in itself or only a consequence of still higher ends, which constitute the context of all ends, is impossible for our reason. For the presupposition that all in the world has its utility and its good intention, if it is supposed to be constitutive, would go much farther than our observations up to now can justify; yet as a mere regulative principle it serves very well for the extension of our insight and can therefore always be useful to reason and yet never harm it . . . In any case the only error that can result from this is that where we, expecting a teleological context (a *nexus finalis*), encountered only a mechanical or physical one (a *nexus effectivus*), through which in such a case we merely miss one more unity but do not spoil the unity of reason in its empirical use. In a *nexus effectivus* the end is always last and the means, on the contrary, is first; but in a *nexus finalis* the aim always precedes the use of means [KANT12a: 404 (28: 1069-1070)].

Practical *ens summum* is the regulative principle of structuring the context of actions in the manifold of rules in Relation to a transcendental Ideal of *summum bonum*.

§ 5.4 Modality in Empirical-practical Perspective

The Idea of *ens entium* from the theoretical Standpoint is the principle of Reason which demands that the reality vested in all things through their concepts be a held-to-be-necessary reality. Put another way, it is the Idea of the necessity of real things, i.e. that behind appearances necessarily stands the *Dasein* of some transcendental 'essence of all essences.' An objection often raised against the Critical Philosophy runs thus: If all we know about are merely appearances then we cannot know that there really are real things that caused us to perceive these appearances; why should we not think that appearances are dreams or illusions? This is an objection often raised up against idealism and particularly against the idealism that grows out of rationalism (although Hume showed that this objection applies to empiricism as well). But this objection *presumes* the priority of ontology and the Critical answer is: ***we must always give priority* to *epistemology***.

Kant responded at length to this question in *Critique of Pure Reason*, but here I will give an alternate argument. From the *theoretical* Standpoint, the category of causality and dependency is a notion of mechanism, i.e. that for every effect in time we must ascribe a prior cause (a *nexus effectivus*). When our speculations come to the point where they are divorced from our senses we must nonetheless, from the theoretical Standpoint, posit an 'outside cause' as 'that which has affected our senses.' This is the transcendental Object. Our knowledge of the *Existenz* of this Object is limited to knowledge of its appearances. Beyond appearance we cannot proceed with objective validity insofar as knowledge of its *Existenz* is concerned. But this differs from our knowledge of its *Dasein*, which is apodictic by the category of necessity and contingency. Our knowledge of the *Existenz* of the transcendental Object is contingent; but our knowledge also holds its *Dasein* to be theoretically necessary. A transcendental idealist is also, at the same time, an empirical realist. The regulative principle of *ens entium* (in the theoretical Standpoint) is the principle of reasoning along the following lines: If the *Dasein* of one transcendental Object is

real, then it is necessary that something real exists (in the *Dasein* sense). But as soon as we have cognitions of more than one transcendental Object, each such Object is identified by transcendental affirmations and negations, hence the Object is limited by these negations. But if any Object must be viewed as a limitation, it must be a limitation imposed on something else, and this something else is that which we call the All-of-Reality. This Reality is the absolute condition of all transcendental Objects, and transcendental Ideas drive the reasoning process to strive to understand this Reality.

Now, the transcendental Subject (the *I* of apperception) is the one *noumenon* the reality of which each of us holds as absolutely certain with respect to our own *Dasein*. The crucial step in the life of the infant comes when he or she draws that dividing line, which is regarded as a real division, between the Self and the not-Self, for at this point the infant's system of cognitions has recognized the *Existenz* (and therefore the *Dasein*) of other transcendental Objects. ***This is what practically defines empiricism for the Organized Being***. Empiricism in the Aristotelian or in the British tradition presupposes this very thing as its starting point (else there would be nothing to 'imprint' on the wax tablet or 'write upon' Locke's 'blank paper'). It is for this reason that we call the perspective of Rational Theology the empirical perspective. This is also how the Critical Philosophy is not and cannot become skepticism.

From the judicial Standpoint *ens entium* is the Idea of the matter of the form of a standard for the perfection of the judicial Ideal of happiness (Chapter 14 §4.4). It is the Idea of the coherence of satisfaction, expedience, desire, and the binding of these in the Ideal of happiness (see the summary of the *momenta* of aesthetical judgment from the empirical-judicial perspective in Chapter 14 §5). We can say 'in essence' that *affections matter* insofar as all reflective judgments work from affective perceptions in the synthesis of judgmentation in general (*Beurtheilung*). *Ens entium* is the regulative principle of aesthetical perfection by which that interest of Reason Kant called 'hope' fills a role in cognitions and actions.

Of all the Ideas of Rational Theology, Kant had the least to say about the Idea of *ens entium*, and this tasks us in carrying out our synthesis to come up with the Idea of *ens entium* from the practical Standpoint. However, Kant does provide us with a strong hint when he says of the application of *ens entium* to the ideal of God that it denotes God's 'all-sufficiency.'[10] In Western religious theology God is regarded as *omnitudo realitatis* ('all of reality') but Kant points out that what is practically implied by this attribution is better understood by

> the expression *all-sufficiency* (*omnisufficientia*). Certainly this may be put to us as everything real in God as a ground (*ens entium*) because *sufficientia* always expresses the relationship of a ground to

[10] [KANT12a: 358 (28: 1013)].

its consequences [KANT12a: 363 (28: 1019)].

Kant stated the link between the ideas of self-sufficiency, affectivity, and practical determination as follows:

> An appetitive power is the causality of the power of representation with respect to the actuality of its objects. Will is the capacity for purposes . . . Now *Lust* itself does not subsist in the relation of my representations to their Object; it subsists rather in the relation of my representations to the subject insofar as these representations can determine the subject to actualize the object. Insofar as the representation is thus the cause of the actuality of the object it is called appetitive power, but insofar as it first determines the subject itself to appetite it is called *Lust*. Thus one obviously sees that *Lust* precedes appetite. Satisfaction with one's own *Existenz*, when this is dependent, is called *happiness*. *Thus happiness is contentment with my own dependent* Existenz. But a complete satisfaction with one's independent *Existenz* is called *acquiescentia in semetipso* or self-sufficiency (*beatitudo*) [KANT12a: 396-397 (28: 1059-1060)].

This remark took place in the midst of Kant's discussion of an applied metaphysic for a philosophy of religion, and throughout the discussion we find Kant passing rather seamlessly between practical ideas and ontological (theoretical) ideas. It is therefore important for us to pin down the boundary line between them to be sure we are dealing from the practical Standpoint of metaphysics proper. This boundary is going to lie somewhere in the transition from mere contentment to the idea of self-sufficiency, the latter of which is the ideal of a maximum of self-contentment (since if I am completely self-sufficient I need look to nothing else but myself to find self-contentment). Fortunately, Kant provided the clarification we need here in *Critique of Practical Reason*:

> Have we not, however, a word that does not denote enjoyment, as the word happiness does, but that nevertheless indicates a satisfaction with one's *Existenz*, an analogue of happiness that must necessarily accompany consciousness of virtue? Yes! This word is *self-contentment*, which in its strict meaning always designates only a negative satisfaction with one's *Existenz* in which one is conscious of needing nothing. Freedom and the consciousness of freedom is a capacity to follow the moral law with an unyielding disposition, is *independence from inclinations*, at least as determining (even if not *affecting*) motives of our desire, and so far as I am conscious of this in following my moral maxims it is the sole source of an unchangeable contentment necessarily combined with it and resting on no special feeling, and this can be called intellectual . . .
>
> From this we can understand how consciousness of this capacity of a pure practical reason through deed (virtue) can in fact produce consciousness of mastery over one's inclinations, hence independence from them and so too from the discontent that always accompanies them, and thus can produce a negative satisfaction with one's state, i.e. *contentment*, which in its source is contentment with one's person. Freedom itself becomes in this way (namely indirectly) capable of an enjoyment, which cannot be called happiness because it does not depend upon the positive concurrence of a feeling; nor is it, strictly speaking, *beatitude*, since it does not include a complete independence from inclinations and needs; but it nevertheless resembles the latter so far namely as one's determination of will can be held free from their influence and so, at least in its origin, it is analogous to the self-sufficiency that can be ascribed only to the supreme Being [KANT4: 98-99 (5: 117-118)].

This self-contentment is a practical object of choice, springing not from sensuous appearances but

rather from the executive power of pure practical Reason. *Absolute* self-contentment is an Ideal of pure Reason. The Ideal is 'something to strive for' and in this Ideal we see the matter of *summum bonum*. Self-contentment is that in which all actions in the *nexus* of actions find a common point of coherence, namely "peace of mind." **The Idea of practical *ens entium* is the practical regulative principle of Reason for coherence of all actions with the Ideal of *summum bonum***.

§ 5.5 Summary of the Empirical-practical Principles

The Object of the empirical perspective is Reality, and in the empirical-practical perspective the regulative principles of pure Reason are the principles that bind Reality to Meaning through their regulation of actions through choice. The principles orient determination of appetitive power in the Ideal of *summum bonum*, which *Reason knows not* as an objective cognition but which, rather, is the standard gauge for making practical choices and for the judging, in the process of practical judgment, of the structuring of a manifold of rules through practical principles of acting. The theological Ideas in empirical-practical perspective are regulative principles of practical perfection exhibited in choices oriented toward a transcendental Ideal of absolute satisfaction of good (*summum bonum*).

In summary, the empirical-practical Ideas are:

General Idea: Absolute unity of the condition of all objects of thinking in general;

Of Quantity (*entis realissimi*): synthesis of all practical perfections in one Object, namely *universal law* subsisting in a manifold of rules;

Of Quality (***ens originarium*):** good choice under an original Ideal of absolute goodness (Ideal of *summum bonum*);

Of Relation (***ens summum*):** structuring the context of actions in the manifold of rules in Relation to a transcendental Ideal of *summum bonum*;

Of Modality (***ens entium*):** coherence of all actions with the Ideal of *summum bonum*.

§ 6. The *Momenta* of Practical Judgment

As meager as were Kant's explanations of the *process* of reflective judgment, he has left us with even fewer remarks concerning the *process* of practical judgment (although he had much more to say about the Nature of the *outcomes* of this process and how these ought to be seen with regard to his moral theory). It is evident from these few remarks that the process of practical judgment stands in close relationship to the causality of freedom and aloof from immediate involvement in

either the cognitive or affective pronouncements of the other processes of judgment. For example, in his *Religion Within the Boundaries of Pure Reason* he remarks that

> freedom of choice is of the entirely peculiar characteristic that it can be determined to act through no mainspring [*Triebfeder*] *except only so far as the human being has incorporated it into his maxim* (has made it into a universal rule for himself, according to which he wills to conduct himself); only thus can a mainspring, whatever it may be, stand together with the absolute spontaneity of choice (freedom) [KANT12a: 72-73 (6: 23-24)].

Metaphorically speaking, receptivity and, indirectly, cognition can 'wind the clock' but the hands of the clock will move only if the mainspring has been connected to them, and in the case of human Reason it is up to the process of practical judgment to provide the hookup. There is, however, a logical inconsistency in a too-simple interpretation of this. Note well that Kant says the mainspring (a specific affective judgment) must have first been incorporated *into* a maxim. This at once raises the question: How and when did this maxim come about? Excepting only those blind appetites, which Kant called *instincts*, necessary for the possibility of motoregulatory expression at the beginning of life prior to the construction of the manifold of concepts in understanding and the manifold of constituted rules in pure Reason, there are no innate maxims of behavior inbred in the natural makeup of a human being.

The *Dasein* of appetites of instinct pose no particular philosophical problem (or, at least, no problem different in kind from that of, say, the *Dasein* of the categories of understanding or the *Dasein* of consciousness) inasmuch as their *effects* are observable phenomena in Nature and the instinct stands as transcendental object, i.e. that which is necessary for the possibility of the effect. It does not fall to philosophy, but rather to empirical science, to detail the *Existenz* of appetites of instinct. What does pose a philosophical problem is the question of how it is that such an instinctive behavior as the sucking reflex (wherein the infant responds to something touching the lips with a sucking behavior) later ceases to be a reflex action. In phenomena such as this the characteristic of the behavior cannot, with logical consistency, be laid to a 'positive' practical determination of choice because the original instinct called upon no maxim. In a practical sense this is what the term 'reflex' implicates. We must rather presume that either: 1) the organized *structure* of the instinct is disestablished, perhaps by maturation, or; 2) this structure is modified by additional conditions imposed upon the motoregulatory expression of the act of reflective judgment, or; 3) a modification of the structure by the imposition of additional conditions led to a disestablishment and replacement of the original instinct, perhaps as a consequence of a lack of exercising the instinctive expression of presentations of reflective judgment.

The first hypothesis can be satisfactory only if a natural cause of the disestablishment can be tracked down. This is because the hypothesis is at root a mechanistic explanation and would

ultimately have to be looked for in the synaptic and other connections in the brain. It is well established that synaptic connections in the brain are made and unmade throughout life. However, there is a Critical problem with a purely mechanistic explanation here because an *instinct* is not an object of the *soma*. It is a noetic object and any merely mechanical explanation, if it is to be an objectively valid interpretation of the phenomenon, must account for *nous-soma* reciprocity. The findings of empirical psychology – e.g. the work of Piaget et al. – argue for the conclusion that structures are not disestablished but rather accommodated, and that the totality of the structure, although extensively modified, is conserved. If a specific reflex pathway in the brain is either 'turned off' or 're-routed' by the growth of other inhibitory and excitatory synaptic connections, this is postulate 2; if it is first 'turned off' and later atrophies (being replaced in its function by a more elaborated structure that, for example, conserves the schemes of sucking and swallowing as 'voluntary movements'), this is postulate 3. Both these are hypotheses consistent with *nous-soma* reciprocity. A resort to explanation in terms of physical spontaneity can serve postulate 1, but such an explanation is not an objectively valid emergency and violates the principle of continuity in Relation (*in mundo non datur casus*) and Modality (*in mundo non datur fatum*).

This leaves us with an interpretation of Kant's remark that is in its fundamental character that of a 'negative' practical determination, that is, a determination we have previously described in terms of a 'veto power' of practical Reason. The principle here is conformity to universal practical rules, i.e., 1) rules of immediate action expression merely *permitted* in the service of equilibration (not contrary to the manifold of rules); 2) those evaluated as immediate expressions of acts of equilibration (e.g. instincts), and; 3) those evaluated as *imperative* for equilibration. 'Laws' in such a *rule structure* (the manifold of rules) are *necessitated* (made necessary) rather than 'necessary' in the context with which, for instance, we view the 'laws' of physics. Practical necessitation is also two-fold, i.e. that which is made necessary *and* that which is made *unnecessary*. The latter is the view taken, in structural terminology, when an instinctive appetite is assimilated into the structure of an inclination, by which the condition of the original instinctive rule is modified.

But all this presupposes that in practical Reason there is to be found some practical judicial process by which a condition for the accommodation of a previous rule is established. This would be of such a logical character that we can justly call it a 'rule about rules' and, because the presupposition of such a 'rule about rules' is transcendental (necessary for the possibility), it would have to be a pure rule *a priori*. Kant alluded to the *Dasein* of such rules but commented that 'we have no name' for them. We can, however, justly give them the name **intellectual instincts**. Now, this is a merely logical argument and we must seek for an effect of the

proposition in behavioral phenomena if this merely logical proposition is to have practical objective validity. What signpost in experience is there to be had to give an objective ground (in an effect) for the transcendental proposition of the *Dasein* of an intellectual instinct? There is, obviously, a strong hint provided by the observable fact that apparently innate 'instinctive' behaviors such as the sucking reflex do eventually, as James put it, exhibit "transitoriness" [JAME2: 704-712] and 'fade away.' But there is also to be found another and psychological phenomenon that directly ties to noetic factors. This is that feeling of *Unlust* in affective perception we commonly call the feeling of *conscience*.

Now, 'conscience' is a term we commonly associate with ideas of moral propositions. Kant, for instance, discussed the phenomenon of the feeling of conscience almost entirely in such terms. In his *Religion Within the Boundaries of Pure Reason* he writes

> One can also define conscience thus: *it is the moral power of judgment, passing judgment upon itself*, except that this *Definition* would be much in need of prior explanation of the concepts contained in it. Conscience does not pass judgment upon acts as cases that stand under the law; for reason does this so far as it is subjectively practical (whence the *casus conscientia* and casuistry, as a kind of dialectic of conscience): on the contrary, here reason passes judgment on itself, whether it has actually undertaken, with all diligence, the judgmentation of acts (whether they are right or wrong), and it calls upon the human being himself to witness *for* or *against* himself whether this has taken place or not [KANT12a: 203 (6: 186)].

We mark well the "need of prior explanation of the concepts contained in" this high and noble common conception of the idea of 'conscience.' Indeed, it is with this 'prior explanation' that we are currently engaged in this treatise. No one regards the 'transitoriness' of the sucking reflex in 'moral' terms. The phenomenon of the feeling of conscience does not validate making 'conscience *per se*' a primitive in our theory. Furthermore, the feeling of conscience (for those who have experienced it) is typically exhibited *ex post facto*. We may 'feel uneasy about having to do' something, but this feeling is not what people usually mean when they talk about the feeling of conscience. The 'full force' of the feeling of conscience (i.e. its highest degree) is not felt (or, at least, not fully felt) until after the deed is done and its consequences are made part of experience. The feeling of conscience appears to be closely related to the feeling of regret (e.g., "I wish I hadn't done that" or "I wish I hadn't had to do that") as well as to other affective perceptions of such a type that it is common to say of someone who experiences them, "he is tender-hearted" (e.g., someone who 'feels bad' about having to trap and kill a gopher that has been digging up his lawn or poison birds that have been pecking holes in his house).

These affective phenomena point to a process of *reevaluation* in the motivational dynamic, not to a process of *evaluation*. A process necessarily presupposes *rules* a priori for the government of that process, and such a rule is the practical counterpart of those rules we call

notions of understanding (the categories). Such practical notions (as we will call them) pertain to one or the other of two processes in practical Reason: practical judgment (in structuring the manifold of rules) or choice (in the determination of appetites). We will deal with the latter in §7; in this section we will address the former. To these practical notions we will give the name **categories of freedom**, and they stand as the *momenta* of the process of practical judgment.

§ 6.1 The *Momenta* of Quantity

The Schematism of the Practical Ideas of Quantity

Judgments of Quantity in general pertain to forms of aggregation. In logical character *momenta* of Quantity are either singular, particular or universal (general). In coming up with the *momenta* of Quantity in practical judgment we call upon the Ideas of Quantity in our metaphysics proper from the practical Standpoint. These are:

> Axioms of Intuition: The extensive magnitude in an intuition is the aggregation of effects in sense of those practical acts of appetitive expression that are validated under the manifold of rules (logical-practical perspective);
>
> Psychological Idea of Quantity: Unconditioned unity of the rules of action in the multiplicity in subjective time (transcendental-practical perspective);
>
> Cosmological Idea of Quantity: Absolute completeness in the composition of all wants (hypothetical-practical perspective); and
>
> Theological Idea of Quantity: Synthesis of all practical perfections in one Object, namely in universal law subsisting in a manifold of rules (empirical-practical perspective).

The physical Idea (Axioms of Intuition) is the principle for bringing the noetic structure of the practical manifold of rules into experience. From the theoretical Standpoint representation in an intuition *presents* an object of sensible appearance and, because this presentation is not judged by the process of determining judgment, it is a ‘Self-evident truth’ at the moment of its presentation. This is why in the Critical Philosophy we say that the representation of an intuition is also the making of an ‘axiom’ of Nature. From the practical Standpoint the principle of the Axioms of Intuition is the Idea of the original possibility for sensibility to become *organized* as objective perceptions. What may perhaps be the most radical or unexpected aspect of the organization of perceptions under this principle is the role played in it by *practical* Reason. Historically, scientists and philosophers alike have tended to put ‘perception’ and ‘reason’ into

two quite separate compartments and to treat them as independent phenomena. The practical perspective of the Axioms of Intuition quite simply strikes down this presumption. After decades of research Piaget reached a quite similar conclusion, which is worth quoting at length.

> All knowledge has to do with structures, while affective life provides the energetics, or more precisely, the economics of action[1] . . . To know is to construct or to reconstruct the object of knowledge in such a way as to capture the mechanism of that construction . . . This is equivalent to saying that to know is to produce something in thought in such a way as to reconstitute the 'way in which phenomena are produced' . . .
>
> In other words, while operations elaborate general frameworks and tend to reduce the real to structures of deducible transformations, perception is of the *here and now* and serves the function of fitting each object or particular event into its available assimilative frameworks. Perception is not therefore the source of knowledge, because knowledge derives from the operative schemes of action as a whole. Perceptions function as connectors which establish constant and local contacts between actions or operations on the one hand, and objects or events on the other. Perceptual messages are transmitted in a figurative form, which is the only form available, and are decoded by being integrated, as far as possible, into the system of transformations . . .
>
> In regard to its polarization towards the object, the figurative aspect of knowledge is tied to the *here and now* and consequently does not allow comparisons to be made at sufficiently great spatio-temporal distances for the transformations to be structured . . . The result is that, in regard to the object, perception is neither the source of knowledge (information provided by it acquiring significance only when assimilated to sensorimotor schemes), nor a reliable connector (information provided by it having to be completed and corrected before it can lead to assimilation).
>
> At the subjective pole, however, perceptual activities themselves are already susceptible to some extent to those processes of elaboration and of corruption. They are also susceptible (even while sedimenting into field effects) to early forms of assimilation and of schematization under the influence of sensorimotor and then of representational activities. The figural aspect of knowledge tends, therefore, to be organized by the subject, through perceptual activities, into configurations which are homogeneous with the transformations. In other words, they can be used as links between two determinate transformations of a coherent system, and perception thus provides the connective service expected of it [PIAG20: 356-360].

