Chapter 10

The Motivational Dynamic

§ 1. Motivation

The idea of motivation, like that of emotion, is one psychology and neuroscience struggle to deal with. Reber's *Dictionary* calls motivation an "extremely important but definitionally elusive term." Motivation as a technical term is most often used in psychology and in neuroscience as the name for an intervening process or internal state of an organism that drives or impels it to action. This usage also, quite naturally, then leads to further questions and issues in defining what one means by a drive or when one says something impels the organism to action. The plain fact is that a great many human behaviors simply cannot be explained as a response to an external stimulus nor find explanation as a response to some combination of external stimulus plus somatic condition. The putative "motivational subsystem of the brain" has not been identified. Some particular behaviors have been linked to particular brain regions and hypotheses have been made regarding particular cellular and molecular mechanisms that appear to be linked to specific behaviors we call motivated, but an integrated and *general* theory continues to elude science. Like emotion psychology, motivational psychology is characterized by a number of competing mini-theories and not by a single systematic doctrine.

The topic of motivation and its many attending issues is discussed in chapters 15, 16, 19 and 20 of *CPPM*. It has already come up in this book, in chapter 7 (§3.2.3) during our discussion of the judicial Idea, where its *Realerklärung* was given as the accommodation of perception. There it was presented as part of the **animating principle of somatic organization** in *psyche*: motivation is the accommodation of perception and motoregulatory expression is perception assimilation. We are now at the place where we must go into more of the detail behind this real explanation.

Those actions we typically call motivated actions generally appear as compositions of series of accidents. Motivation, then, is often regarded as the idea of that-which-persists-throughout-the-series-of-accidents. This *seems* a reasonable usage because the usage tries to express the idea of something that binds these accidents such that they all "go together" and "belong with each other" in a unity of differences (which is, of course, the notion of totality). In this view, motivation is used as the term for a ground (substance) for causality; the corresponding cause is then called the motive. Fulfillment of the motive, i.e. its satisfaction, is then generally taken as the condition for terminating the series of actions.

All this seems fine so far as it goes. However, one is then confronted with the fact that action-series also exhibit what seems to be a *second* ground for possible termination. The name often

given to this second putative ground is *frustration*: the Organized Being fails to be able to satisfy its motive and simply gives up. Behaviors of this sort are so common and so easily observable that we cannot discount them in any attempt to explain the idea