Here Piaget points out, in no uncertain terms, that objective perception is as dependent upon the actions of the perceiving Subject as it is upon the capacity for receptivity through the organs of sense. We caught something of the flavor of this in our previous chapter discussing the pure intuition of space as the synthesis of topological forms. This synthesis calls upon motor actions, e.g. the directing of the glance, so that the Subject does not merely 'receive' but rather *seeks* specific information from the data of the senses.

Piaget's research, both from his own contributions and from points of commonality where his findings touched those of the Gestalt school, left him in no doubt that there is an *a priori* substrate upon which the phenomenon of perception is laid. Most tellingly, this substrate contains acts of *decision* and *choice* as factors. In *The Mechanisms of Perception* he goes on to say,

> The epistemological problem of perception occurs at two levels. The first concerns the classical problem raised by sensualists and empiricists: given that perception provides us with adequate

[1] Economics in Janet's sense of the regulation of forces.

knowledge of the object, to what extent does all knowledge derive from perception? The second concerns the same question at a more elementary level: to what extent, if at all, does perception provide us with adequate knowledge of the object?

There is no need to discuss the first problem again, our preferred solution having been explained in Chapters VI and VII [of *Mechanisms*]. This solution rejects the idea that everything that is involved in intelligence has passed through the senses: '*Nisi ipse intellectus*'[2] as Leibniz remarked profoundly, but it is still necessary to reach agreement on what is meant by *intellectus*. If it means the sensorimotor schemes and all the logic of action, then one can only agree with Leibniz. But if its meaning is restricted to the system of operations of representational thought, then it would be wrong to concede to empiricism that the entire content of intelligence derives from the senses, because the schematization of action contributes to that content (each succeeding structure providing a content for higher structures and a form for lower structures) even if the schemes as such are not perceptible. In other words, it is impossible simply to divide cognitive functions into perception ('the senses') and reason, because action as a whole is both the point of departure for reason and a continuous source of organization and of reorganization for perception.

However, the most telling reply to empiricism does not lie in this Leibnizian rationalism but rather in the reversal of positions effected by Kant in regard to both perception and to intelligence . . . Kant was undoubtedly right in claiming that perception is organized from the outset, that it does not proceed from an association between isolated sensations, and that the same subjective sources which underlie the categories of understanding underlie perceptual organization . . .

There is no need to remind the reader that we base our principal objections to empiricism on the considerable contributions made to perceptual processes by the activities of the subject, and on the role played by choice and decision in those activities. The subject does not submit himself to the constraints of the object but directs his perceptual activities as if he were solving a problem: he explores, first choosing the points of centration, then relates objects to their contexts, transports, anticipates and so on. What is most remarkable is the number of steps involved in making even the most elementary estimation, such as size: far from remaining simply receptive, the subject proceeds by a method of sampling, selecting the most profitable point of centration, hoping thereby to multiply encounters and to co-ordinate them by an exercise of couplings . . . When it becomes a question of the 'identification' of objects, even more complex activities are required, as the models of Bruner and of Bresson suggest when they introduce such concepts as 'filtering', temporal schemes, 'theories', 'decisions', etc. All of this argues against the notions of associationism.

Apriorist notions of perception are found in certain trends of the Gestalt school . . . Authors like Metzger interpret the most general geometric "Gestalts' in an authentically Kantian sense when they claim to discern in them those 'conditions of organization which are preliminary to all experience'. We have already pointed out . . . that the idea of perceptual schematization, whose importance the present work has underlined, is subject to a similar inspiration, but in the sense of a genetic and not a transcendental construction[3] . . . [The] perceptual conditions which are supposed to be preliminary to experience are not necessarily *anterior* to it: it may rather be a question of processes of equilibrium which intervene after, but not before, the subject's first contacts with the object. These processes would then govern that experience from the beginning by supplying the immanent (but not the transcendental) conditions of its structuring.

In general, the interaction between subject and object is not brought about by a form of organization which is independent of development and has no genesis. On the contrary, the interaction is due to an endless construction of new schemes by the subject during his development,

[2] 'except understanding itself.' Piaget mildly misquotes Leibniz. The quote he refers to was, in full, *Nihil est in intellectu quod prius non fuerit in sensu . . . nisi intellectus ipse*, 'Nothing is in understanding that has not been previously in the senses . . . except understanding itself.'

[3] Like many scholars, Piaget tends to regard and use the word 'transcendental' as implicating something which 'transcends human experience but not knowledge.' It is a common misunderstanding of Kant's philosophy. 'Transcendental' implies 'necessary for the possibility of experience', and taken properly in this context does refer to what Piaget here calls 'the immanent conditions' of structuring experience.

> schemes to which he assimilates the perceived objects and in which there are no definable boundaries between the properties of the assimilated object and the structures of the assimilating subject. As we have already said in the Introduction, it is necessary to oppose the geneticism without structure of empiricism and the structuralism without genesis of Gestalt phenomenology with a genetic structuralism in which each structure is the product of a genesis and each genesis merely the passage from a less evolved structure to a more complex one. It is in this context of an active structuring that the exchanges between the subject and object take place.
>
> What, then, is the nature of such exchanges, and to what extent do they allow us to think of perception as being adequate to the object? The same conclusions apply to perception as to all knowledge: (1) objectivity is constructed on the basis of, and in proportion to, the activities of the subject; (2) the initial state of each process does not provide the properties of the object but an undifferentiated mixture of the contributions of the subject and the object; (3) it is by decentring himself from these initial states that the subject succeeds in gaining control over his structures, by co-ordinating them, and in simultaneously attaining the specific characteristics of the object by correcting deformations produced by his initial centrations . . .
>
> In the end, the relative adequacy of any perception to any object depends on a constructive process and not on an immediate contact. During this constructive process the subject tries to make use of whatever information he has, incomplete, deformed or false as it may be, and to build it into a system which corresponds as nearly as possible to the properties of the object. He can only do this by a method which is both cumulative and corrective, and which, in perception, is based on decentration or on a consideration of successive centrations which correct one another's deformations. It is of great interest to find this event of decentration occurring even at the perceptual level, because it appears in one form or another as a necessary condition for cognitive adaptations at all levels of the elaboration of knowledge. It is only by decentring himself from himself that the subject manages to escape from factors which are called 'subjective' because they are deforming, and to adopt activities which are also called 'subjective' (but in quite another sense) because they are co-ordinating, and which allow him to achieve objectivity [PIAG20: 361-366].

I present this lengthy quote to you without apology, for in it we find a vivid scientific confirmation of effects implicated by the practical acroam of Axioms of Intuition. Every word in the above quote should be carefully reflected upon. All that Piaget's findings lack is a statement of what underlying condition must be present in order for the actions of structuring of which he speaks to turn up in one way in experience rather than in another. Piaget makes mention of 'the role played by choice and decision in these activities' and, from his normative convention, this behavior, as an effect which implicates *acts* of choosing and deciding in perceptual activities, is quite observable. But where is the *ground* for choice and decision in this? As a mental (noetic) object, the *process* of choice and the *process* of decision-making require a principle *a priori* for their possibility, and this is what the practical acroam of Axioms of Intuition provides. To use the jargon of system theory, it 'closes the loop' by reciprocally combining the sensible and intelligible characters of the Organized Being so that the *nexus finalis* character of the causality of freedom meets up with the *nexus effectivus* character of causality in appearances, and in this form of combination we finally find that Object in which these two can be as one and which we can justly call **causality *per se***.

From here we pass next to the empirical Idea of Quantity (*entis realissimi*) to seek out the

metaphysical matter of the task of practical judgments of Quantity. Here we find the aim of Reason from the empirical perspective is absolute practical perfection, i.e. acting to make perfect, and that this subsists in the manifold of a practical rule structure as universal law. However, we must at once understand what the adjective 'universal' means in this context. Perfection is an ideal under the Ideal of *summum bonum*. As such, it is not the achievement of perfection that is knowable in any fashion by the Organized Being; rather, it is only actual *imperfection* that stands as a possible object of judgmentation in general. A structure of rules is held-to-constitute a system of universal law only so long as no exceptions to it are encountered in experience. From this it follows that the *momenta* of Quantity in practical judgment are to be seen as practical notions by means of which it is possible for the Organized Being's practical rule structure to be built up and amended in the march of experience yet still remain systematically organized. The *momenta* of Quantity are practical notions of the form of composition for this structure – which is to say they are rules for the manner in which compositions in the manifold are held-to-be-congruent with respect to the universal Ideal.

We again must expect this acroam to implicate effects in the Nature of the Organized Being's behaviors, and again we find the flavor of practical judgment just described being reflected in psychological studies of learning and development. Inhelder et al. provide us with a look at the role of conflict in learning behaviors and cognitive development in a major work, *Learning and the Development of Cognition*. In the opening remarks of their conclusions we are told,

> The main goal of our learning studies was to get a better insight into the transition (or construction) mechanisms which enable children to attain certain concepts that are essential for scientific thought . . . The epistemological conviction that progress in human knowledge results from dynamic processes which imply self-regulatory mechanisms led us to pay close attention to clashes between the different patterns of thought that constitute a subject's competence at a certain level of his development, to the conflicts resulting from these clashes, and, especially, to the different ways these conflicts can be resolved. Two different types of conflicts can be observed. First, different subsystems, each developing at its own developmental rate, can create a conflictual situation, since one system may have already reached a more advanced state than another. Second, the child's reasoning may be at a level where he becomes aware that experimental reality does not conform to his deductions or inferences [INHE2: 242].

The 'epistemological conviction' to which Inhelder et al. refer is the body of theory developed over many years by Piaget, particularly the theory of assimilation. (Inhelder and Piaget are long time collaborators). One tenet of this theory is that disturbances (i.e. 'conflicts' and 'clashes') are necessary conditions for the induction of adaptation behavior. Thus, 'conflicts' and their manner of resolutions by the subjects of the study provide the 'window' into the mechanisms of cognitive development. Hence the target of their study was acquisition processes in learning.

Their first and principal conclusion is that, indeed, learning processes do "in deed" follow the Piagetian pattern of build-up through assimilation and accommodation of earlier schemes. They write:

> The nature and extent of the subjects' progress was always, in fact strikingly so, dependent upon their initial developmental level; in other words, progress depends on the assimilatory instrument a subject already has at his disposal. Generally speaking, the hierarchical order of the subjects, first established according to their level of reasoning in the pre-test, remained the same in the two post-tests . . . However, the gaps between the achievement levels of certain subjects were considerably greater after training than before . . . To account for these effects, it would appear necessary to invoke internal mechanisms which adapt and transform external data according to certain developmentally determined organizational patterns.
>
> Comparison of the results of the two post-tests brings to light an interesting phenomenon: in certain cases, the acquisitions observed at the first post-test showed perfect stability, and were confirmed at the second post-test; in other cases, there was no such stability and the second post-test showed either an improvement or a deterioration compared to the first. Once the subjects had shown a clear understanding of a conservation or class inclusion concept, no changes were observed in their way of reasoning; the concept attained showed the stability of a truly operatory construction. By contrast, many of the subjects who at the first post-test reached one of the intermediate levels either regressed or progressed at the second post-test. It seems that regressions occur when the subject only momentarily establishes certain coordinations suggested by a specific situation: his reasoning remains strictly local, cannot be generalized to other situations, and is probably not accompanied by the feeling of logical necessity that is another characteristic of a truly operatory construct. Delayed progress, on the other hand, is a more interesting effect of the disequilibrium created by partial acquisition. Some of the subjects progressed from an intermediate level at the first post-test to an operatory level at the second, while others made considerable advances, although not to the same level . . . The comparison of pre-tests and post-tests of all our experiments taken together leads to the conclusion that the findings fit the conception of learning as an integral part of the developmental mechanisms [INHE2: 244-245].

And what was the Nature of these developmental mechanisms? These conclusions are those which speak to the implications of the empirical Idea as a regulative principle for responding to the experience of imperfection:

> Study of the developmental relationships and connections between the acquisition processes of conservation and class inclusion concepts highlights the dynamic role played by the progressive coordinations between the various subsystems during their construction. These coordinations may lead to temporary disequilibria, which provide the impetus for new constructions, or they can lead to stable equilibria through mutual consolidation. The disequilibria are experienced by a child as conflicts or contradictions. His efforts to resolve such conflicts lead to interactions between schemes, and it is these interactions that often result in the compromise solution or partial compensations invented by children just before they become able to give fully compensatory operatory solutions.
>
> The frequent occurrence of such behavior in the learning experiments reinforces the conception of a regulation-based model for the functional continuity that links one level of cognitive development to the next, whereas it is the structural analysis of the operations which defines the separation between stages . . .
>
> A common factor in the logical inclusion and conservation of continuous quantities situations appears to be that the explicit juxtaposition of two or several schemes leads to a conflict and then to an attempt to relate the schemes. When this occurred in experiments on infralogical problems, it was actually possible to observe how, through retroactive and 'pro-active' corrections, the regulations

> modified the interaction of the schemes and so prepared the complete coordinations from which new structures are derived. In the case of logic, the regulations become apparent when the children realized the contradictions in the succession of different answers that they had been giving to the various questions.
>
> The mechanisms bringing about improvement and progress in the various forms of equilibrium consist, first, in an application of existing schemes to an increasing variety of situations. Sooner or later, this generalization encounters resistance, mainly from the simultaneous application of another scheme; this results in two different answers to one problem and stimulates the subject seeking to a certain coherence to adjust both schemes or to limit each to a particular application, thereby establishing their differences and likenesses . . . Not only are disturbances or imbalances mentally compensated for, but new constructs are established through regulatory mechanisms, which themselves undergo further development during the acquisition process [INHE2: 258-265].

We note here not only the role of disturbances (‘disequilibria’) in the child’s construction and coordination of subsystems, but also the last sentence, i.e. that not only must there be regulative ‘mechanisms’ at work, but these ‘mechanisms’ are themselves targets of adaptation.

It is a not-infrequent objection to Piaget theory that the factor of biological maturation cannot be ruled out as a possible explanation of the experimental observations. Inhelder et al. took this question firmly by the horns in their studies. Is maturation the ‘real factor’ at work? Their conclusion was unequivocal:

> In sum, cognitive process, as observed in our learning research, cannot be interpreted according to a maturationist model or according to an empiricist theory. Since neither external factors nor purely internal factors are sufficient by themselves to explain the dynamics of acquisition of knowledge, and since there is no absolute beginning, only a model that reflects the continuity between the biological genesis and the development of the cognitive functions is appropriate. Such a model is provided by the concept of an epigenetic system where each new stage incorporates the preceding ones, and where the influence of the environment becomes progressively more important . . .
>
> Regulatory mechanisms play an essential part both in cognitive development and in organic life, since they participate in two processes fundamental to all living activity, which also constitute the two poles of learning: the preservation of existing structures, on the one hand, and their modification or enrichment in response to the needs of adaptation, on the other [INHE2: 271].

It was not long after the publication of *Learning and the Development of Cognition* that Piaget brought out *The Development of Thought*, in which he formally set down the general theory of the central ‘mechanism’ of equilibration.

Thus far we have seen two properties of Quantity in practical judgment: aggregation of rules and striving to perfect them as a structure giving universal practical law. We next turn to the psychological Idea of Quantity. In what do we find the fundamental character of universality in a structure of practical law? The transcendental-practical perspective of Quantity tells us that this is none other than unconditioned unity of the rules of action in their multiplicity in subjective time. Disequilibrium is disunity so far as practical judgment is concerned, and accommodation in the structure of the manifold of rules is aimed at unity-producing assimilation.

> From hereditary structures onward, we see, side by side with the internal and physiological organization of reflexes, cumulative effects of practice and the beginnings of problem-solving, which marks the first reactions at a distance in space and time by which we defined "behavior" . . . These commonplace observations show that even within the closed field of hereditarily governed mechanisms there emerge the beginnings of reproductive assimilation of a functional order (practice), generalized or transpositive assimilation (extension of the reflex-pattern to new objects) and assimilation by recognition (discrimination between situations).
>
> It is in this already active context that the first acquisitions due to experience come to find a place (since reflex action does not yet lead to any genuinely new acquisitions but simply to consolidation). Whether we are concerned with an apparently passive co-ordination such as conditioning . . . or with a spontaneous extension of the scope of the reflex . . . in both cases the elementary forms of the habit grow out of an assimilation of new elements to previous schemes which are in essence reflex-schemes. But it is important to realize that the extension of the reflex-schemes, through the incorporation of a new element, involves by this very fact the formation of a scheme of a higher order (a genuine habit), which then integrates the lower scheme with itself. So the assimilation of a new element to a previous scheme implies the integration of the latter, in its turn, with a higher scheme [PIAG29: 110-111].

Finally, we turn to the cosmological Idea of practical Quantity. This is the Idea of the synthesis of acts of practical judgment and the motivational dynamic of want. The aim of this synthesis is absolute completeness in the composition of all wants. As such it is a regulative principle for the acts of practical judgment (since, even in the practical Standpoint, we cannot claim *a priori* knowledge of a rational *measure* of absolute completeness in composition). In the context of the process of practical judgment, this is the Idea of a *practical presupposition* that for every Desire there must be a means of satisfaction. A necessary character of the form of composition in a perfected manifold of rules is that for every Desire presented through reflective judgment there is a corresponding rule for the evaluation of actions by which that Desire is satisfied without an accompanying dissatisfaction elsewhere.

The Practical Notions of Quantity

The manifold of rules is a constructed structure within the general faculty of pure practical Reason. As such, its regulative role in the actions of an Organized Being falls under the scope of non-autonomic regulation. Reason does not propose motoregulatory actions; it passes judgment upon the acts of reflective judgment and either permits or vetoes the actions to be expressed from these acts. The 'hereditary reflex-scheme' of which Piaget speaks is sensuously determined and, at the beginning of life, appears to require no participation from a noetic act that must be laid to the causality of freedom. Thus, the 'hereditary reflex-scheme' in appearance belongs to autonomic action (in the general sense we discussed in Chapter 19) and its determination in *reflective* judgment is a capacity we can call an *arbitrium brutum* in the Organized Being.

The process of practical judgment does not subsume Desires under the practical notions of

the categories of freedom. Indeed, if no real oppositions contrary to formal expedience were able to arise in impetuous reflective judgment we would be hard-pressed to see how the concepts of ‘choice’ and ‘arbitration’ could have any objectively valid meaning or even how such ideas could arise in the first place. Now, let us recall that an *appetite* is a determination of the appetitive power of the Organized Being, and that appetitive power is nothing else than the capacity of the Organized Being to become, through its representations, the cause of the actuality of the object of those representations. The categories of freedom in Quantity do not judge the action (because an action is an appearance, and pure Reason has no immediate interest in appearances). What, then, is left for them to judge? The only answer we can give with practical objective validity is that they judge the *form of appetite*, and this only insofar as concerns the relationship of Desire, presented as formally expedient through reflective judgment, with respect to the supreme condition of the categorical imperative. The *momenta* are notions of the *form of validation of Desire*. An appetite is a validated Desire; we could say it is like a ‘practical intuition’ of action.

In terms of representations, the ideas of Quantity in our 2LAR of general representation are identification, differentiation, and integration. If we are to regard (as we shall) the practical notions of Quantity as rules of representation, we will need to understand what these three ideas signify in the practical Standpoint. A practical notion is an *a priori* rule for *marking* the relationship of a judicial representation of Desire with respect to the ground of determination of appetitive power. An appetite can be viewed in this context as a problematic Desire made an actual *causatum* of action. This, however, does not mean that every representation contained in the manifold of Desires is made to be an appetite. The act of determination of appetitive power is a *synthetic* act insofar as a mere representation (Desire) is combined with the *Kraft* of practical Reason and made a *causatum*. The act of determination of appetitive power is an *analytical* act insofar as some parts of the manifold of Desires are *not* combined with the *Kraft* of Reason. The act of determination of appetitive power is an *anasynthetic* act insofar as a part of the manifold of Desires is held-to-be-lawful under the categorical imperative but not sufficient for a *complete* validation of the represented act as a lawful act, and therefore insufficient to be made a *causatum* of action. Comparing this three-fold character of practical Quantity with the schematism of the transcendental-, hypothetical- and empirical-practical perspectives of practical judgment under the transcendental Ideas, we see that to this schematism corresponds three *modi* of form of composition in the process of making a practical judgment. The synthetic act *identifies*, the analytic act *differentiates*, and the anasynthetic act *integrates*. The notions of Quantity seen from the practical Standpoint are ‘verbs.’

We said earlier that the determination of reflective judgment can be called a capacity for

arbitrium brutum (‘brute choice’) in the Organized Being. But because the mere representation of Desire presented in this capacity of judgment must pass scrutiny under the manifold of practical rules before it becomes a *causatum* of action, appetite is not necessarily *bound* to Desire. Thus we do not say of the Organized Being that the determining of its actions is *arbitrium brutum*. An act of practical judgment establishes conditions of validation for acts of reflective judgment and is thus necessary for *arbitrium liberum* (‘free choice’) in the Organized Being.

We also said earlier in this treatise that the manifold of Desires is not a structure and reflective judgment by its acts does not form structures of affective perceptions. In contrast, the manifold of rules *is* seen as a practical structure. But is Desire the matter of appetite, and if so are we then required to view Desire-as-appetite as a structure that is also not-a-structure? Put another way, is Desire that-which-is-subsumed in the manifold of rules (and therefore structured) or is it not? and in case of the latter then what *is* the matter of the manifold of rules if not Desire?

Here we again remind ourselves that a rule is an assertion under a general condition. Desire is a mere representation presented in reflective judgment and as such is a representation of a practical condition. From the practical Standpoint *the represented Desire is a condition of a rule but is not itself the rule*. The matter of the manifold of rules is the *what-can-be-asserted* in the determination of the appetite and, equally, the *what-cannot-be-asserted*. **The matter of composition in the manifold of rules is a ‘ruling’** regarded as *a condition of expression*, either motoregulatory in somatic actions or ratio-regulatory in speculative Reason or both.

We are now in a position to state the Nature of the *momenta* of Quantity in practical judgment. They are the practical notions (rules about rules) for marking the *manner of expressing an appetite*. If the manner of expression (the action), regarded as an *Unsache*-thing, is a purely synthetic outcome of the making of an appetite then it is logically *singular* and the manner of expression is as ***an appetite of instinct***. Now, to be a ‘purely synthetic’ outcome means that the condition of the rule (the Desire) has never undergone analytical division in the determination of appetite *and* that the condition is furthermore a *sufficient* condition for the expression of action. To be a sufficient condition means that the representation (in reflective judgment) is judged as singularly expedient, i.e. it lacks nothing as a determination of formal expedience and therefore fully constitutes a complete condition of formal expedience in Nature. An appetite of instinct is a manner of expression that is conceptualized as a unity when we understand it from the theoretical Standpoint. (The scheme of the sucking reflex prior to the formation of the first habits into which it is assimilated is an example of an appetite of instinct). So far as we regard the action in terms of a ‘satisfaction of the good’ (to use Kant’s terminology in *Critique of Judgment*), the action of an instinct is regarded as ‘good in itself’ and ‘performed for its own sake.’ It requires no additional

condition for its actualization other than its mere form of expedience, which means that in experience the expression of the action has never produced an effect in sensibility inexpedient to the categorical imperative (has never failed to produce a state of equilibrium). It is obvious that the *Existenz* of such a form of composition in expression is necessary for the possibility of the construction of habits because if there were no such 'blind appetites' as instincts the genesis of meaningful experience[4] could not be possible.

The other two *momenta* of practical Quantity involve an anasynthesis in judgmentation. When we previously discussed the manifold of rules (Chapter 19 §4) the synthesis of practical concepts involved the regulation of appetitive power by practical judgment. The remaining two practical notions of Quantity are rules of the form of composition which consequently are applied in the midst of active judgmentation, and what serves to distinguish them is the generality of the resulting *structure* for various purposes. On the one side a purpose can be *particular*, i.e. the context of the overall activity is satisfied by a particular end. On the other side, the purpose can be non-specific (generalized), i.e. the context of the overall activity is placed in attainment of a purely intelligible satisfaction. In this consideration it is worthwhile to bring up again Kant's remarks on the metaphysics of appetition:

> That which is the cause of the appetite is the *causa impulsiva* or *elater animi*. Now if they arose from sensibility then they are called *stimuli* and their effect *appetitio per stimulos* or sensuous appetite. Otherwise they spring from understanding; consequently they are called *motiva*[5], their effect *appetitio per motiva* or intellectual appetites . . . If the *stimuli* have become habitual then they are inclinations and their source is instinct or habit – habitual sensuous appetites are passions. As appetites and affects they concern sensation [KANT19: 262 (29: 895)].

From the practical Standpoint, the distinction here is one of the transcendental place of the disequilibrium with which Reason must deal. The *Lust-Kraft* of *psyche* has two 'triggers,' one somatic in origin and the other noetic, and likewise the extinguishing of the degree of *Lust per se* can take place from either sensuous satisfaction (based on receptivity) or intellectual satisfaction (based on understanding through judgmentation). All appetites are determinations in regard to *Lust* or *Unlust*. In the case of instincts the transcendental place of *Lust per se* clearly lies on the somatic side of *psyche*. In the case of the second notion of Quantity, which we call ***inclination***, the notion is a rule directed at a satisfaction of *Lust per se* that contains both somatic and noetic grounds of satisfaction. Such a rule is characteristic of a practical *maxim*.

In the case of the third practical notion of Quantity, the extinguishment of *Lust per se* is achieved only from grounds of satisfaction that lie wholly upon the noetic side of *psyche*. This we

[4] Recall that a meaning always grounds its *Realerklärung* in an action.
[5] 'motives.'

might term a satisfaction in the pure form of the manifold of rules, which serves the categorical imperative through equilibration in a 'higher' and 'more robust' equilibrium in a 'law about rules' (i.e. in a practical hypothetical imperative of pure Reason). In the case of such a judgment the presentations of reflective judgment present a formal expedience primarily 'weighted' by contributions in sensibility that arise from the free play of imagination and understanding (that is, the synthesis of comprehension) and the appetitive power's object of realization is intelligible (an exhibition in intuition of an ideal). We follow Kant here and call this practical notion an ***intellectual appetite***.

The three categories of freedom in Quantity can thus be seen to have the following logical character:

practically singular:	instinct
practically particular:	appetite of inclination
practically universal:	intellectual appetite.

These are the practical notions of the form of composition of the manifold of rules.

§ 6.2 The *Momenta* of Quality

The Schematism of the Practical Ideas of Quality

The categories of freedom with respect to Quality are practical notions of the matter of composition of the manifold of rules. Their character is set by the transcendental Ideas of Quality in the four practical reflective perspectives. These are:

> Anticipations of Perception: The degree of perception is a consequence of the regulation of sensibility through validation of acts of reflective judgment;
>
> Psychological Idea of Quality: Unconditioned unity of value;
>
> Cosmological Idea of Quality: Absolute value in the division of a given whole of *Existenz*;
>
> Theological Idea of Quality: The regulatory principle of good choice under an original Ideal of absolute goodness (Ideal of *summum bonum*).

The negation of the intensive magnitude of *Lust per se* is the subjective goal of every action because negation of the degree of feeling of *Lust per se* is the affective mark of equilibrium. Now, an intensive magnitude is a unity thought as containing a multiplicity. Reflective judgment presents a Desire, and this Desire is presented as a unity in judgment of expedience. We have,

however, noted that the act of determination of appetitive power involves an analytical act, which is a division of the unity of Desire we can do little better than to regard as an exposition of the multiplicity within it. Acts of reflective judgment made distinct in this division do not lose their affective character of formal expedience merely because they may not be validated. Rather, a place for them must be found within the *value structure* of the Organized Being. This is the practical-physical Idea of Anticipations of Perception. 'Values' are 'means' for organizing processes of equilibration (Chapter 19 §6), and value structure is the *practical* totality of all such 'means.' Piaget tells us,

> Every response, whether it be an act directed towards the outside world or an act internalized as thought, takes the form of an adaptation or, better, of a re-adaptation. The individual acts only if he experiences a need, i.e., if the equilibrium between the environment and the organism is momentarily upset, and action tends to re-establish the equilibrium, i.e., to re-adapt the organism (Claparède). A response is thus a particular case of interaction between the external world and the subject, but unlike physiological interactions, which are of a material nature and involve an internal change in the bodies which are present, the responses studied by psychology are of a functional nature and are achieved at greater and greater distances in space (perception, etc.) and in time (memory, etc.) besides following more and more complex paths (reversals, detours, etc.). Behavior, thus conceived in terms of functional interaction, presupposes two essential and closely interdependent aspects: an affective aspect and a cognitive aspect.
>
> There has been much discussion on the relations between affect and cognition. According to P. Janet, a distinction must be drawn between 'primary action' or the relation between the subject and object (intelligence, etc.) and 'secondary action' or the subject's reaction to his own actions; this reaction, which constitutes elementary feelings, consists of regulations of primary action and ensures the release of energy available inside the organism. But besides these regulations, which determine the energetics or inner economy of behavior, we must, it seems, take into account those which govern its ends or values, and such values characterize an energetic or economic interaction with the external environment. According to Claparède, feelings appoint a goal for behavior, while intelligence merely provides the means (the 'technique'). But there exists an awareness of ends as well as means, and this continually modifies the goals of action. In so far as feeling directs behavior by attributing a value to its ends, we must confine ourselves to saying that it supplies the energy for an action, while knowledge impresses a structure on it . . . We shall simply say that every action involves an energetic or affective aspect and a structural or cognitive aspect, which, in fact, unites the different points of view already mentioned . . . Will itself is to be thought of as a matter of affective, and therefore energetic, operations, bearing on higher values, and making them capable of reversibility and conservation (moral feelings, etc.) just as the system of logical operations does so for concepts . . .
>
> Affective life and cognitive life, then, are inseparable although distinct. They are inseparable because all interaction with the environment involves both a structuring and a valuation, but they are none the less distinct, since these two aspects of behavior cannot be reduced to one another . . . Furthermore, intelligence itself does not consist of an isolated and sharply differentiated class of cognitive processes. It is not, properly speaking, one form of structuring among others; it is the form of equilibrium towards which all the structures arising out of perception, habit and elementary sensori-motor mechanisms tend. It must be understood that if intelligence is not a faculty this denial involves a radical functional continuity between the higher forms of thought and the whole mass of lower types of cognitive and motor adaptation; so intelligence can only be the form of equilibrium towards which these tend . . . Every structure is to be thought of as a particular form of equilibrium, more or less stable within its restricted field and losing its stability on reaching the limits of the field. But these structures, forming different levels, are to be regarded as succeeding one another according to a law of development, such that each one brings about a more inclusive and stable

> equilibrium for the processes that emerge from the preceding level. Intelligence is thus only a generic term to indicate the superior forms of organization or equilibrium of cognitive structurings [PIAG29: 4-7].

We may note that Piaget seems to have left out of this picture the idea of a practical manifold of non-cognitive rules. However, this idea is implicit in his idea of *regulations*, and our practical manifold of rules is well thought of as a *structure of regulations*. In Piaget's theory, a structure of regulations (i.e., 'regulations of regulations') does play a key part (see Piaget's *The Development of Thought* [PIAG19]). Acts can logically be said to 'have a particular value' only inasmuch as the act is *validated*, i.e. *valued*, by the Organized Being.

Now, a structure is a system and so a value structure is a system of particular values (validated acts). However, this necessarily presupposes an Idea of a unity, and this is the psychological Idea of value *per se*. Just as Reality must be viewed as the necessary substratum or backdrop against which all 'realities' are viewed as limitations, absolute value must be viewed as a substratum within which all particular 'values' are seen as limitations. Thus, the practical notions of Quality are functions making transcendental affirmations, negations, or limitations (transcendental negation viewed as transcendental affirmation) of values.

The cosmological Idea of absolute value *in the division* of a given whole of *Existenz* is an Idea of completeness in the value of a given circumstance of *Existenz*. To put this in other words, it is the Idea that 'a value' is a manifold, within which there is a 'central' or 'core' value, a sort of nucleus about which the *Existenz* of the particular value coalesces. We can also view this Idea by analogy with Kant's metaphysical idea (in his *Metaphysics of Natural Science*) of a moving power, i.e. a 'core value' is something which 'attracts' some characteristics of *Existenz* 'to' this value and 'repels' other characteristics which are not 'part' of it. In more psychological parlance, it is the idea of 'the reason' why a specific act is valued or not valued. Here again, however, we must bear in mind that the transcendental Ideas are regulative, not constitutive, and we must therefore not expect to specifically *identify* such a 'core value.' It is the necessary *practical* presupposition that *there is* such a 'core value' (in the *Dasein* sense) that regulates practical judgment, and indeed this regulation underlies the practical validity of analytic acts in the determination of appetitive power.

Finally, the theological Idea of Quality is the regulative principle of 'good choice.' The Idea tells us that no non-autonomic action is to be regarded as 'idle' or 'lacking purpose.' This purpose need not be profound, exalted, or sublime. Indeed, many actions are apparently trivial. Humming while one works is such an example. In the practical sphere, 'good choice' means that the action serves the categorical imperative, either through *Lust* (bringing something into actuality in *Existenz*) or *Unlust* (preventing or abolishing the actual *Existenz* of something).

The Practical Notions of Quality

After all that has gone before, it is perhaps likely that by now the practical notions of Quality may be obvious. An act of presentation in reflective judgment is *made a value* by a transcendental affirmation of practical judgment. We call such an affirmation the practical act of validating an action. This *momentum* of judgment asserts that the action which reflective judgment asserts as formally expedient is, within the composition of the manifold of rules, not in disagreement with the structure of universal law. We call this category of practical Quality **validation**.

A particular action asserted as expedient in the act of reflective judgment may, on the other hand, come into conflict with universal law in a particular context. As the Greeks loved to point out, something which is ‘good for something’ is also ‘bad for something else.’ In economic theory a monopoly market is ‘good for the supplier’ but ‘bad for the consumer’ while perfect competition in a market is ‘good for the consumer’ but ‘bad for the supplier.’ In the same fashion, an action that constitutes a good choice in one situation can, in another situation, constitute a ‘bad choice.’ It is ‘valued’ in the one case and ‘disvalued’ in the other. Construction of the manifold of rules requires the possibility of making a transcendental negation in practical judgment, by which an action is invalidated in particular circumstances. We call this category **invalidation**, and it is the basis in practical judgment for the veto power of practical Reason under the Ideal of universal law.

Finally, it may be that in the composition of reflective judgment *no* mere analytical division of the presentation of formal expedience ‘fits’ within the manifold of rules without producing some violation or opposition to the Ideal of universal law. In this case, the only appropriate action (for under the cosmological Idea is the presupposition that an appropriate action always exists) is one of conflict resolution, i.e. *reevaluation* for the purpose of elimination of this disturbance to the manifold of rules and attaining a re-equilibration of expedience. Negation here is to be seen as an affirmation of value in judgmentation, and it is the trigger (*elater animi*) of *reasoning*. We call this practical notion the category of **reevaluation**.

§ 6.3 The *Momenta* of Relation

The Schematism of the Practical Ideas of Relation

The Ideas for the schematism of Relation in practical judgment are:

Analogies of Experience: The rule of determination of relationships in perception is the enforcement of continuity in Self-*Existenz* by acts of validation in practical Reason;

1) All non-autonomic actions contain an appetite as the persistent in the changeable appearances of the action;
2) Every non-autonomic action is connected in a series in subordination to the practical unconditioned rule of acting to negate the degree of *Lust per se*;
3) All actions of equilibration involving multiple differentiable schemes are conditioned and co-determined by structures of coordinations in the manifold of practical rules;

Psychological Idea of Relation: Unconditioned unity of all three-way relationships of interest, valuation, and cognition;

Cosmological Idea of Relation: The origin of appearances through conformity with an equilibrated structure of practical rules;

Theological Idea of Relation: Structuring the context of actions in the manifold of rules in Relation to a transcendental Ideal of *summum bonum*.

The practical Analogies of Experience is the principle of causality of freedom with regard to effects exhibited in motivation. The psychological Idea is the principle of final cause for non-autonomic action, which is to say it is the 'set point' at which practical Self-regulation is aimed in all acts of judgmentation and reasoning. The cosmological Idea is the general principle of assimilation in equilibration. The theological Idea is the principle of *practical* empirical direction in the orientation of choices.

All theories of empirical psychology are doctrines of supersensible objects (because 'mind' is itself a supersensible object and all objective ideas of psychology therefore have their objects in the division of *nous* or of *psyche*). As such the objective validity of any psychological theory can never be more than a practical objective validity. For any proper system of empirical psychology the practical transcendental Ideas of Relation are the fundamental basis in metaphysics proper for psychology as a science proper. Piaget tells us,

> Intelligence, viewed as a whole, takes the form of a structuring which impresses certain patterns on the interaction between the subject or subjects and near or distant surrounding objects. Its originality resides essentially in the nature of the patterns that it constructs to this effect.
>
> Life itself is a "creator of patterns," as Brachet has remarked (and, from this point of view, the assimilatory schemes which control the development of intelligence are comparable to the "organizers" which intervene in embryological development). Certainly these biological "patterns" are those of the organism, of each of its organs and of the physical interaction with the environment which they safeguard. But in instinct, anatomico-physiological patterns are paralleled by functional interactions, i.e. by "patterns" of behavior. In fact, instinct is only a functional extension of the structure of the organs; the beak of a woodpecker finds its extension in the pecking instinct, a digging paw in the burrowing instinct, etc. Instinct is the logic of organs, and that is how it arrives at responses which, if they were realized at the level of genuine operations, would in many cases imply a prodigious intelligence, although its "patterns" may at first sight seem analogous (as in seeking for

> an object outside the perceptual field and at various distances).
>
> Habit and perception constitute other "patterns", as Gestalt theory has insisted, working out the laws of their organization. Intuitive thought reveals still others. As for operational intelligence, this, as we have repeatedly seen, is characterized by mobile and reversible "patterns" which are constituted by groups or groupings.
>
> If we wish to bring what we have learned from an analysis of the operations of intelligence into line with the biological considerations with which we started . . . we have to end by seeing operational structures in their relation to the mass of possible "patterns." Now, an operational act may, in its content, closely resemble an intuitive act, a sensori-motor or perceptual act and even an instinctive act . . . The difference between the various levels does not, therefore, depend on the content, i.e. on a "pattern" somehow materialized, which results from the act, but on the "pattern" of the act itself and of its progressive organization. In the case of reflective thought which has attained an equilibrium, this pattern consists of a certain "grouping" of operations. In the continuum of cases between perception and intuitive thought, the pattern of the response is that of an adjustment occurring at various speeds (sometimes almost instantaneously), but always functioning by "regulations." In the case of instinctive or reflex behavior, we are confronted with a framework which is relatively complete, rigid, and self-contained and which functions by periodic repetitions or "rhythms." The order of succession of the fundamental structures or "patterns" concerned in the development of intelligence would thus be: rhythms, regulations, groupings [PIAG29: 183-185].

In an earlier chapter we discussed the issues, problems, and difficulties that attend determining whether a behavior should be called an 'instinct' or not. Piaget chose to define 'instinct' from his normative convention by whether or not the behavior could be paired with a specialized biological 'organ' as its physiological substrate. James, on the other hand, gave the term a wide scope and viewed 'instinct' as a behavior induced by a physical stimulus and executed without the intervention of 'memory', 'planning' or 'rational evaluation.' Our theory assigns the term 'instinct' to a singular form of composition in practical judgment. In regard to the *nexus* of the manifold of rules, an instinct in its first exhibition must be regarded as an autonomic action (the act not yet connected in the manifold of rules) and, later, as the singular endpoint *a parte posteriori* in a series of rules (after the action has been made non-autonomic). That an instinct must have a 'mirror' in biological organization is merely a consequence of the general law of complete *nous-soma* reciprocity. That the appearance of an 'instinctual action' should have the character of an *arbitrium brutum* upon its early exhibitions merely reflects the state of construction of the manifold of rules. That an instinctual action should exhibit 'rhythms' (cycles) in appearance speaks to nothing more or less than its expedience for equilibrium (which, as we showed earlier in this treatise, must have the appearance of a cycle).

The empirical progression from 'rhythms' to Piagetian 'regulations' to 'groupings' is consistent with and to be expected from the schematism laid out in the metaphysical principles stated above. Piaget goes on to tell us,

> Rhythm . . . characterizes the functions that are at the junction between organic and mental life, and this is so universally true that even in the field of elementary perception or sensation the measurement of sensitivity reveals the existence of primitive rhythms which completely elude the subject's awareness; rhythm is likewise at the root of all effector functions including those that

> constitute motor habit . . . Hereditary rhythm thus ensures a conservation of responses which in no way precludes their being complex or comparatively flexible . . . But, in so far as one is confined to innate mechanisms, this conservation of periodic schemes evinces a systematic lack of differentiation between the assimilation of objects to the subject's activity and the accommodation of the latter to possible changes in the external situation.
>
> In the case of learning by experience, however, accommodation is differentiated and, as this process progresses, elementary rhythms are integrated into vaster systems which no longer show any regular periodicity. On the other hand, a second fundamental structure now appears which continues the work of the original periodicity and consists of [structural] regulations; these we have encountered from perception right up to pre-operational intuitions. A perception, for example, always constitutes a complex system of relations and may thus be considered as the momentary form of equilibrium reached by a multitude of elementary sensory rhythms which combine or conflict in various ways. This system tends to be conserved as a totality as long as external phenomena remain unchanged, but, once they are modified, accommodation to new phenomena involves a "displacement of equilibrium." But these displacements are not uncontrolled and the equilibrium that is re-established by assimilation to previous perceptual schemes shows a tendency to react in the opposite direction to that of the external change. There is therefore regulation, i.e. the occurrence of antagonistic processes comparable to those already manifest in periodic responses, but here the phenomenon occurs on a larger scale, which is much more complex and far-reaching and does not necessarily show periodicity.
>
> The structure characterized by the existence of regulations is not peculiar to perception. It occurs also in the "corrections" belonging to motor learning. The whole of sensori-motor development in general, up to and including the various levels of sensori-motor intelligence, reveals analogous systems . . .
>
> When thought begins to appear, intuitive centralizations and the egocentricity of successively constructed relations restrict thought to its irreversible state . . . Intuitive changes, therefore, are only "compensated" by a system of regulations which, in the course of the internal trial-and-error of representation, gradually harmonize mental assimilation and accommodation and monopolize the control of non-operational thought.
>
> Now it is easy to see that these regulations themselves, whose various types extend from elementary habits and perceptions to the threshold of operations, grow out of the original "rhythms" without any real discontinuity . . . It may therefore be understood that when components of action constitute complex static systems, responses oriented in opposite directions . . . are synchronized and represent the elements of the system's equilibrium. In the event of external changes, the equilibrium is upset through the accentuation of one of the tendencies involved, but this accentuation is sooner or later checked by the intervention of the opposite tendency; this reversal of direction is what is meant by regulation [PIAG29: 185-189].

This 'negation' by an 'opposite tendency' is what we expect from the second Analogy since the negation of the degree of *Lust per se* has been seen to require opposition (in both the *Entgegensetzung* and *Widerstreit* senses) of *Lust* and *Unlust*. Unconditioned unity of interest, valuation and cognition implies that nothing further is needed to 'complete' this unity nor does it contain anything superfluous. Coherence in equilibrium implies conformity in structure. The Piagetian 'regulation' is, however, not the end of it because what is exhibited in appearance can be rightly called a sub-system but this sub-system must still be brought into conformity with the totality of the Organized Being's practical rule structure in all situations.

> We now understand the nature of the reversibility characteristic of operational intelligence, and the way in which the converse operations of *grouping* derive from regulations, and not only intuitive but even sensori-motor and perceptual regulations. Reflex rhythms are not reversible as wholes but are orientated in a definite direction; execution of a movement (or a complex of movements), the

> termination and return to the point of origin in order to repeat it in the same direction: such are its successive phases, and if the return (or antagonistic) phase reverses the original movements, this is not the case of a second action having the same value as the positive phase, but a retraction leading to a new beginning in the same direction. Nevertheless, the antagonistic phase of rhythm marks the beginnings of regulations and, beyond this, of the "converse operations" of intelligence, and so all rhythm can be regarded as a system of alternating regulations combined into a single unit of successive elements. As for regulation . . . this characterizes behavior which is still irreversible but whose reversibility is an advance on previous behavior . . . Regulation has thus only to achieve complete compensations . . . for the operation to appear by this very fact; operations are, indeed, merely a system of coordinated changes which have become reversible regardless of how they are built up.
>
> So, in the most concrete and precise sense, it is possible to regard the operational groupings of intelligence as the final "pattern" of equilibrium towards which sensori-motor and representative functions tend in the course of their development, and this conception enables us to understand the fundamental functional unity of mental growth, while at the same time we may note the essential differences between the structures characterizing successive levels. Once complete reversibility has been attained . . . the aggregates which were hitherto rigid have become capable of a flexibility of composition which secures their stability since then, whatever operations are executed, accommodation to experience is in permanent equilibrium with assimilation, which is promoted by this very fact to the rank of a necessary deduction.
>
> Rhythm, regulations and "grouping" thus constitute the three phases of the developmental mechanism which connects intelligence with the morphogenetic potentialities of life itself, and enables it to realize adaptations which are both unlimited and mutually equilibrated, adaptations which are impossible to realize at the organic level [PIAG29: 189-190].

These findings give vivid illustration in the Nature of behavioral appearances of the schematism in the form of the *nexus* of rule structure under the regulative principles of the transcendental Ideas of Relation. We turn now to the practical notions necessary for the possibility of this organized construction.

The Practical Notions of Relation

If we say (as we do) that the practical notions of Quality go to the practical determination of drive in the motivational dynamic, as a moving power of actions, and thus constitute its practical *Realdefinition*, the practical notions of Relation go to the *Realdefinition* of drive state. In this consideration we may note a practical analogy between the process of practical judgment and the role of determining judgment in concept Relation, where the concept structure is re-played (through the synthesis of reproduction in imagination) to make an intuition of comprehension. Relation in practical judgment fulfils the same role via motivation. Comprehension of a phenomenal object requires the notion of substance & accident to establish the 'center of attention' in the intuition, the notion of community to connect this object within the contextual *materia* of intuition, and the notion of causality & dependency to maintain this connection in the succession in subjective time. From this comes the thorough-going unity in appearances.

Analogous practical notions are required if unity in the motivational dynamic in complex

actions is to be possible. Reason, however, has no capacity of imaginative synthesis with which to 'partner' in the determination of appetitive power; instead, it carries out its work through **expression**, both motoregulatory and ratio-regulatory. Seen in this way, the practical notions of Relation are rules *a priori* for the synthesis of *form of expression* as a *nexus* of actions. The succession of appearances in an action must have a 'center' (i.e. something regarded as that to which the action is 'directed' – thus what we call a 'practical end'). 'Complex' non-autonomic actions are expressed as a series, thus requiring within the manifold of rules a logical series. Finally, any action-event expressed as a composite of sub-actions at a moment in time requires coordination of its constituents.

The practical homologue to persistence in time (substance) is **maintenance of purpose**. All acts of practical Reason derive from the ground of the categorical imperative, and any particular determination of appetitive power stands in a Relation to this law. A purpose subsists in this Relation. It is 'the constant' in multiple determinations of appetite that express as a sequence of appearances in action and which stand to the purpose as 'accidents' (which we commonly call 'means')[6]. The determination *in concreto* of the expression of the causality of freedom is the **subordination of means to end** in the connection of a rational series of action rules. Here each determined appetite serves as a link in a chain of expressions which synthesize an essential unity of purpose (the 'good' of the action). Finally, the expression of a multiplicity of practical rules in *one* determination of appetite is a **coordination of rules** in a means. Under these three practical notions of Relation we establish the possibility of the form of a *manifold* of rules, which in form is *logically* the homologue of the manifold of concepts synthesized in the process of determining judgment (and thus also makes up a *structure* which we can call the structure of practical concepts). Through this structure we understand the *Realdefinition* of drive state.

§ 6.4 The *Momenta* of Modality

The Schematism of the Practical Ideas of Modality

Modality in judgment is a judgment of the judgment. While adding nothing at all to the object of the judgment, it fixes the relationship of that object with respect to the Subject. The schematism of practical judgment in Modality falls under the Ideas of:

The Postulates of Empirical Thinking in General:

[6] A rule of instinct is a purpose ('end') that constitutes within itself its own 'means.'

> 1) Those acts that cannot be validated under the conditions of the manifold of rules are impossible;
> 2) The act of reflective judgment that coheres with the conditions of the manifold of rules becomes an action;
> 3) That whose context with the actual is determined in accordance with general conditions of valuation is made necessary (necessitated);
>
> Psychological Idea of Modality: Unconditioned unity in the apperception of coherence in the Ideal of *summum bonum*;
>
> Cosmological Idea of Modality: Absolute completeness of the changeable in appearance is sought through apperception of *Existenz* in relationship to the transcendental Ideal of *summum bonum*;
>
> Theological Idea of Modality: Coherence of all actions with the Ideal of *summum bonum*.

From a certain point of view we might say that all the practical judgments of the infant are in a sense practically 'moral' judgments. This is not to say that the child has from the beginning clear concepts or ideas of 'right and wrong' according to any norm an adult would call 'moral.' Quite the opposite is true. It is, however, to say that the course of construction of the manifold of rules, and the child's concepts of Nature, is charted from the beginning according to an Ideal that carries the weight of what Piaget might have called a 'moral pseudo-necessity.' We saw earlier that children display a naive moral realism founded upon the unquestioning character of belief. This is accompanied by a construction of concepts that reflect this moral realism in cognition, one consequence of which is childish realism in 'what is necessary.'

> Possibility has always appeared to us as being relative to the subject and not as preformed in reality . . . The same is true for necessity, which is a product of the subject's inferential composition and is also not open to direct observation. What one gets by observation is only varying degrees of generality. Generality is not necessity, however, and where one is assimilated into the other we get *pseudo-necessities*.
>
> Our research shows that the relations between possibility and necessity are complex and that there is interference between the two even in the initial stages: this raises an unexpected problem as to what young children consider as "real." Because of an initial lack of differentiation between the factual and the normative, reality – as interpreted by 4- to 5-year old children – frequently appears as what an observer or more advanced subject would see as pseudo-necessity or *pseudo-impossibility* . . .
>
> The development of necessity appears to parallel that of possibility. The initial forms consist in simple local necessities that result from elementary compositions observable at the end of the sensori-motor period and further developed in pre-operational representation . . . We hypothesize that there are varying degrees of strength of necessity, related to what contemporary logicians call the *force* of structures. But what can one mean when speaking of the variable strength of different forms of necessity? We do not simply mean the number of necessary relations that a structure contains. We believe there are also qualitative, *intensional* differences . . . But incorporating more relations is not only a matter of complexity or richness: because it consists in the union of distinct characteristics within a whole, this complexity requires a greater integrating force. In this sense, necessity appears to us as a measure of this integration. Similarly, possibility is an index of the richness of differentiation. This explains the parallelism in the development of the two [PIAG14: 3-

4].

Piaget's work led him to the finding that the child's earliest 'moral' judgments grow out of his initial egocentrism, radical at birth and only slowly giving way, through socialization, to decentration. In our theory this egocentrism can be understood from two aspects. First, prior to the differentiation of causality *per se* in terms of physical vs. psychological causality the infant is a practical solipsist (what Piaget called 'Narcissism without a Narcissus'). But the *concept* of causality (as opposed to the *notion* of causality & dependency) is a concept of the *Existenz* of that which we call 'causality,' and it is not in the least mysterious that the child's earliest understanding of this should be framed in terms of himself. And if the child's practical judgments carry the 'force' of a moral pseudo-necessity, it is not surprising that his earliest ideas of physical causality (animism and the other early childish adherences) should be couched in the same sort of Modality in judgment. Second, we have seen that concepts originate from acts of reflective judgment and that teleological reflective judgments taken over into cognition are judgments of belief (uncritical, unquestioned holding-to-be-true). Piaget writes:

> The individual, left to himself, remains egocentric. By which we mean simply this – Just as at first the mind, before it can dissociate what belongs to objective laws from what is bound up with the sum of subjective conditions, confuses itself with the universe, so does the individual begin by understanding and feeling everything through the medium of himself before distinguishing what belongs to things and other people from what is the result of his own particular intellectual and affective perspective. At this stage, therefore, the individual cannot be conscious of his own thought, since consciousness of self implies a perpetual comparison of the self with other people. Thus from the logical point of view egocentrism would seem to involve a sort of illogicality, such that sometimes affectivity gains the ascendant over objectivity, and sometimes the relations arising from personal activity prove stronger than the relations that are independent of the self. And from the moral point of view, egocentrism involves a sort of anomy such that tenderness and disinterestedness can go hand in hand with a naive selfishness, and yet the child not feel spontaneously himself to be better in one case than the other. Just as the ideas which enter his mind appear from the first in the form of beliefs and not of hypotheses requiring verification, so do the feelings that arise in the child's consciousness appear to him from the first as having value and not as having to be submitted to some ulterior evaluation. It is only through contact with the judgments and evaluations of others that this intellectual and affective anomy will gradually yield to the pressure of collective logical and moral laws [PIAG7: 400-401].

All our cognitive knowledge hails from experience, and it seem irrefutable that the child's earliest ideas of 'right' and 'wrong' are owed to his or her experience with the child's primary caregiver (usually the parents).

> Just as, if left to himself, the child believes every idea that enters his head instead of regarding it as a hypothesis to be verified, so the child who is submissive to the word of his parents believes without question everything he is told, instead of perceiving the element of uncertainty and search in adult thought. The self's good pleasure is simply replaced by the good pleasure of a supreme authority . . . Just as the child believes in the adult's omniscience so also does he unquestioningly believe in the absolute value of the imperatives he receives . . . And indeed so long as unilateral respect is alone at

> work, we see a ‘moral realism’ developing which is the equivalent of ‘verbal realism’ [PIAG7: 401-403].

The structural evolution of the manifold of rules, and the structural evolution of the manifold of concepts that accompanies it in cognition, follows from the beginning a character of coherence, continuity, and functional direction which in appearance is hardly separable from our often vaguely-perceived concepts of ‘good’ and ‘bad,’ and does so even before these concepts enter in to our discursive thought. It is from this strictly *functional* direction that we come to the character in appearances of childish morality.

> Now the psychological data of child morality suggests to us an interpretation of responsibility which . . . seems to us to fulfill the double claim of invariability or functional continuity and of directed structural evolution. For we have recognized the existence of two moralities in the child, that of constraint and that of cooperation. The morality of constraint is that of duty pure and simple and of heteronomy. The child accepts from the adult a certain number of commands to which it must submit whatever the circumstances may be. Right is what conforms with these commands; wrong is what fails to do so; the intention plays a very small part in this conception, and the responsibility is entirely objective. But, first parallel with this morality, and then in contrast to it, there is gradually developed a morality of cooperation, whose guiding principle is solidarity and which puts the primary emphasis on autonomy of conscience, on intentionality, and consequently on subjective responsibility. Now it should be noted that while the ethics of mutual respect is, from the point of view of values, opposed to that of unilateral respect, the former is nonetheless the natural outcome of the latter from the point of view of what causes this evolution. In so far as the child tends to manhood, his relations with the adult tend towards equality. The unilateral respect belonging to constraint is not a stable system, and the equilibrium towards which it tends is no other than mutual respect. It cannot, therefore, be maintained with regard to the child that the final predominance of subjective over objective responsibility is the outcome of antagonistic forces in relation to responsibility in general. Rather it is in virtue of a sort of inner logic that the more evolved follow upon the more primitive forms, though in structure the former differ qualitatively from the latter [PIAG7: 335].

Now, Piaget’s findings here are curiously incomplete inasmuch as he acknowledges two ‘forms of respect’ but misses the third which is essential for any *synthesis* of ideas of ‘respect.’ Unilateral respect is, in logical form, a connection in a series (conceptualized under the category of causality & dependency). Mutual respect has the logical form of reciprocity (conceptualized under the category of community). But both, as connections, require ‘that which is connected’ and this is the third Relation of ‘respect.’ We previously called this *self-respect* and it stands as logical substance in logical Relations of ‘respect.’ Now the word ‘respect’ carries on the one hand the connotation of regard for something, and in terms of connection in representation this idea of regard-for-something is what we have termed the ‘physical *nexus*’ (Relation) in a manifold. But along with this connotation we must also have, in order to have a complete manifold, what we have termed the ‘metaphysical *nexus*’ (Modality) which supplies the matter of connection. ‘Respect’ in this sense of the word is ‘motive in reference to something’ (a usage of the term that has become rather rare in English today). If we are to understand the phenomenon of behavior-

held-to-be-moral by the Organized Being and to connect this to its practical source in the judgments of Reason, we must not neglect this connotation of ‘respect,’ and it is this connotation that speaks directly of this idea of self-respect. Here, however, we enter in to the Nature of the Organized Being that is not directly an observable in behavior (which may account for Piaget omitting it from his theory), and if we are to have an objectively valid understanding of self-respect we must be able to infer it from observable behavior as a transcendental ground of the possibility of ‘unilateral respect’ and ‘mutual respect.’

In carrying out this task we run into considerations and speculations that involve not only psychology but also overlap into the field of sociology. Here Piaget cites the work of sociologist Emile Durkheim and psychologist M. Pierre Bovet. Bovet put forth the hypothesis of ‘unilateral respect,’ with which Piaget agrees, but this model had certain shortcomings, which Piaget used Durkheim’s work to illustrate. Piaget tells us that his work is merely an extension of Bovet’s, taking into account what was not to be found there (namely the idea of mutual respect). One interesting speculation coming out of Bovet’s work is that of a relationship between the child’s unilateral respect for its parents and the genesis of religious ideas (which, for many people, hold the same ‘force’ as moral beliefs).

> It should be noted, in this connection, that this attitude of the child towards his parents does not only, in M. Bovet’s opinion, explain the genesis of the sense of duty. In filial piety we have the psychological source of the religious sense. For in virtue of his very respect, the young child attributes to his parents the moral and intellectual qualities which define his idea of perfection. The adult is omniscient, omnipresent, just and good, the source both of the uniformities of nature and of the laws of morality. Naturally, the child does not give spontaneous expression to such a belief, for it is unnecessary for him to formulate and impossible for him to codify the ‘pre-notions’ which are a matter of course to him and which condition in all their detail his moral judgment and his conception of the world. But, as M. Bovet has rightly remarked, the intensity of certain crises in a child’s life is sufficient to show how firmly rooted were the implicit attitudes which circumstances have thus undermined. The discovery of a fault in the behavior of his parents will completely upset the child’s confidence. The discovery of an intellectual failing or of some unforeseen limitation in the powers of the adult will jeopardize his faith in a world order. It is then that the primitive filial sentiments, and in particular the demand for intellectual and moral perfection, may be transferred to ideal beings which the collective conceptions of the day suggest to the religious consciousness of the individual.
>
> But this is not the whole matter. If at first the adult is a god for the child, and if the commands coming from the parents suffice to establish that consciousness of duty which most religions have identified with the divine will, the fact remains that reason plays a part in the constitution of the moral ideal. For how are we to explain the genesis of personal conscience if originally everything is heteronomous? M. Bovet suggests the following solution. On the one hand, reason works over moral rules, as she works over everything, generalizing them and making them coherent with each other, and above all extending them progressively to all individuals until universality is reached. Thus, whoever receives a command draws from it logical consequences which apply even to the person who issues the command. On the other hand, there is bound to be in the course of mental development a certain clash between the various influences received. Commands cut across and more or less contradict each other, and the more numerous the individuals respected the more divergent obligations will the respecter have to reconcile with each other. In this way reason cannot

> choose but introduce the necessary unity into the moral consciousness. It is through the work of unification that the sense of personal autonomy comes to be conquered.
>
> Finally, it should be recalled that these developments apply only to the consciousness of duty. Side by side with the morality of duty M. Bovet upholds the claims of the feeling of the good, though he does not attempt to explain it. The existence of this inner ideal peculiar to the idea of the good is what in the last analysis guarantees the endurance of the autonomy of conscience [PIAG7: 375-377].

I would not be surprised if some parents of a two- or three-year-old toddler were prepared to dispute any claim that their child accords them godhood. Piaget does not find Bovet's conclusions to be entirely free of defect, and the issue lies in Bovet's vague 'feeling of the good.' It leaves, Piaget tells us, two problems unresolved, namely 'the problem of filial respect and the problem of the liberation of individual minds.' The problem of filial respect is: How is progress possible and how do traditional views ever come to be overturned if unilateral respect, either for 'elders' or for 'the gods' is the only moral 'force' at work? The issue here is how something we know from history *does* take place *can* take place. The problem of the liberation of the individual mind is: How does the individual come to be capable of judging the commands he has received from the older generation? In both cases it appears to be the case that socialization – i.e. the influence of the person's surrounding society – is the key factor. This is where Durkheim's sociology and Bovet's psychology resonate with each other. But, Piaget writes,

> In thus completing M. Bovet's point of view with that of Durkheim have we really disposed of all our difficulties? The moment has come for us to return to the child and to compare the theories we have been discussing with the result of our present enquiries. We can put the matter in a nutshell by saying the M. Bovet's doctrine seems to us completely to conform to the facts concerning the starting-point of child morality, but when it comes to the evolution of conscience in the child, the only way to be faithful to the spirit of this doctrine is to extend it and to distinguish two types of respect.
>
> We are faced here with a difficulty that is exactly analogous to that which was raised by Durkheim's point of view – a circumstance sufficient in itself to confirm the parallelism between the two points of view. How, we may ask, if all his duties come from personalities that are superior to him, will the child ever acquire an autonomous conscience? Unless we should assume something more than the morality of pure duty, such a development seems to us quite inexplicable. Since the content of duties conforms by definition to the rules accepted by the parents themselves, it is impossible to see how the morality of duty would ever authorize the child to modify these rules and to criticize his parents: the formation of an inner ideal, that is to say, the morality of the good, seems to be the only thing that will account for this phenomenon. Now, does the clash of influences received suffice, together with the intervention of reason, to explain the appearance of this ideal? It would seem that it does not. It is easy to see how under the influence of contradictions due to commands interfering with each other reason will assume the right to define its duties more clearly, to generalize their contents, in a word, to polish and codify the material of morality. But according to M. Bovet's hypothesis, reason can prescribe nothing. It speaks in the indicative mood, not in the imperative. In short, there is no way out of the heteronomy that belongs to the play of commands, even if this play be indefinitely complicated; only by attributing legislative power to reason can we account for autonomy [PIAG7: 381-382].

In 'attributing legislative power to reason' Piaget's view so far harmonizes with the theory of

practical Reason in this treatise. 'Duty' (in the Bovet-Piaget sense of the word) and 'good' are, as Piaget points out, quite heterogeneous to one another. Neither can be reduced in terms of the other. Hence, Piaget argues, there must be another 'form of respect' taking care of the 'ideal of the good.'

> But M. Bovet, differing in this from Durkheim, who did everything to make his system a self-contained whole, has left the road open, and even invites us to extend his analysis. Not only has he always drawn a distinction between the sense of duty and the feeling of the good, without subsequently trying to identify these two irreducible realities, but in addition to this, by representing respect to us as a relation between one person and another that is capable of various possible combinations, he invites us to think of respect as itself becoming differentiated in the context of concrete psychological states.
>
> And this is why, alongside the primitive respect felt by the inferior for the superior, or, as we have called it, "unilateral respect," we have claimed to distinguish a "mutual" respect towards which the individual tends when he enters into relation with his equals, or when his superiors tend to become his equals . . . The need to be respected thus balances that of respecting, and the reciprocity resulting from this new relation is sufficient to abolish all element of constraint. At the same time, the commands vanish and turn into mutual agreement, and rules that have thus been freely consented to lose their character of external obligation. Nor is this all. For since the rule is now subjected to the law of reciprocity, it is these same rules, rational in their essence, that will become the true norms of morality. Henceforward reason will be free to lay down its plan of action in so far as it remains rational, that is to say, in so far as its inner and outer coherence is safeguarded, i.e., in so far as the individual can adopt a perspective such that other perspectives will accord with it. Thus out of anomy and heteronomy, autonomy emerges victorious [PIAG7: 382-383].

Now, all this is fine so far as it goes. Piaget has covered the one-way 'respect relation' from 'superior' (e.g. parent) to 'inferior' (e.g. the child) and the two-way 'respect relation' between the person and his 'equals.' In the 'two-way relation' respect is bartered and exchanged: you respect me and I'll respect you. When we put it this way, however, the question that obviously come to the front is: Why should it be important to me that *you* respect *me*? If unilateral respect ("I respect you") and mutual respect ("we respect each other") are all that are in play, how does the latter find a ground for its origin, especially if unilateral respect (moral realism) is developmentally prior? Piaget's observations make it plain that behaviors involved in the exhibition of mutual respect are not necessarily peaceful affairs among children.

> RIT (12), GROS (13) and VUA (13) often play marbles. We questioned them each separately and took steps to prevent them from communicating to each other during our absence the contents of our interrogatory.
>
> With regard to the square, the "pose," the manner of throwing, and generally speaking all the rules we have already examined, these three children are naturally in full agreement with each other . . . There is only one point on which we saw our subjects differ. Rit, who, it will be remembered, has known the game in three different districts, tells us that the boy whose shooter stays inside the square may generally come out of it. He added, it is true, that in some games the player in such a plight is "dished" but this rule does not seem to him obligatory. Vua and Gros, on the contrary, are of the opinion that in all cases "*when you stay inside the square you are dished.*" We think we may confuse Vua by saying: "Rit didn't say that! – *The fact is*, answers Vua, *that sometimes people play differently. Then you ask each other what you want to do.* – And if you can't agree? – *We scrap for*

a bit and then we fix things up" [PIAG7: 47-49].

How the children "scrap" takes no great amount of insight to guess. Examples are to be had on nearly any playground. If the "scrap" is over disagreement on how to play the game, it is plain that each "scrapper" is arguing for his own way to prevail. If 'mutual respect' is viewed simplistically one might presume that rather than a "scrap" what we would find would be a peaceful debate. The real behavior quite often is at odds with such an image. Things are "fixed up" through compromise, which presumably is grounded in each player's wish to play the game; only the version of rules and not the goal of playing the game is the point of contention. But the fact that the players defend their versions against the views of the others points to something more than either just 'unilateral' or 'mutual' respect at work in children old enough to have come to Piaget's 'codification of the rules' stage.

Piaget's theory has in the large stood up well under decades of subsequent testing, but not entirely without amendments or clarifications being proposed by later researchers. Buck tell us:

> Many aspects of Piaget's theory have been supported in later work. Thus there is evidence that many of the characteristics of moral realism . . . do decrease regularly with age in a variety of cultures, as Piaget would predict. However, it has become clear that moral judgment is more complex than Piaget's theory suggests, and that important developments take place during adolescence as well as in childhood . . . Kohlberg has accepted the broad outlines of Piaget's approach in his more extensive and detailed work on moral judgment[1] [BUCK: 497].

> From a casual look at Piaget's and Kohlberg's theories of moral judgment, we might expect that once an individual has reached a given stage of moral reasoning, he or she will behave accordingly. This is not necessarily true. We have seen moral judgment to be based largely on the level of the individual's cognitive development and accumulated social experience or role-taking ability. Moral behavior is undoubtedly influenced by these transsituational characteristics to some extent, but it is also determined by a multitude of situational factors . . . People will often do things in response to situational influences that violate their stated moral judgments. A study that illustrates the influence of situational factors on moral behavior is the early but sophisticated study of morality by Hartshorne and May[2] [BUCK: 505].

Buck goes on to review a number of such studies. Some of these, such as the famous 1963 Milgram study[3] and the equally famous and disturbing 1971 Zimbardo study[4], produced findings

[1] Kohlberg (1964) proposed a six-stage model that was profoundly influential, but which also was not immune from either criticism or refinement, particularly in regard to gender differences. Both Kohlberg's and Piaget's studies have also been criticized for paying inadequate attention to the 'emotional dimension' of moral reasoning.

[2] Hartshorne, H. & May, M. (1928-1930). *Studies in the nature of character* (Vols. 1 – 3), NY: Macmillan. The major finding of this study was that the morality of conduct in a given situation is not strongly correlated to the morality of conduct in another. It demonstrated that situational factors have a strong influence on behaviors that society tends to associate with moral norms.

[3] Stanley Milgram (1963), "Behavioral study of disobedience," *Journal of Abnormal Psychology*, 67: 371-378. This experiment demonstrated, to everyone's profound surprise, that normal, well-adjusted individuals will obey the commands of an authority figure even while protesting an action that runs in flat contradiction

so unexpected that they came as a profound shock to the psychology community.

The point here is that the phenomena of 'unilateral respect' and 'mutual respect' are not sufficient to ground the explanation of the full range of 'morality-issues' behaviors and choices. For this we must go deeper into considerations of the Modality of practical judgments. This brings us to Kant's idea of 'respect for the moral law':

> The consciousness of a *free* submission of will to the law, yet as combined with an unavoidable constraint put on all inclinations, though only through one's own reason, is respect for the law. The law, that demands this respect and also inspires it, is, as one sees, none other than the moral law (for no other excludes all inclinations from the immediacy of its influence on will). An act that is objectively practical in accordance with this law, with the exclusion of every ground of determination from inclination, is called *duty*, which, because of that exclusion, contains in its idea practical *necessitation*, that is, determination to acts however *reluctantly* they may be done [KANT4: 68-69 (5: 80)].

Kant's word for 'respect' was *Achtung*, which does translate into English as 'respect' or 'esteem' but also carries a connotation of 'attention paid to.' We have previously discussed how we must interpret the adjective 'moral' when it is applied to the categorical imperative. We have seen that the objectively valid connotation is that the adjective 'moral' merely implies robustness in the structure of the manifold of practical rules insofar as hypothetical imperatives are resistant to accommodation. The function of the manifold of rules is to act as the standard of universality for validation of the conditions (Desires) for an action with regard to the making actual (assertion or 'go ahead') or the veto of making actual the action which reflective judgment combines with the affective condition. But this process of validation is under the master regulation of the categorical imperative, and if we are to say that within the process of practical judgment there is a 'judge of the judge' (Modality), it judges in regard to how the validation *process* is brought into accord with the unconditional demand of the categorical imperative. This demand is for acting in perfect accordance with the *totality of the rule structure*, which put into Piagetian terms is regulation for the conservation of the system *as a structure* even while the structure is undergoing adaptation (the balancing of assimilation and accommodation) through practical judgment.

Thus, in practical judgment, practical Reason's first interest, pure and *a priori*, is in acting for the perfection of the system of rules that this process itself constructs. It is the reflection of

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to their personal moral code. Among other things, the study demonstrated that the atrocities of the Nazis during the holocaust could not be dismissed as merely the aberrations of sociopaths.

[4] Zimbardo, Philip G., Haney, Craig, et. al. (1974), "The psychology of imprisonment: Privation, power, and pathology." In *Doing Unto Others*, (eds.) Rubin, Zick, Englewood Cliffs, NJ: Prentice-Hall. This study demonstrated that normal, well-adjusted college students put into a role-playing situation as 'prison guards' at a mock 'prison' (in which the 'prisoners' were other students) could become brutal and sadistic in their physical and psychological treatment of the student 'prisoners' despite the fact that all participants knew the situation was play-acting and that they were not 'really' guards and prisoners. Things got so out of hand that Zimbardo and his colleagues were compelled to stop the experiment early.

this interest that I term **self-respect**. The interest of Reason it reflects is the unconditioned condition of all determinations of practical judgment and all validations of Desire. Situations, both as represented through receptivity and through the synthesis of comprehension in sensibility, alter the presentation of formal expedience by reflective judgment, and if one chooses to regard self-respect as a form of expedience for so-called 'situation ethics' – well, that label probably fits as well as any provided we do not attach to it the ethical-religious luggage and cognitive 'ought to' adornments that this term commonly totes around.[5] Without the reflection of self-respect we would be hard-pressed to discover any objectively valid ground for theoretical maxims and imperatives to explain the 'force' they exhibit in our decision-making, by which I mean the ability for abstract ideas of conduct to overcome sensuous inclinations. Indeed, without it we are hard-pressed even to explain the *possibility* of such constructs in cognition.

Because I have said earlier, and more than once, that this treatise is not addressed to an applied metaphysic of morals, the reader may at this point be wondering why the psychology of moral theories presented above has been given so much space here. There is no ulterior motive at work by your author. Those behaviors that reflect choices and actions typically deemed 'moral' in their character are the leading examples of phenomena that resist being laid to a groundwork in sensuous perception. As such, they are those examples that strike most directly at the appearances laid to the process of practical judgment. All of us, even the antisocial personality, have our private 'codes of conduct' and we must deal with their transcendental ground, i.e. that which is necessary for their possibility in the thinking Nature of the Organized Being. As expedience for the interest served by the process of practical judgment, self-respect orients for perfection of the unity, completeness and coherence-in-context of the manifold of rules (under the Ideal of *summum bonum*), and the latter is the regulation practiced by practical judgment under the regulative principles of the transcendental Ideas of Modality.

The Practical Notions of Modality

The *momenta* of Modality in practical judgment are the notions of connection of the manifold of rules to the pure and *a priori* interest of Reason. As such, they are the rules of determination for the type-of-motive of the motivational dynamic (Modality) and provide the *Realdefinition* of this term. Now, the Organized Being is in possession of no prefabricated concept of the Ideal of *summum bonum*. 'Good', like 'truth', can be judged and evaluated with universal objective validity only with regard to formal, not material, criteria. All actions follow upon a determination

[5] cf. Joseph Fletcher, *Situation Ethics*, 1966.

of appetitive power, and the object of the action is by Self-definition ‘a good’ in the estimation of the Organized Being. The object of the *act* of this determination is held-to-be-good by virtue of it being made the ground for a determination of appetite and it is held-to-be a *transcendental* good if in the practical judgment of the Organized Being it is a *necessary* object of appetitive power. This is, of course, a categorizing in relationship to *Lust*. Similarly, ‘an evil’ and a transcendental evil are, objectively, the products of categorizing acts of determination in relationship to *Unlust*.

From this consideration it follows that the notions of practical Modality are rules for the judgment of the relationship of a practical judgment with respect to coherence with the Ideal of *summum bonum*. The structure given by means of these judgments to the manifold of rules can therefore be regarded as an embodiment of the Organized Being’s practical model of *summum bonum*. But because the criterion for the judgment can never be other than a merely formal criterion, practical cognition of *summum bonum* can never be other than a merely formal Ideal. To borrow a simile from Leibniz, the sculpting of *summum bonum* is like the sculpting of a statue. One begins with a formless stone and chips away from it pieces that do not fit the aims of the sculptor. (The power of practical Reason is a veto power). However, the chips do not always break along expected lines, and when this happens the sculptor must make adjustments, preserving the aim but accommodating new conditions brought about by the unexpected. This is what practical judgment does in crafting the manifold of rules, and this is what reevaluation by ratio-expression through speculative Reason does in the motivational dynamic. The *material* factor in actions is laid to motoregulatory expression, the originating form of which are appetites of instinct (particularly, the reflex sensorimotor schemes), but this matter does not partake in the formal criterion for determination of the Ideal of *summum bonum*.

It is in this context that we understand causality of freedom. The acts of practical judgment are always *a priori* because they are logically prior to the realization of the action and the subsequent experience of the appearances that follow. They are *pure* because they take place under the master regulation of a categorical imperative that brooks no sensuous criterion entering in to acts of formal determination of the manifold of rules. Piaget also came to this conclusion, but from a direction arising out of empirical facts. We will repeat his conclusion here:

> The *a priori* never manifests itself in the form of ready-made innate mechanisms. The *a priori* is the obligatory element, and the necessary connections only impose themselves little by little, as [mental] evolution proceeds. It is at the end of knowledge and not in its beginnings that the mind becomes conscious of the laws immanent to it. Yet to speak of directed evolution and asymptotic advance towards a necessary ideal is to recognize the existence of a something which acts from the first in the direction of this evolution. But under what form does this “something” present itself? . . . There seems to us no doubt about the answer. There is in the very functioning of sensori-motor operations a search for coherence and organization. Alongside, therefore, of the incoherence that characterizes the successive steps taken by elementary intelligence we must admit the existence of

> an ideal equilibrium, indefinable as structure but implied in the functioning that is at work. Such is the *a priori*: it is neither a principle from which concrete actions can be deduced nor a structure of which the mind can become conscious as such, but it is the sum-total of functional relations implying the distinction between existing states of disequilibrium and an ideal equilibrium yet to be realized [PIAG7: 399].

The *momenta* of Modality in practical judgment do not forge the connection to *Lust* or *Unlust* (the two poles of the *Lust-Kraft* of *psyche*) but rather to the Object of the Ideal of *summum bonum*, and thereby setting up a relationship to *Lust per se* in general (The distinction of *Lust* vs. *Unlust* is left to the *momenta* of Quality in practical judgment). The practical notions of Modality judge the matter of the form of rules, and the matter of this form is nothing else than the connection of the rule to the condition of the categorical imperative. In naming these *momenta* we will take our terminology from Kant:

> All imperatives are formulae of a practical necessitation. Practical necessitation is a made-necessary free act . . . The formula that expresses the practically necessary is the *causa impulsiva* of a free act, and because it is objectively necessary one calls it a *motivum* . . . Imperatives enunciate objective necessitation, and since imperatives are threefold, there is also a threefold goodness.
>
> 1). The pragmatic imperative is an imperative according to judgment of prudence, and says that the act is necessary as a means to our happiness. Here the purpose is already determined, so this is a necessitation of the act under a condition, but one which is a necessary and universally valid condition, and this is *bonitas pragmatica*.
> 2). The problematic imperative says: Something is good as a means to an optional purpose, and this is *bonitas problematica*.
> 3). The moral imperative enunciates the goodness of the act in and for itself, so that moral necessitation is categorical and not hypothetical. Moral necessity subsists in the absolute goodness of free acts, and this is *bonitas moralis* [KANT11a: 50-51 (27: 255-266)].

As *momenta* of *nexus* in the manifold of rules, ***bonitas problematica***, ***bonitas pragmatica***, and ***bonitas moralis*** correspond, respectively, to the ideas of the determinable, the determination, and the determining factor in our general 2LAR of representation. However, these are not notions of choice or of an appetite but rather notions of the matter of connection in the manifold of rules. The distinction among them originates from the manner in which the rule is held-to-be-necessary within the overall structure of universal law that this manifold represents.

Now, in our considerations here one thing we must firmly bear in mind is that practical judgments are acts of accommodation in the manifold of the rules through which the condition of an appetite is assimilated as an aliment of choice. Before any act of practical judgment takes place there must first be not merely a disturbance in equilibrium but also a failure to equilibrate through the action. In other words, satisfaction by means of action must be *thwarted* before the condition of the action is brought under the attention of the process of practical judgment. In Chapter 11 (§6) it was pointed out that the power of choice was to be regarded as the idea of a *Willkürsvermögen* (capacity for choice) rather than as a *Willkürskraft* (*Kraft* of choice). The

objective validity of free will is vested in the potential capacity to develop organized schemes of behavior and affective schemata that free the Organized Being from having all its actions and behaviors immediately determined solely from the 'here and now' of sensuous stimuli. The capacity to develop the power of choice is revealed by the ability for the practical subsumption of practical motor rules under the intelligible condition of a structure of universal law.

Thus, the judgment of Modality fixes the relationship of the rule structure being constructed to the regulation of the categorical imperative in terms of the ground for the *act of judgment* rather than in terms of the ground of determination of appetitive power. For *bonitas problematica* this ground is the *unexpected inexpedience* (presented through the feeling of *Unlust*) in an actual consequence of the action, and the accommodation of the rule structure is founded upon acting to remove this inexpedience. The original condition of satisfaction, which was the object of the thwarted act, remains unaltered and only the means of attaining to this satisfaction are changed by bringing the conditions for action expression under an additional intelligible condition.

In the case of *bonitas pragmatica* the ground for the act of judgment is an inexpedience of anticipation. What is thwarted is not an action already in progress but, rather, the mere anticipation of satisfaction before the *actual* expression of the action. Here the synthesis of reproductive imagination must play a role by bringing into sensibility an intuition of comprehension made possible by concepts of appearances connected under the rule of the category of causality & dependency. The impetuousness of reflective judgment is checked before the expression can 'get underway' and an accommodation of the expression is made necessary from a ground of merely intellectual formal inexpedience. What was the condition of a mere instinct of appetite is taken under the practical structure of a maxim.

All processes are governed by their own rules of transformations (the 'interests of the process'), and such rules are effectively 'rules about rules' if the function of the process is to *make* rules. Determining judgment cannot go against its own function, nor can reflective judgment. Likewise, neither can practical judgment. In *bonitas moralis* the ground for the act of judgment is *conflict originating in the manifold of rules itself*. Here it is not the initial condition of action (original presentation in reflective judgment) nor the actual consequence of the action that grounds the act of practical judgment but, rather, the discovery of a practico-logical contradiction in the manifold of rules itself. An appetite that *should have been satisfactory* according to the notion of *bonitas pragmatica* is instead found inexpedient (either actually or through anticipation), which means that what was regarded as coherent in universal law in the manifold of rules *is not universal*. It goes against the constitution of practical Reason and is struck down by the 'supreme court' of the process of practical judgment. The accommodation

required is the *accommodation of the form of the manifold of rules itself*.

§ 6.5 Practical Judgment as Critic Function in Judgmentation

Table of the Practical Categories of Freedom

Quantity:	**Relation:**
Instinct	Maintenance of Purpose
Appetite of Inclination	Subordination of Means to End
Intellectual Appetite	Coordination of Rules in a Means
Quality:	**Modality:**
Validation	*Bonitas problematica*
Invalidation	*Bonitas pragmatica*
Reevaluation	*Bonitas moralis*

The *momenta* of practical judgment are summarized in the table above. The process of practical judgment passes judgment on conditions of the manifold of Desires as being suitable or unsuitable for appetition under the formal criterion of suitability as universal law, and 'categorizes' how the rules it constructs 'fit' within the general constitution of universal law. The manifold of rules is in a practical sense the Organized Being's practical idea (a practical exhibition) of the Ideal of *summum bonum* wrought from experience. The process of practical judgment has no *immediate* interest in choice or appetite. To use a simile, it is like a judge who has no immediate interest in legislation but rather an interest in whether and how particular acts of legislation *conform* to a supreme law governing laws.

To understand the role of practical judgment, and the manifold of rules it constructs, it is important for us to first understand that in every operation of practical judgment there are *two* acts that take place in the cycle of judgmentation in general. The first act *marks the negative assertion* on the condition of the manifold of Desires. Through this act is begun a process of adaptation, and here the process of practical judgment produces a disturbance in the cycle of judgmentation we can regard as an *intelligible disturbance* of equilibrium. The accommodation of the manifold of rules can here be seen as what Kant might have called a 'ruling of omission' ('don't do that') inasmuch as this accommodation makes a ruling that marks a particular representation of Desire as a condition of *Unlust*. The second act *marks a condition of successful closure* in the process of equilibration. This act makes a ruling that a particular organization of conditions in the manifold of Desires is *not unacceptable* under universal law. The flavor of this act is negative in character, but 'negative' in the connotation of the logical *momentum* of infinity[6] (the negative regarded as the affirmative). Note that 'not unacceptable' does not mean precisely the same thing as

[6] Recall that 'infinity' is the third logical *momentum* of Quality: affirmative, negative, infinity (Chapter 8 §5.2).

'acceptable' in this context. Rather, the flavor of the act is concordant with 'satisfaction' in the connotation of Kant's *Wohlgefallen* ('this is not-bad'). There is no positive criterion for the formal evaluation of 'good' or 'universal' in practical judgment. This is because to have such a positive criterion the Organized Being would have to be in possession *a priori* of a concrete idea of *summum bonum*, and such an idea could be nothing else than a rationalist innate idea. The only formal criterion for judgment is a negative criterion, i.e. the practical assessment of that which contradicts the condition of universal law, the mark of which is disequilibrium.

The relationship, in terms of logical information flow, between the process of practical judgment, the manifold of Desires, the manifold of rules, and the synthesis of appetition is shown in Figure 20.6.1 below. The synthesis of appetition is subject to conditioning from two sources. First there are the determinable conditions originating from the manifold of Desires in reflective judgment. These, we recall, also feed motoregulatory expression, and the outward information flow from the synthesis of appetition to motoregulatory expression takes the form of a 'veto signal.' Second there are determined conditions flowing to the synthesis of appetition from the manifold of rules. These are 'conditions on conditions' and can be regarded as the basis for not only formulating a 'veto' of impetuous acts of reflective judgment but also as the ground for an appetite of ratio-expression through the regulative power of speculative Reason.

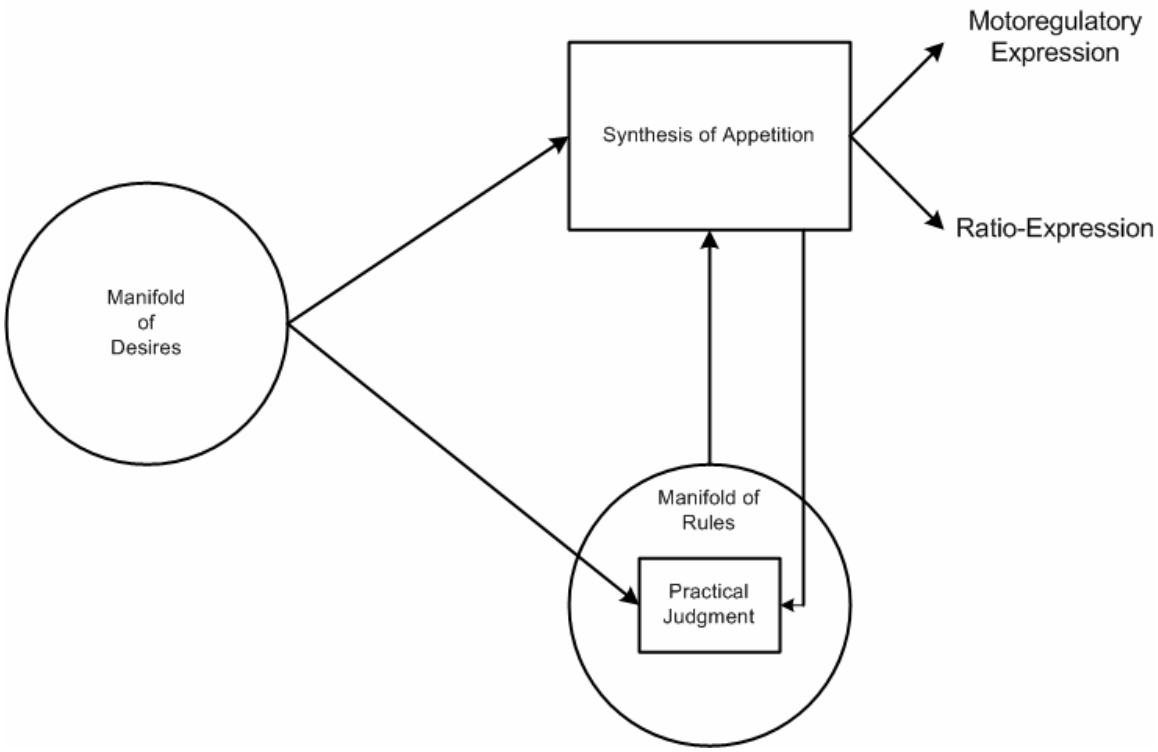

Figure 20.6.1: Formal Critic Structure of Practical Judgment

This formal structure of the interplay between reflective judgment, practical judgment, and the synthesis of appetition has an interesting analogue in the present-day mathematical theory of neural networks. Within this mathematical science there has arisen a special type of neural network organization commonly called the *critic* structure. Critics make up one part of a larger field of research most commonly called 'reinforcement learning'[7] by the neural network community. The role of a critic in a reinforcement learning scheme is to assess (compute) the 'value' of an action taken by the system and to send a 'reinforcement signal' (e.g., 'that was good'; 'that was bad') to another subfunction (often called 'the actor'; sometimes called 'the controller'), which responds by altering its 'policies' (rules) for responding to the environment. Numerous algorithms and approaches, mostly heuristic, have been investigated over the years[8,9,10]. Although this mathematical work was at first purely hypothetical, interest in it picked up somewhat in the neuroscience community after it was discovered that certain similarities were to be found between some of the reinforcement learning algorithms and the activity of dopaminergic neural subsystems in the brain.[11]

Now, these mathematical theories and the (often somewhat vaguely expressed) concepts that underlie them purvey a functional intention very much like that of the structure illustrated in figure 20.6.1. It is this similarity that suggests the name 'formal critic structure' as a label for this structure. There are, however, certain differences in outlook and perspective between the neural network theorists and the organization of Desire, practical judgment, and appetition depicted here. Reinforcement theory, while allowing both 'positive' and 'negative' reinforcement models, undoubtedly tends to emphasize the 'positive' aspects of reinforcement in its general outlook. In contrast, we have seen here that the process of practical judgment is of a fundamental character that could be phrased 'neutral or negative.' An affective presentation of reflective judgment either 'passes' validation or is invalidated insofar as the first act of practical judgment is concerned. It is only during its second act, the closure judgment, that an affirmation is made, and as we have seen this validation carries the somewhat 'negative' character of a kind of 'practical *Wohlgefallen*' (with the stipulation that this validation is *not* a feeling of satisfaction but merely a ruling that an outcome is not unacceptable). A second, and much more significant, difference between present-day reinforcement learning theory and the theory presented in this treatise concerns the context of the signals presented to the 'adaptive critic' and the 'actor' functions. In the mainstream, these

[7] cf. A.G. Barto, "Reinforcement learning," in [ARBI: 963-968].
[8] cf. A.G. Barto, "Reinforcement learning in motor control," in [ARBI: 968-972].
[9] cf. C.F. Touzet, "Q-learning for robots," in [ARBI: 934-937].
[10] see P. Dayan and L.F. Abbott, *Theoretical Neuroscience*, Cambridge, MA: The MIT Press, 2001, pp. 331-358.
[11] J.-M. Fellous and R.E. Suri, "Roles of dopamine," in [ARBI: 361-365].

signals are regarded as direct representations of the 'state of the environment.' The information source, in other words, corresponds to what in the Organized Being makes up the *cognitive* function. In contrast, the synthesis of appetition and the process of practical judgment have no immediate connection with cognition as a direct information source but, rather, only with the affective presentations of reflective judgment. There is, of course, a *mediate* role for cognition in this process because concepts contribute to sensibility and sensibility is judged by reflective judgment. But appearances play no role whatsoever in the process of practical judgment. Practical judgment 'views the world,' so to speak, through the 'window' of the motivational dynamic, is 'outcome oriented' only insofar as whether or not equilibrium *in any form* is achieved, and is consequently affectively 'neutral' and cognitively 'dark.'

§ 6.6 A Remark on 'Memory'

In closing this section, one last remark concerning the manifold of rules is in order. The matter of the manifold of rules is a *ruling* viewed as the determination of a condition placed on the 'lawfulness' of reflective judgment's presentation of formal expedience. The possibility of maintenance of a manifold of rules *as a structure* implies that this manifold is to be regarded as a form of 'practical memory.' We can compare this idea with the idea of the manifold of concepts in determining judgment constituting a form of 'cognitive memory' structure. Now, 'memory' is yet another of those ideas that psychology has found difficult to pin down. From Reber's *Dictionary* we have:

> **memory:** Since the demise of behaviorism nearly everything about the way in which psychologists characterize memory has changed save the working definition(s) of the generic term. Memory refers to one of the following: **1.** The mental function of retaining information about stimuli, events, images, ideas, etc. after the original stimuli are no longer present. **2.** The hypothesized 'storage system' in the mind/ brain that holds this information. **3.** The information so retained.
>
> Within these definitions there are numerous and varied meanings to be found in the psychological literature. Most of the specialized uses derive from the simple fact that memorial processes are extremely complex and different memory tasks recruit different ones. For example, the rat that 'remembers' to turn left to a bright light and right to a dim one is most assuredly using a different memorial process than the medical student who can recall the twelve cranial nerves, and this latter case is just as profoundly different from that of the person who can recall the meaning of a Socratic dialogue. As a result, *memory* is used almost invariably in psychology with some adjective preceding it to set limits on the kind of memory processes under discussion.

We see here the same sort of issue as we previously encountered with the ideas of 'system' or 'space' in general. The undefined word with the specific adjective in front of it was one of Socrates' favorite starting points in those dialogues in which he demolishes an opponents views (and generally humbled or humiliated his unfortunate victim in the process) on such questions as

'what is good?' or 'what is beauty?' or 'what is justice?' etc. Reber lists *35* 'specific definitions' of 'memory' in his *Dictionary*.

Piaget, not surprisingly, nestled the phenomenon of memory snugly within the theory of assimilation. He saw 'memory' as having a two-fold character:

> Memory consists of two components. One of them is the figurative component, which is perceptual in the case of recognition, imitative in the case of reconstruction, and mental imagery in the case of memory images necessary for evocation. The other is the operative component, which consists of action schemes or representative schemes . . .
>
> It is helpful, then, to distinguish what we might call "memory in a broad sense" and "memory in a strict sense." The former consists of the conservation of schemes, and it is essentially intelligence itself, to the extent that intelligence is used to reconstruct the past. The latter, which is brought into play in recognition, reconstruction, and evocation, is only the figurative aspect of the schemes in particular (in the case of evocation), all the memory-images of which are conserved only by being based on schemes . . .
>
> In a word, memory seems to be a special case of intelligent activity, applied to the reconstruction of the past rather than to knowledge of the present or anticipation of the future. In the case of what we call "logical memory," this statement is more or less obvious. As for rote memory, it seems to us that it is never encountered in an absolute form. Even what we might call rote memory is always schematized to one degree or another, and this schematization shows its relationship with the work of intelligence [PIAG4: 14-16].

This brief summary is an excerpt from the Heinz Werner Lecture Piaget gave in 1967. His more detailed studies, explaining how he came to this view, came later (in French in 1968 and in English in 1973) with the publication of [PIAG21].

Our two manifold structures, the manifold of concepts and the manifold or rules, bear out Piaget's logical division between 'operative' and 'figurative' memory to a certain extent but with one important clarification. Concepts, in the manifold of concepts, are rules for the reproduction of an intuition and are, in this sense, 'operative.' Similarly, practical rulings, in the manifold of rules, set conditions on the synthesis of appetition and are, in this practical sense, also 'operative.' What Piaget calls the 'figurative' factor in 'memory' is better laid to the synthesis of imagination. **The *Realerklärung* of 'memory' is: with regard to composition it is a manifold of representation that constitutes a structure, and with regard to *nexus* it is a process of judgment that constructs the form this manifold**.

§ 7. The Power of Choice

§ 7.1 The Synthesis of Appetition

The synthesis of appetition is the counterpart in practical Reason to the synthesis of apprehension in sensibility. In Chapter 3 (§4.2) we presented the three-fold synthesis of apprehension: Comparison (*Comparation*), reflexion, and abstraction. The synthesis of appetition is likewise a

three-fold synthesis with homologous ‘steps’ in the process. The synthesis of apprehension is monitored by the process of reflective judgment; the synthesis of appetition is monitored by the process of practical judgment. In these two respects both synthetic processes are similar. The synthesis of apprehension, in addition to receiving aliments from receptivity, is also fed by the synthesis of reproduction in imagination, sourced from the manifold of concepts. No process analogous to imagination, however, is at work in the synthesis of appetition. Rather, this synthesis has a two-fold source of aliments directly from the manifold of Desires and the manifold of rules.

Practical Comparison

These two sources supply the comparates in practical comparison. Now, a presentation of reflective judgment may or may not constitute a condition of a rule in the manifold of rules. (The latter would be the case where no ruling in regard to a particular action connection in reflective judgment has yet been established). In the case of the latter, the condition of Desire has no corresponding determined condition in practical judgment and therefore is practically unconditioned. In this situation, the aliment of Desire satisfies the formal criterion of practical universality (has no known exceptions). In the case of the former, a comparison is possible and we must examine what is meant by a ‘practical act of comparison.’

We discussed the various implications bound up in the general idea of ‘comparison’ in Chapter 4 (§7.3) and elaborated upon this idea in Chapter 14 (§§2 and 2.1). We saw there that logical comparison is an act by which there results the representation of an association. In sensibility and reflective judgment this association is seen as putting comparates into association with a feeling of satisfaction or dissatisfaction, and the idea of comparison is an idea of aggregation and separation (i.e. analytic aggregation and division). However, practical comparison must differ from this because within pure Reason there are no representations of feelings. Speaking of the capacity for comparison in general (*Vergleichung*), Kant remarked,

> Before we pass over to the capacity for *Lust* and *Unlust*, we still must treat of the capacity to compare and to know objects in comparison (as a transition of the higher faculty of knowledge to the capacity for differentiation of objects according to feeling, *Lust* and *Unlust*). The plastic capacities, or faculty of knowledge, are capacities for producing representations. But now we also have a capacity for comparing representations, and that is *wit* and *acumen*. *Wit* (*ingenium*) is the capacity for comparing objects according to differences. The capacity for agreement or sameness underlies our general concepts. In each judgment I know that something either belongs under the general concept or not; this is wit. E.g. whether foxes belong under the general concept of a dog. Thus one can seek comparison and agreement in the whole of nature. But when I have a negative judgment, when I find that it does not belong to the general concept, but rather is different from it, then that is acumen (*acumen*). The expressions of acumen are those through which we guard our knowledge from error, and thus purify them, when we say what the things are not. But through wit

> we widen our knowledge; wit is thus the first. At first I make all sorts of comparisons, but then comes acumen and distinguishes one from the other [KANT19: 61 (28: 244)].

Elsewhere he tells us,

> Now we come to the second difference of the sensuous power of knowledge, namely,
>
> II. with respect to their production, and indeed (A) to *facultas comparandi*[12]. This is entirely different from *facultas coniungendi seu componendi*[13]. For in comparison I do not set concepts together, but rather only hold them against one another in order to produce new representations. Here we look to *identitatem*[14] and *diversitatem*[15]. *Facultas ad cognoscendum identitatem*[16] is wit; but *acumen ad cognoscendum diversitatem*[17]. The use of wit is positive, but that of acumen negative. The latter protects us from errors, for it shows us not to accept things as the same which are not [KANT19: 253 (29: 884)].

These remarks Kant made in the course of his lectures on the metaphysic of psychology. 'Wit' and 'acumen' as abilities clearly belong under the general ideas of identification and differentiation in our general 2LAR of Quantity, and in the context of the synthesis of appetition they are ideas of assimilation and accommodation – in particular, whether the Desire is assimilated in the manifold of rules already (and, therefore, consistent with universality) or whether it can not be assimilated in its present form. Because we have already presumed that there is a comparate being fed as an aliment of the synthesis from the manifold of rules, the presented Desire must be presumed to already contain something in its form which corresponds to a prior ruling by the process of practical judgment. A verdict of 'wit' would therefore imply that the presentation of Desire has already been conditioned in its present form by the manifold of rules and, therefore, presents no violation of universality. A verdict of 'acumen' on the other hand implies that the presented Desire, as a condition, does not match with prior conditions established in the manifold and is therefore 'different' in some way. It could, for example, indicate that the presented condition of Desire is not wholly contained within the sphere of the manifold to which it, only in part, is held to correspond.

To use the terminology of formal logic, presentations of the manifold of Desires are always the logical subject in practical comparisons; the predicate, put into words, is always one of the modal forms of 'is lawful' (i.e., 'is lawful', 'may be lawful', or 'must be lawful' and the corresponding negatives, e.g., 'is not lawful'). In the form of an Euler diagram, 'acumen' denotes that the presented subject D presents conditions that are not contained in the sphere of the determined lawful conditions. Acumen is therefore the sufficient condition for an analytic

[12] faculty for comparing.
[13] faculty for conjoining or composing.
[14] identity or sameness.
[15] diversity.
[16] faculty for recognizing sameness.
[17] 'acumen is to recognize diversity.'

division of the manifold of Desires, and, inasmuch as the undetermined conditions in this presentation are as of yet neither known to be lawful nor known to be unlawful, it brings this undetermined content of the manifold of Desires under the scrutiny of practical judgment.

We can similarly use the Euler diagram representation to describe 'wit' as a logically universal predication. When the subject D is completely contained within the sphere of a rule in the manifold of rules, it is logically universal. A difficulty, however, arises in the case where the completely unconditioned Desire (the Desire for which no rule has been constructed) is presented. In this case no comparison is possible because we lack the comparate outsourced from the manifold of rules. To illustrate this situation, we can say that the predication is, "D is." We cannot say 'what' D 'is': either lawful or unlawful. D can in this case be practically regarded as nothing else than a pure instinct which serves as 'a law unto itself.' It is not subject to a veto by practical Reason (because it is not unlawful), but equally cannot be left to dangle in this undetermined state. On the plane of practical judgment this case is analogous to the inference of ideation in reflective judgment: it is a singular condition to be evaluated in practical judgment as a law without a sphere. This case clearly reminds us of James' distinction between a blind impulse and its later repetition, which we discussed in Chapter 16 (§7.2), i.e.,

> It is obvious that every instinctive act, in an animal with memory, must cease to be blind after being once repeated [JAME2: 704].

The difference here is that James envisioned the animal as having 'foresight' (cognition) of the results of the action. The 'recording' of the undetermined condition D by practical judgment ("D is") poses no cognitive 'foresight' of the results, merely the practical representation of an actual expression through reflective judgment.

Practical Reflexion

The *Verstandes Actus* of comparison (*Comparation*) and that of reflexion both belong to the idea of comparison-in-general (*Vergleichung*) in Kant's system. *Comparation* has a logico-mathematical connotation, but reflexion always has the connotation of being a 'material comparison' providing the synthesis of matter to go with the synthesis of form provided in *Comparation*. Reflexion makes transcendental affirmations and therefore speaks to Quality in representation. In Chapter 14 (§2.2) we saw that the act of reflexion pairs with the function of compatibility in aesthetical reflective judgment.

The act of practical reflexion likewise pairs with the function of practical compatibility in the synthesis of appetition. Kant described the logical flavor of reflexion as

> consideration how different representations can be comprehended in one consciousness [KANT8: 100 (9: 94)].

Most of his discussions on reflexion involved understanding and tilted toward discussing the making of cognitions of phenomena and of noumenal ideas. However, in the synthesis of appetition we are not directly concerned with understanding appearances but, rather, with what we can call the *practical comprehension* of experience in a structure of universal law. In Kant's hierarchy of degrees of knowledge [KANT8: 73 (9: 64-65)], to comprehend is the seventh and highest degree. He contrasts this with understanding by means of concepts in the following way. In his hierarchy of degrees of knowledge we have among these degrees:

> The *fifth*: *to understand*[18] (*intellegere*[19]), i.e. to know *through understanding by means of concepts* or to *conceive*. This is very different from comprehension. One can conceive much, although one cannot comprehend it, e.g. a *perpetuum mobile*[20], whose impossibility is shown in mechanics.

> The *seventh*, *finally*: *to comprehend*[21] something (*comprehendere*), i.e. to know through reason or *a priori* to the degree that is sufficient for our aims. For all our comprehension is only *relative*, i.e. sufficient for a certain aim; we fully comprehend nothing absolutely. Nothing can be comprehended more than what the mathematician demonstrates, e.g. that all lines in a circle are proportional. And yet he does not comprehend how it happens that such a simple figure has these properties. The field of the understood[22] or of understanding[23] is thus in general much greater than the field of comprehension or of reason [KANT8: 71-72 (9: 65)].

The 'field of the understood' means the scope of what is understood through concepts. Conceptually we can understand very well what a perpetual motion machine would be if it actually existed, and thus we can equally well understand in phenomena what is *not* perpetual motion. But we do not comprehend *why* a perpetual motion machine should be not possible even though we know that such a thing *is* impossible under the laws of thermodynamics.[24] Thus, we can conceptualize more than we can comprehend. (God is another example of this). Even though

---

[18] *verstehen*.
[19] to understand by a term, take as its meaning.
[20] forever movable.
[21] *begreifen*.
[22] *Das Feld des Verstehens*. Kant is referring here to that which is understood at the fifth degree of knowledge (*verstehen*).
[23] *Verstandes*.
[24] As an interesting side note, it is the perpetual motion *machine* that physics holds to be impossible rather than perpetual motion 'itself.' One outcome of the quantum mechanics is the idea of 'zero point energy.' This is a consequence of the theory and it says that at a temperature of absolute zero a confined particle still has non-zero kinetic energy (i.e. still has harmonic motion). This is 'perpetual motion.' However, there is still no way to harness and use zero point energy to build a perpetual motion *machine* because what would be necessary in order to do so contradicts what is possible to do under the theory of statistical quantum mechanics. We know *how it is* that we cannot build the machine; we do not know *why* Nature is this way.

the scope of the fifth degree is wider, it still lacks something (comprehension) needed to complete it and is therefore not logically perfect.

Now, the *aim* of all determinations of appetitive power is Self-*Existenz* in a state of perfect equilibrium. Perfect equilibrium, however, is an Ideal of Reason and what we can *know* is not the *noumenon* of perfect equilibrium *per se* but rather merely the lack of this practical perfection. Practical comprehension goes no farther than "the degree that is sufficient for our aims." Regardless of whatever one's understanding may come to include within the scope of 'perfect' equilibrium, an equilibrium in any given special case must come within this scope. Furthermore, no equilibrium can be perfect if it is in contradiction with the aim of practical judgment, which is practically universal law. Practical reflexion, as an act in the synthesis of appetition, is the act which aims at *practical* comprehension, and, as we have just seen, practical comprehension here implies nothing more than appetition with a sufficiency in degree to meet the aim of practical perfection. Logical perfection in understanding (conceptual comprehensiveness) and aesthetical perfection in reflective judgment (aesthetical comprehensiveness) both begin with practical comprehension in appetition. At the same time, consciousness of lack of perfection in the aims of understanding and judgment is also the undoing of practical perfection. (In an Organized Being each of its logical parts is simultaneously the effect of the other parts and the cause of determination of these other parts).

Thus, the transcendental affirmations of practical reflexion are affirmations made in regard to practical comprehension. Their relationship to the *momenta* of Quality in practical judgments is plain enough, but still the act of reflexion and that of judgment are not the same act, and our task is to set out the difference. To comprehend is to assimilate and so to assimilate the condition presented in Desire into universal conditions of practical law is reflexion's task. But reflexion as an act belongs to the synthesizing of an appetite, and so we must look at reflexion in terms of the mutual compatibility of the determined appetite and determined conditions of practically universal law. Put in other words, the act of reflexion deals with the degree of compatibility with which a coalition of the matter of composition of actions suffices for serving a purely intelligible interest of Reason.

The synthesis of appetition *makes* an appetite under a two-fold set of conditions, which on the one hand are presented consciously through the sensible capacities of judgmentation and on the other hand are represented as non-sensible (intelligible) conditions in the manifold of rules. This division is none other than division in the transcendental place of the conditions of action. Appetite as an object belongs entirely to practical Reason, thus belongs transcendentally to intelligible place, and so practical reflexion must be seen as an act that discovers the homogeneity

shared between the conscious conditions presented by reflective judgment and the non-conscious conditions presented by practical judgment,[1] and by this discovery it makes an assertion based on what it finds in common among the conditions. In this respect the synthesis of appetition is analogous to the synthesis of an intuition that leads to a concept. The role of an appetite is in this sense the practical counterpart to the role of a concept in cognition.

> Concepts arise by means of comparison[2], reflexion, and abstraction. I grasp in one consciousness many representations, in which I compare[3] what is only a reiteration of the rest. From reflexion, then, one recognizes that which many things have in common; afterward one's abstraction takes away that wherein they do not come to terms, and then a common representation remains. No concept comes to be, then, without comparison[4], without perception of a mental preparation, and without abstraction. Could I not abstract, I would have no concepts because something other than what is common to the individual representations would always come into my mind . . . One well sees that no concept comes to be through omission and abstracting; instead, this perfects it and makes it so that it does not remain singular. The positive in the process of creation of a concept is comparing and reflecting, the negative abstracting [KANT8a: 352-353 (24: 909)].

The homogeneous in the composition of coalition is what the 'many things have in common.' But what, we are then led to ask, does a condition of Desire have in common with a condition of universal law? To see the answer to this, we first remind ourselves that the first principle of every presentation of Desire by reflective judgment is the principle of formal expedience (*Zweckmäßigkeit*):

> Now because the idea of an Object, so far as at the same time it contains the ground of the actuality of this Object, is called the *purpose*, and the congruence of a thing with that property of things that is only possible in accordance with purposes is called the *expedience* of its form: thus the principle of the power of judgment in regard to the form of the things in nature under empirical laws generally is the *expedience of nature* in its diversity [KANT5c: 68 (5: 180)].

Whatever may specifically make up the matter of the manifold of Desires (and this matter is called desire), the form of this manifold (desiration) presents the congruence of desire with purpose. Purpose (*Zweck*) is the homogeneous factor found in both Desire and the manifold of rules.

Common English translations of the word *Zweck* include: aim, end, object, goal, objective; intent, purpose, and design. These usages mirror those found in the English definitions of the word:

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[1] Recall that composition is the synthesis of a manifold of what does not necessarily belong to each other but can nonetheless be combined by virtue of their homogeneity. In Quantity this is aggregation directed at extensive magnitude, in Quality it is coalition directed at intensive magnitude [KANT1a: 285-286 (B: 201fn)]. In our present context, the manifold in question is the manifold in an appetite.
[2] Comparison as *Comparation*. Kant used the Latin term *comparationem* here.
[3] *vergleiche*. The connotation here is comparison-in-general rather than only *Comparation*.
[4] *Vergleichung*. Comparison-in-general, i.e. *Comparation* plus reflexion.

> **purpose**, *v.t.* and *v.i.* [ME. *purposen*; OFr. *purposer*; L. *propositus*, from *proponere*; *pro*, before, and *ponere*, to place.] to intend; to design; to resolve; to determine on, as some end or object to be accomplished.
>
> **purpose**, *n*. 1. that which a person sets before himself as an object to be reached or accomplished; aim; intention; design.
> 2. end in view; the object for which something exists or is done; as, what good *purpose* will this answer?
> 3. resolution; determination.
> 4. instance; example. [Obs]

If a representation of an Object *contains* the ground of the actuality of this Object, it is this part of the representation in which subsists the *practical purpose*, and we can now see that **a practical purpose is nothing other than the cause** for making actual the *Existenz* of its object (*Lust*) or for setting up real opposition to the actual *Existenz* of this object (*Unlust*). No Object that does not contain within its representation the representation of a practical purpose can be properly said to be an end, aim, intention, goal, or design. From this we arrive at the Critical *Realerklärung* of appetite: **Appetite is the representation of a determined practical purpose**. Hence, **the synthesis of appetition *resolves* a practical purpose**.

Practical reflexion is therefore the act of making a coalition of those parts in both the form of desiration and the manifold of rules that are congruent in *one* action. The word 'congruent' comes to us from the Latin *congruere* (to run together, to agree). Mathematics provides us with a formalized way of expressing the idea of 'being congruent' that some readers may find useful at this point in our discussion. To understand this mathematical formalism, we must first have the definition of the structure known as a semigroup. A semigroup is a non-empty set S and an associative binary operation $*$ defined on S. An associative binary operation is an operation that takes any pair of elements of S, say a and b, and assigns them to some other element, c, which also belongs to the set S (formally, this is symbolized as $a * b \rightarrow c$). Furthermore, $*$ is such that if a, b, and d are all elements of S then $(a * b) * d$ and $a * (b * d)$ both produce the same result. The typical symbol for a semigroup is $[S, *]$. The semigroup is said to have an equivalence relation γ[5] if γ defines a set of ordered pairs of elements of S, called R, such that

> $a \gamma a$ is an element of R for every a in set S;
> if $a \gamma b$ is an element of R then $b \gamma a$ is also an element of R; and
> if $a \gamma b$ is an element of R and $b \gamma c$ is an element of R then $a \gamma c$ is also an element of R.

If in addition we have for elements a, b, c, and d in S the equivalence relations

[5] The most typical equivalence relation in mathematics is, not surprisingly, "equals". However, there are others as well. One is the relation of 'similar triangles'; two triangles 'are similar' if their set of angles are the same (e.g. both have angles of, say, 30°, 70°, and 80°) no matter what may be the lengths of their sides.

(a γ b is an element of R) and (c γ d is an element of R)

such this also implies that (a ∗ c) γ (b ∗ d) is an element of R, then γ is called a congruence relation.

For those of us to whom mathematics does not sweetly sing, what this says is that a congruence relation is a relationship having the property of *substitution* with respect to an operation. If I can substitute *a* for *b* in some operation without changing the outcome, then *a* and *b* are *congruent* with respect to the operation. For example, the remainder of 10 divided by 3 is 1, and the remainder of 4 divided by 3 is 1; therefore 10 and 4 are congruent with respect to finding the remainder in dividing by 3. The notation "*a* γ *b*" above can be read "*a* and *b* are γ" where γ is a predicate that expresses the manner of equivalence. A concrete example is "6 and 20 are integers." If *S* is the set of whole numbers and ∗ denotes addition (+), the statement "(1+2) and (3+4) are integers" is an example of a congruence predication because "3 and 7 are integers." We can substitute "3" for "(1+2)" and substitute "7" for "(3+4)" and we can likewise truthfully make the predications "7 and 3 are integers" and etc. for the other conditions of an equivalence relation stated above. The predicate "are integers" is the congruence relation(ship).[6]

The act of practical reflexion is a synthesis in Quality that affirms a lawful purpose in an appetite. With regard to the two transcendental sources of action conditions *it constructs a congruence structure with respect to lawful practical purposes*. This is the *Realerklärung* of practical reflexion. Armed with this *Realerklärung* as the ground in practical objective validity, we are also finally in a position to state the *Realerklärung* of the *Verstandes Actus* of reflexion in sensibility: Reflexion in sensibility is the act of constructing a congruence structure with respect to formal expedience in intuition.

Practical Abstraction

Abstraction is the 'negative' act to reflexion's 'positive' act. In Chapter 4 (§7.3) we saw Kant describe abstraction as the 'replay' of attentiveness and the 'actualization of attention' ('attentiveness' being the term for consciousness according to choice). In Chapter 3 (§4.2) we saw that abstraction in the synthesis of apprehension is the segregation of factors of

[6] A congruence relation in itself denotes a 'relationship' but not a Relation (form of the form). This is because it does not 'make a connection' between *a* and *b* but merely affirms a property they share in common, and this affirmation goes to Quality rather than Relation in representation.

representation that hinder a purpose. This interpretation clearly presupposes that such a purpose has been represented and is being attended to through the actions of the Organized Being. Abstraction in the synthesis of appetition, on the other hand, is an act in the making of a purpose (since an appetite is a representation of a determined practical purpose). More specifically, it is a *focusing* act of what we can probably best describe as an act of *persistence of effort* insofar as that which abstraction 'segregates' in the synthesis of appetition are those factors that would otherwise cloud and hinder attending to the purpose.

In Chapter 14 (§2.3) we saw that abstraction in the synthesis of apprehension was the act for which the corresponding function was transcendental anticipation. Abstraction there was thus tied to reflective judgments of interest and to the subjective distinction of ends and means. All such interests necessarily presuppose the representation of a purpose. We recall that transcendental anticipation means 'all knowledge through which I can know and determine *a priori* what belongs to empirical cognition'; the possibility of transcendental anticipation, however, must presuppose practical objective validity in a ground of determination if such a determination is to be capable of a specification in the concrete. *Practical anticipation* is the idea of such a ground, and by this idea we understand the future-directed character of appetite as a causality for interest. Specification is a determination of accommodation according to Piaget's principle of accommodation as stated in his second empirical postulate of equilibration:

> The entire scheme of assimilation must alter as it accommodates to the elements it assimilates; that is, it modifies itself in relation to the particularities of events but does not lose its continuity (hence it can maintain closure and function as a cycle of interdependent processes) nor its earlier powers of assimilation. This second postulate (already proved valid on the biological level by the formation of phenotypical 'accommodates') states the necessity for an equilibrium between the assimilation and the accommodation in order for the accommodation to succeed and remain compatible with the cycle, modified or not [PIAG19: 7-8].

Note that this character of equilibration in appearances (phenomenon of equilibration) requires at the same time both change ('modification') *and* persistence (maintenance of continuity, maintenance of closure and function of a cycle, and maintenance of previous capabilities of assimilation). The practical implication is that, within any changing characteristics of determined appetites, there must also lie therein a common 'nucleus' or 'attraction' or 'practical focus' that provides the basis for determinations of 'likeness' and 'unlikeness' which the idea of 'segregation' in abstraction presumes. Thus although the act of practical abstraction is 'negative' in the sense that it sets up real opposition (*Entgegensetzung*) to particular actions, such a 'negative' act necessarily presupposes something 'positive' with respect to which the negative act (Piagetian 'type α compensation') is understandable as an act of *limitation of interest*. This is as much as to say that in appearances we adjudge as manifestations of an appetite there is found

something persistent in subjective time, and we call this persistence by the name 'attention.' The possibility of this requires a grounding, which we will call the practical anticipation in appetite.

This does confront us with the issue of 'what' attention is. Attention is usually viewed as being part of the phenomenon of consciousness. Yet our 2LAR of the faculty of pure consciousness (figure 5.6.1) makes no explicit mention of it.[7] In speculation there has often been the supposition that 'attention' is 'grasping' or 'holding' something in consequence of some positive or attractive 'mental force.' (In some cases, this speculation takes a turn toward a 'spiritual force'). On the other side of the issue lies 'effect theory,' which makes 'attention' an epiphenomenon and enjoys strong ties to empiricism, scientific materialism, and the automaton theory. Is 'attention' a proactive cause or merely a name for whatever is left after abstraction has done its task? James saw 'attention' as the most accessible characteristic of empirical consciousness. He had the following remarks to make concerning the issue of 'attention':

> Everyone knows what attention is. It is the taking possession by the mind, in clear and vivid form, of one out of what seem several simultaneously possible objects or trains of thought. Focalization, concentration, of consciousness are of its essence. It implies withdrawal from some things in order to deal effectively with others, and is a condition which has a real opposite in the confused, dazed, scatter-brained state which in French is called *distraction*, and *Zerstreutheit* in German . . .
>
> The abolition of this condition is what we call the awakening of the attention. One principal object comes then into the focus of consciousness, others are temporarily suppressed. The awakening may come about either by reason of a stimulus from without, or in consequence of some unknown inner alteration; and the change it brings with it amounts to a concentration upon one single object with the exclusion of aught besides, or to a condition anywhere between this and the completely dispersed state [JAME2: 261-262].

> When, a few pages back, I symbolized the "ideational preparation" element in attention by a brain-cell played upon from within, I added "by other brain-cells, or by some spiritual force," without deciding which. The question "which?" is one of those central psychologic mysteries which part the schools. When we reflect that the turnings of our attention form the nucleus of our inner self; when we see (as in the chapter on the Will we shall see) that volition is nothing but attention; when we believe that our autonomy in the midst of nature depends on our not being pure effect, but a cause . . . we must admit that the question whether attention involves such a principle of spiritual activity or not is metaphysical as well as psychological, and is well worthy of all the pains we can bestow on its solution. It is in fact the pivotal question of metaphysics, the very hinge on which our picture of the world shall swing from materialism, fatalism, monism, towards spiritualism, freedom, pluralism, - or else the other way [JAME2: 291].

> I have stated the effect-theory as persuasively as I can. It is a clear, strong, well-equipped conception, and like all such, is fitted to carry conviction where there is no contrary proof. The feeling of effort certainly *may* be an inert accompaniment, and not the active element it seems. No measurements are as yet performed (it is safe to say none ever will be performed) which can show that it contributes energy to the result. We *may* then regard attention as a superfluity, or a "Luxus," and dogmatize against its causal function . . . When we come to the chapter on the Will, we shall see that the whole drama of the voluntary life hinges on the amount of attention . . . which rival motor ideas may receive. But the whole feeling of reality, the whole sting and excitement of our voluntary

[7] Recall that the faculty of pure consciousness is the schema of representation of empirical apperception (Chapter 5 §3.2).

> life, depends on our sense that in it things are *really being decided* from one moment to another, and that it is not the dull rattling off of a chain that was forged innumerable ages ago. This appearance, which makes life and history tingle with such a tragic zest, *may* not be an illusion. As we grant to the advocate of the mechanical theory that it may be one, so he must grant to us that it may *not*. And the result is two conceptions of possibility face to face with no facts definitely enough known to stand as arbiter between them.
>
> Under these circumstances, one can leave the question open whilst waiting for light, or one can do what most speculative minds do, that is, look to one's general philosophy to guide the beam . . . Meanwhile, in view of the strange arrogance with which the wildest material speculations persist in calling themselves "science," it is well to recall just what the reasoning is, by which the effect-theory of attention is confirmed. It is an argument from analogy, drawn from rivers, reflex actions and other material phenomena where no consciousness *appears* to exist at all, and extended to cases where consciousness seems the phenomenon's essential feature [JAME2: 294-295].

We reviewed James' theory of attention in Chapter 5 (§4.1). That which James calls 'effect-theory' had no choice, being based upon the notion of physical causality, but to regard 'attention' as an effect or by-product. 'Spiritualism,' which James confessed to favor but, "as my reasons are ethical they are hardly suited for introduction into a psychological work," declined to put forward as a scientific argument, hinges essentially on the type of 'free will' conception that lacks objective validity due to it being grounded in a transcendent rather than transcendental object (namely, 'the soul'). In some modern-day theories, generally of a highly mathematical form, the simplistic conception of mechanistic cause and effect (which was dealt a telling blow by the development of the quantum theory) is abandoned in part. We find in its place an interesting turn toward reliance upon the idea of unpredictability (couched in such terms as 'chaotic systems' and 'strange attractors') in what is in some ways a valiant effort to unite the two views which in James' day seemed irreconcilable. Here 'unpredictability' replaces 'soul' but 'unpredictability' is a mere epiphenomenon of nonlinear difference or differential equations ('chaotic equations'), and in this way the theory bars the entrance of 'chance' (*causus*) and 'fate' (*fatum*) into physical science.[8] Systems called chaotic usually possess what is called an 'attractor' (and, sometimes, something called a 'repellor'), and an attractor serves, in a mathematical sense, the role of 'that towards which things converge.'

To call abstraction the 'replay of attentiveness' or the 'actualization of attention' might seem at first brush to be the opposite to 'concentration of consciousness' and 'taking possession of' by the mind, as James put it. Attention is clearly not the sole characteristic of consciousness, empirical or otherwise:

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[8] Unpredictability combined with regularity (e.g. 'statistical regularity') is what we could call the 'essence' or 'soul' of the idea of mathematical probability. (Contrast this with a 'miracle,' which is unpredictability without regularity). Mathematical chaos and chaotic systems are characterized by unpredictability, indecomposability, and regularity (all of which have specific mathematical definitions). The interested (and mathematically well-trained) reader can consult any of a number of books on the topic, e.g. R.L. Devaney, *An Introduction to Chaotic Dynamical Systems*, 2nd ed., Redwood City, CA: Addison-Wesley Publishing, 1989.

> Consciousness is the capacity for grasping representations so that we can reproduce them; the skill for that is called the capacity of remembrance, memory [KANT19: 375 (28: 674)].

Certainly abstraction conforms to the idea of 'selection,' which is also a feature of attention and what some might argue is the *central feature* of attentiveness. What, then, is attention? Is it a cause or a causality? Is it an effect? Can it somehow be both? Or is it, as Kant implied and James agreed, the determination of consciousness by means of choice? If so, is abstraction to be seen merely as the ability to be *in*attentive? We will see our answer to this in the next section. Our present task is to get at the *Realerklärung* of the act of practical abstraction.

Abstraction presupposes the ability to segregate representations based on 'unlikeness' just as reflexion presupposes the ability to make a coalition of representations based on 'likeness.' It is, however, crucial to understand that 'likeness' and 'unlikeness' here do not implicate objective 'likeness' and 'unlikeness.' Freud remarked,

> The unconscious comprises, on the one hand, processes which are merely latent, temporarily unconscious, but which differ in no other respect from conscious ones and, on the other hand, processes such as those which have undergone repression, which if they came into consciousness must stand out in the crudest contrast to the rest of the conscious mind [FREU3: 430].

We note here that the focus of this remark is on processes. What does it mean for a process to be 'conscious' or 'unconscious'? The only consistent answer to this is to say that a process is 'conscious' only if it affects perception (representation with consciousness). We also take note of Freud's characterization of 'repression' as an act which suppresses having an effect of some other process become conscious, i.e. suppressing it from affecting perception, on the criterion that otherwise this perception would 'stand out in the crudest contrast.'

We saw earlier that practical reflexion is the act of constructing a congruence structure with respect to lawful practical purposes. (Mathematically, this amounts to constructing the definition of the set R of which we spoke earlier). Logically, however, this construction requires that we *have* a congruence predication (the "are γ" predication from above) and neither comparison nor reflexion as acts include the idea of *making* such a practical predication. Does the act of practical abstraction make such a predication? or must it likewise presuppose it? and in either case how is this predication to be obtained in the first place?

Here the key consideration is found in the fundamentally 'negative' character of practical Reason in exercising a 'veto power' over actions. The presentations of reflective judgment are all bound by the principle of formal expedience, and reflective judgments make an immediate connection with the power of motoregulatory expression. The ground of Reason's 'veto power'

lies in the causality of freedom, and we have seen that only a negative criterion – contradiction of universal law – has practical validity for the exercise of this capacity. Practically universal law in application subsists in the structure of the manifold of rules in whatever form this may be given by the process of practical judgment, and here the sole 'blueprint' is mapped out by the formula for equilibration we call practical Reason's categorical imperative. In the early stages of life the manifold of rules is a sparse structure *seeded* by the presentations that reflective judgment judges as expedient. If the action results in a cycle of equilibrium, then the condition presented in desiration conforms to the requirements of the categorical imperative and this is enough for the condition to be made the condition of a not merely expedient but *legal* act.

The *nexus* of desiration is the product of the act of teleological reflective judgment, and we recall that all outcomes of this process of judgment are judicial beliefs. But since all such judgments are judgments of formal expedience, they in effect always make a *de facto* predication "*D is legal*." The judgment is legislative. Practical Reason, however, *judges the judgment* of the belief (i.e., rules for or against its 'constitutionality') against the backdrop of the whole of experience. The fundamental congruence predication is 'is legal' and is *a priori* necessary for the possibility of any action becoming non-autonomic. This latter is the case because the very notion of 'legal' has no meaning without contrast to the notion 'illegal.' A non-autonomic action is understood as an action that involves the act of choice, and there can be no practical validity to the idea of 'choice' unless the Organized Being possesses the possibility to *not* take the action.

Practical comparison and reflexion are acts of the composition of the matter of an appetite. But representation requires also connection in a manifold, and the accomplishment of the act of practical abstraction is *determination of the sphere of the appetite* with respect to its connection of conditions in the manifold of rules. In Chapter 8 (§5.1) we saw that the sphere of a concept refers to the logical structure of a manifold of concepts in which that concept is contained. We here say that the sphere of an appetite is the logical structure of a manifold of rules in which the specific conditions of the lawfulness of the appetite are contained. The spheres in which a concept is contained delimit the concept's *context*. The spheres in which a practical condition is contained likewise delimit the context of the appetite. **Practical abstraction is the act of delimitation of the context of the conditions of an appetite**. To delimit the context of a rule means to place limitations on its application, and this practical abstraction can accomplish only by noting contradictions between the condition set by reflective judgment and conditions contained in the manifold of rules and then by responding to oppose the specific action. In this act there is a practical anticipation: an action vetoed in appetition does not become part of an appetite and therefore does not become actual; thus this veto is not based upon immediate conditions but

rather by the anticipation of a disequilibrium should the act be made actual in an action. This act makes no positive contribution to the Quality or Quantity of the appetite (thus is an act in reference to the manifold of rules but not to the composition of the synthesized appetite). It *does* determine an immediate context of action and, as we are about to see, establishes a *scope of choices* that constitutes a determination we will call **attention**.

§ 7.2 The Process of Choice

We described 'choice' in Chapter 12 (§3.2) as the Modality of appetitive power. Kant tells us that 'choice' means "to make something the object of one's appetite." He further tells us that choice is the capacity "to do or to refrain as much as one likes" combined with consciousness of the ability to bring forth the Object of the deed. (I would amend this statement to say that it is not consciousness of the ability but consciousness of the belief of having the ability). The "capacity to do or to refrain as much as one likes" is what Kant called "appetitive power in conformity with concepts."

Now it is obvious that these characterizations are mere descriptions of marks or concepts by which we say that some action resulted from 'the making of a choice.' It is equally clear that we cannot leave 'choice' hanging in such an incomplete state of explanation. Is choice a fundamental 'force' or 'power' of *nous*? This is the same as asking if choice is an act of spontaneity. Or is choice merely an outcome or result or effect? This is the same as asking if choice is a mere epiphenomenon. Or is it somehow both? Is 'attention' a prerequisite for choice? Or is choice a prerequisite for attention? Either case places one in subordination to the other. Or is attention sometimes the prerequisite for and sometimes the consequence of choice? Or are attention and choice co-determining (reciprocal acts)? Is choice equivalent to determining an appetite or are some appetites not a matter of choice? If choice is appetitive power in conformity with concepts, how is it that there can come to be a relationship between concepts (which belong to determining judgment) and choice (which belongs to pure Reason)? These are Critical questions, and their answers are crucial to an objectively valid explanation of the idea of 'choice.'

Choice is sometimes made to be synonymous with another term, namely 'volition.' The idea of 'volition' occupied an important place in James' work, but it has been long since psychology seriously attempted to come to grips with this idea. Science writer Morton Hunt tells us

> James' psychology of will was an important feature of American psychology for some years, but during the long reign of behaviorism – from about 1920 to the 1960s – the topic all but disappeared from American psychology; there was no place in that deterministic system for any behavior initiated by the organism itself. Nor has it come back into fashion since then, at least not under that name; the word does not even appear in the index of many a contemporary psychology textbook.

> Yet James' psychology of will is, in fact, part of the mainstream of modern psychology under other names: "purposive behavior", "intentionality", "decision making", "self-control", "choices", "self-efficacy" and so on. Modern psychologists, especially clinicians, believe that behavior is, or eventually will be, wholly explicable, yet that human beings can to some degree direct their own behavior. If psychologists have not yet been able to answer how both these notions can be true at the same time, they often settle for William James' own conclusion: the belief that we cannot affect our own behavior produces disastrous results; the belief that we can, produces beneficial results.[9]

The word 'choice' does not appear as a technical term in Reber's *Dictionary*. The closest things we can find there to 'choice' are 'volition' and 'selection':

> **volition 1.** Generally and loosely, conscious, voluntary selection of particular action or choice from many potential actions or choices. **2.** In the writings of the early introspectionists, a complex arrangement of kinesthetic sensations and images that occurred along with a conceptualized goal or end of one's actions or thoughts.

> **selection 1.** Broadly, choice. The term is used freely with respect to any operation whereby some individual, group, subject, item, etc. is chosen to be included in a sample, an experiment, a group, etc. **2.** In evolutionary biology, the process whereby individual organisms, possessing particular genetic characteristics which make survival and reproductive success in their environmental niches more likely, cause a progressive sequence of changes in the genes for that species. Strictly speaking, it is the *genes* themselves that are selected for by this process, although it is the success of their associated phenotypes that is the causal process. **3.** In operant behavior analysis, the process whereby particular behaviors become part of an organism's repertoire of responses by virtue of the particular consequences of those behaviors. It is used analogously with meaning 2 only instead of features of species being selected for, behaviors of individual organisms are.

It is clear that most of these definitions are not of much help to us. The single exception is an idea embedded under the third definition of 'selection' that we can liberate: choice is a *process*.

As Modality (matter of the form) of appetitive power, the principle that grounds the explanation of choice presented now is the principle of unity of apperception. We have seen, time and again, that our real-explanations of Modality reference apperception in the Organized Being's faculty of knowledge. In the case of appetitive power, the direct regulative principle of its acts is the principle of the causality of freedom, and this regulates for acting to produce a general state of equilibrium. **Choice is reason acting to harmonize the free play of the synthesis of appetition and the process of practical judgment by means of ratio-expression**. It only remains for us to explain what this means.

First, what do we mean by 'harmonize' in this practical context? Kant tells us

> Substances harmonize if the state of one substance corresponds with the state of the other [KANT19: 399 (28: 758)].

Now let us recall that in the Critical Philosophy 'substance' is the notion of something persistent

[9] Morton Hunt, *The Story of Psychology*, NY: Anchor Books, 1994, pg. 160.

in time. In our present context this means that we are to look for something in the representation of our object (the free play of the synthesis of appetition and practical judgment) that can be regarded as 'the persistent in time' when we make a concept of this object for our theory. Since our object is the unity of one particular process (the *commercium* of appetition and judgment), this 'persistent' is merely the *cycle of interaction* taking place. It follows at once that harmonization of the free play of these two processes of Reason means the establishment of a stable cycle of interaction between practical judgment and the synthesis of appetition in the loop running from practical judgment through the manifold of rules to the synthesis of appetition and back to practical judgment (refer to figure 20.6.1). 'Stability' here implies the absence of further innovations forthcoming from the synthesis or the construction of the manifold of rules, and thus this stability implies rational equilibrium.

Innovations are kept out of such a cycle by the suppression of factors that would otherwise disturb the cycle, or prevent its closure, or carry the expression off into some other cycle (rupture of the first cycle followed by establishment of another). Acts which oppose innovations are acts that Piaget would perhaps have called type α compensations. In the synthesis of appetition it is abstraction that provides this function. But in the functioning of judgmentation, innovations are compensated by setting up other representations that present a real opposition to the innovative representation. **Attention is the expression of type α compensations in judgmentation which oppose innovations that hinder the cycle of equilibration**. Thus, attention originates through ratio-expression in making the determination of appetitive power.

Now in practical harmonization the regulative Ideas of the hypothetical-practical perspective call for a maximization of the contributions from the sphere of allowable practical rules in the acts of comparison and reflexion (because practical perfection calls for acting to attain an absolute completion of conditions). If a presentation of reflective judgment *can* be brought under a rule in the manifold of rules, completion requires that it *be* brought under this condition. An initial presentation of reflective judgment can harmonize at once if for this determinable the manifold already contains its determined condition. But the manifold of rules is a connected unity in which rules are connected in series and in coordination. These connections at once bring into play other *possible* rational conditions, and if the presentation of reflective judgment is not already assimilated under them, ratio-expression stimulates *motivation* (the accommodation of perception). Thus Reason acting through the motivational dynamic attempts to assimilate to as many conditions as possible subject to the need to equilibrate a cycle. This is nothing else than *the empirical employment of speculative Reason* in the service of the categorical imperative.

On the other hand, it may be that for the presentation of reflective judgment no

corresponding rule in the manifold has yet been constructed. In this case it is practical judgment that must undertake accommodation of the manifold. We can well expect this to be a frequent operation in the early stages of life when the infant's actions consist of primitive sensorimotor reflexes. It also accounts for the empirically observable role that initial failures are seen to play in sensorimotor adaptation: the presentation of reflective judgment is similar enough to a rule contained in the manifold to summon this condition into the process, but it is dissimilar enough to require accommodation through motoregulatory expression, ratio-expression, or both.

Stimulation of motivation through ratio-expression is an exhibition of the practical idea of the causality of freedom. Motivation through ratio-expression accommodates sensibility through the Organized Being's capacity for spontaneity, and this we can regard as accounting for the non-sensuously-determined character of behavior that is the basis for psychology and neuroscience having to postulate a 'motivational state.' How, though, under the Critical epistemology are we to look at Reason's role and character in this spontaneous action? Kant provided us with a rather detailed explanation of this in *Critique of Pure Reason*. We shall take a look at this explanation piece-by-piece.

> Supposing now one could say reason has causality with respect to appearance; could reason's act then be called free even though in its empirical character (the mode of sense) it is all precisely determined and necessary?[10] This [empirical character] is once again determined within the intelligible character (the mode of thinking). We know not the latter, but it is indicated through appearances, which properly make known only the mode of sense (empirical character). Now the act, so far as its cause is to be attributed to the mode of thinking, nevertheless does not at all ensue from it according to empirical laws, i.e. such that the conditions of pure reason *precede*, but on the contrary only such that their effects in the appearance of inner sense precede. Pure reason, as a merely intelligible capacity, is not subject to the form of time, and hence not subject to the conditions of the time sequence. The causality of reason in the intelligible character *does not arise* or start working at a certain time in producing an effect. For then it would itself be subject to the natural law of appearances, so far as this determines causal series in time; and its causality would then be nature and not freedom. Thus we could say: if reason can have causality with respect to appearances, then it is a capacity *through* which the sensuous condition of an empirical series of effects first begins. For the condition that lies in reason is not sensuous and does not itself begin. Accordingly, there takes place here what we did not find in any empirical series: that the *condition* of a successive series of occurrences could itself be empirically unconditioned. For here the condition is *outside* the series of appearances (in the intelligible) and hence not subject to an sensuous condition or to any time determination through any passing cause [KANT1a: 542-543 (B: 579-580)].

This is rather a lot to swallow at one gulp, so let us break it down. We understand appearances in Nature as being conditioned in a series according to physical causality and dependency. But, as we have seen long ago, the *Realdefinition* of this category refers to the transcendental schema of

[10] Kant means here that the empirical use of Reason is exhibited in appearances, which must always be determined under the category of causality & dependency; hence through the series in appearances empirical Reason appears to be precisely and necessarily determined with respect to cause and effect in subjective time.

succession in time, and time is nothing other than the intuitive form of inner sense. But the *intuition* of time belongs to sensibility as a form of representation, applies only to objects of appearance, and *Reason is an intelligible object* not bound to time-determination. Rather, since determining judgment does not determine its own employment, and because all acts of determining judgment involve combination under the transcendental schemata of time, ***it is pure Reason that directs time-determination***. (It is of course true that in order to understand Reason – that is, to make a theory of it – we must make an exhibition of its character, that such an exhibition is a sensible appearance, and we must therefore schematize it in time. However, this conceptualization is one which we conceive in community with an *objective* time, the role of which is merely that of **logical order**, and so our theoretical requirement in understanding does not require us to conceptualize *intelligible* Reason as being *bound to being determined* by the pure intuition of subjective time). Reason does not act *because of* the presentation of reflective judgment; it acts because its actions are auto-regulated under the condition of the categorical imperative of pure practical Reason. Reason cannot rightly be said to respond *to* sensuous presentations but, instead, we must say what is sensuously presented is *a schema of* the acts of Reason.[11]

Kant next tell us

> Nevertheless, this very same cause in another regard also belongs to the series of appearances. The human being is himself appearance. His choice has an empirical character, which is the (empirical) cause of all his acts. There is not one of the conditions determining human beings according to this character which is not contained in the series of natural effects and obeys the laws according to which no empirically unconditioned causality is encountered among what happens in time. Hence no given act (since it can be perceived only as appearance) can begin absolutely from itself. But of reason one cannot say that before the state in which it determines choice another [state] precedes in which this state itself is determined. For since reason itself is no appearance and is not subject at all to any conditions of sensibility, no time sequence takes place in it in regard to its causality, and thus the dynamical law of nature, which determines the time sequence according to rules, cannot be applied to it [KANT1a: 543 (B: 580-581)].

When we regard the Organized Being *as a phenomenon*, we have no theoretical option but to regard sensuous conditions and natural effects as having in some way an effect on the determination of choice. To put this more colloquially, Reason cannot run riot in total disregard of the presentations of reflective judgment. These presentations *must* enter into actions somehow, and the question here is: How? Kant tells us what this 'How?' *cannot* be regarded as: It cannot be

[11] This raises an interesting question for mental physics when that science-to-be advances far enough to propose a mathematical description of the process of reasoning. The question is this: Does this intelligible character of Reason imply that equations for describing its process must be of such a form that they do not fall into the class of equations that exhibit causality in the Margenau sense [MARG: 405]? For example, if such an equation is a differential equation, does this imply that this equation must contain objective time as a variable in explicit form? At present we do not possess an answer to this question.

regarded as part of any state from which choice is determined. What does this imply? Mathematically (that is, in terms of mathematical equations) the implication here is that the form of equation governing how the 'determination of choice is made' involves no temporal sequence in objective time. Now, such equations are known to mathematics. Sometimes they take the form of integral transforms in which a parametric variable (objective time as logical order) used as the integration variable disappears in the solution of the integral. One such example, using parametric variable *t*, is

$$\int_{-\infty}^{\infty} e^{-a|t|} e^{-i\omega t} dt = \frac{a}{a^2 + \omega^2} .$$

This equation is an example of what is known as a Fourier transform. Notice that 'time' (*t*) disappears in the solution to the integral. Many more such equations are found in, and constitute the topic of, the branch of mathematics known as the calculus of variations.[12] (You may recall that calculus of variations is used in solving physics problems involving Hamilton's principle, among others). These types of integral equations are heavily used in optimization theory (a branch of system theory).

Within our present context and with regard to motivation, the implication of Kant's statement is that Reason is free to use the schematism of time in howsoever a way satisfies the harmonization of the synthesis of appetition and practical judgment. For example, within the manifold of concepts there are concepts connected as a series under causality and dependency but which, as concepts, stand in no immediate relationship to the current synthesis in apprehension. However, such a connected series can be summoned into this synthesis through the synthesis of reproduction in imagination regardless of the lack of a temporal connection to the 'present' appearance in intuition. The cosmological Idea of Relation (from the theoretical Standpoint) is in point of fact the regulative principle for precisely this type of summoning.[13] Ratio-expression, by means of regulatory determinations of the employment of determining judgment and its manifold of concepts (through the transcendental Ideas), can, so to speak, 'break the timeline' in receptivity through spontaneity (whereupon the free play of imagination and judgment in the synthesis of comprehension must then 'put the timeline back together again' under the gaze of reflective judgment according to the principle of formal expedience). But clearly since Reason has the power to, so to speak, "roam the timescape howsoever it will," Reason as a process cannot come under determination in terms of temporal sequences in subjective time.

[12] For the mathematically-minded, a good introduction to the calculus is variations is: Robert Weinstock, *Calculus of Variations*, NY: Dover Publications, 1974.
[13] Refer to Chapter 4 §2.3.

All this might sound dangerously close to becoming mystical, but in fact we have examples that are not so far removed this idea. In optimum control theory there is an equation, called the Bellman equation (also called the Hamilton-Jacobi-Bellman equation), that governs the design of optimal control systems. The optimization process – which, it must be stressed, is a formal and mathematical process – calls for solving the Bellman equation *backward* in time, beginning at the end (quite literally) and back-propagating in time, thus ending at the beginning. Now, this idea almost universally strikes students encountering it in their optimal control class for the first time as completely absurd and impossible. Nevertheless, and hard as it may be for most people to buy into, it is in fact possible to do this. The most common solution technique is called 'dynamic programming' and it is very widely used in engineering. The point here is that in understanding *intelligible* Reason our eventual recourse is going to come down to mathematics, and in mathematics what we have described above is by no means paradoxical. The fact that we can do such things in real engineered systems also means that they are *not* transcendent ideas.[14]

Getting back to our main thread, Kant goes on to hammer home his point:

> Reason is thus the unceasing condition of all voluntary acts under which the human being appears. Even before it happens, every one of these actions is determined beforehand in the empirical character of the human being. In regard to the intelligible character, of which the empirical one is only the sensuous schema, no *before* or *after* applies, and every act, irrespective of the time relationship in which it stands to other appearances, is the immediate effect of the intelligible character of pure reason, which therefore acts freely, without being determined dynamically by outer or inner preceding grounds of time in the chain of natural causes, and this freedom can not only be regarded negatively, as independence from empirical conditions (for then the capacity of reason would cease to be a cause of appearances), but also indicated positively through a capacity for beginning a series of occurrences from itself, so that in [reason] itself nothing begins, but as the unconditioned condition of every voluntary act it allows of no condition prior to it in time, whereas its effect begins in the series of appearances, but can never constitute an absolutely first beginning in this series [KANT1a: 543 (B: 581-582)].

A few points of clarification are in order in regard to Kant's last long-winded sentence. What exactly does it mean to say that "even before it happens, every one of these actions is determined beforehand"? This remark is meaningful only from the practical Standpoint. To actualize an act of judgment an appetite must be determined and, logically as well as practically, the appetite is prior to the action. We can, in appearances, say that the 'present' moment in time when the presentation of reflective judgment is determined is 'before the action' and, likewise, that the 'first appearance' of the action comes at the next succeeding moment in time. But 'between' these two points in subjective time comes the determination of the appetite, which is no appearance and therefore does not 'take place at' a moment in subjective time. This is how and why "no before and no after" is said to apply to the intelligible character of Reason.

[14] see Frank L. Lewis, *Optimal Control*, NY: John Wiley, 1986.

Time is the pure form of inner sense, and because Reason determines rather than is determined by the form of inner sense, Reason is bound to no sensuous condition (all of which are conditions in a time determination) and thus "acts freely." Through ratio-expression Reason can be the cause of an appearance, and this is the 'positive regard' of freedom. Nothing "begins" in "Reason itself" because the term 'begin' has objectively valid reference only to appearances in time (the principle of generation = second Analogy of Experience). Thus the word 'begins' is not theoretically applicable to the power of pure Reason. Once passage is made over to appearances, because Reason is a supersensible, not a sensible, object and can never 'itself' appear, and since all and only appearances come under the transcendental schematism of time, Reason can never *constitute* in appearance an absolutely first beginning in experience.

The transcendental Ideas are regulative principles of Reason. In the practical Standpoint they regulate for the harmonization of the synthesis of appetition and practical judgment. But to these practical regulations correspond the *theoretical* regulations of speculative Reason, and the *practical need* they work to address for practical Reason *implicates* in these same Ideas speculative Reason's employment of the Organized Being's capacity for understanding. This is the 'essence' of ratio-expression. Taken as a totality, the process of harmonization is the engine of judgmentation in general (*Beurtheilung*), the practical character of which is that which is described by the idea of the motivational dynamic. The Quality in a practical judgment that marks the *positive* agency of Reason is reevaluation, and this practical judgment is the mark of the 'need' to harmonize the making of an appetite and the regulated transformations (structuring) of the manifold of rules.

In the end, that which we call 'a choice' is merely the schematic in appearances of this process of harmonization. The *process* is what provides the fundamental *Realerklärung* of the idea of 'choice.' Now, as we noted above, Reason cannot 'run riot' in total disregard for the presentations of reflective judgment because these presentations contain the conscious perceptions of expedient continuity in the *Existenz* of the Organized Being. If the process of harmonization works as adaptation toward equilibrium, it is equally the case that this adaptation must try to *converge* to this equilibrium. As we noted long ago, the *Realerklärung* of equilibrium is found only in the idea of a stable cycle, and its *attainment* is an aim of practical Reason under the categorical imperative. Kant said above that Reason is "the unceasing condition of all voluntary acts," and here we see the role for practical judgment, in 'holding together' the process of harmonization, in the practical notion of maintenance of purpose in Relation. So long as sufficient formal expedience is judged present in the activities of judgmentation, maintenance of purpose is the practical notion of attention (attending to by practical Reason). The aesthetic

Quality of beauty marks a successful adaptation and attainment (as well as the maintainability of this equilibrium so long as receptivity delivers no disturbance to it).

The aesthetic Quality of sublimity marks a disturbance to equilibrium, and if this disturbance is accompanied by a sufficient degree of *Lust per se* the cycle can be driven to rupture, which we are now in a position to understand as the appearance of a new process of harmonization in which attention (Relation of maintenance of purpose in the manifold of rules) now carries judgmentation in a different direction with regard to feelings and appearances. This puts us in a better position to understand the Critical Nature of Freud's idea of 'repression.' Invalidation and reevaluation are *momenta* of Quality in practical judgment, and an affective perception judged so incapable of being harmonized as to be marked down as a condition that *must* violate practically universal law subsisting in the manifold of rules can not be harmonized other than by being extinguished (type α compensation). To put this another way, this condition in sensibility must be driven *out of perception* because, so far as appetitive power is concerned, it has been made an object of evil. Viewed from this perspective, a successful clinical treatment of neurosis would be one which has helped judgmentation to find a healthy context in which choice can harmonize the reflective presentation of this condition. Otherwise Reason, through abstraction, will find an unhealthy way.

§ 8. Chapter 20 Endnote

It is obvious that there are a great many fine details not made explicit in the Critical theory I have here presented. However, transcendental acroamatic principles can carry us only so far. Pushing past the Critical limits of epistemology makes one into a Hegel through failure to recognize where the rational *a priori* must stop and the torch be passed to empirical science. The Critical Philosophy tells us neither how nor why human beings came to be as they are, it cannot catalog the primitive reflexes of the newborn infant, and it cannot predict the neurology that constitutes the somatic counterpart of the organization of *nous*. A complete description of the psychology of human reasoning must go farther than the mere note that ratio-expression is the application of the regulation by the transcendental Ideas through speculative Reason for the employment of the capacity for understanding.

The complete treatment of pure practical Reason, the synthesis of appetition, and the process of practical judgment must, as we have seen, be mathematical. In the maximization of the scope of the practical rule, the maintenance of purpose in attention, and the direction of (subjective) time-determination by pure Reason, the system theorist might perhaps at this point be able to recognize a *kinship* between the mathematical problem of describing the process of pure Reason

and the well-known problem of optimal control in system theory. If all that Critical metaphysics by itself can do is point out this kinship and its epistemological foundation and conditions, this is still accomplishing a great deal for science. ***It identifies the method for the science***.

But all this going-forward is, I submit, Kantian anthropology and is a task belonging to a proper science of mental physics. I personally am persuaded this science is possible. But a great deal of development, particularly in the development of the Critical foundations of a system of mathematics that accords with Critical epistemology, must take place in order that we might travel this road. As I write this, I foresee no obstacle other than hard work standing between us and the Critical realization of mathematics' lost dream of a capacity of humankind to be able to speak with certainty about Nature (in some things) through mathematics, and to know when we are and are not so-speaking. We will step back and take a look at a few examples of methodology in the final chapters, but the goals of *this* treatise are almost met and the developmental work leading to establishment of mental physics is a task for tomorrow.

There is, however, one more Critical issue that must be examined in detail to complete our Critical understanding of the phenomenon of mind. This is the Critical examination of *time*. It perhaps has long been obvious to you, the reader, that understanding inner sense is vital to our aims since we can represent nothing speculative nor theoretical without our concepts undergoing the schematism of time. Throughout this treatise I have relied upon the readers' abilities to 'picture time' whenever it has arisen in the course of our many discussions. I have filled in a few pieces of it here and there as has seemed prudent and necessary. But the pure intuition of time belongs to the Critical Philosophy and we shall not avoid its necessary Critical examination. We have one more 'theory chapter' remaining, and in this our objective must be to replace non-Critical habits of how we think about 'time' with a Critical understanding of *the logical function* of *the process of the synthesis* of subjective time. Just as our understanding of the pure intuition of space is an understanding of subjective space in terms of logical laws of a process of topological synthesis, our understanding of time must be an understanding of the logical laws of sensibility in regard to inner sense. This is nothing else than the transcendental aesthetic of time.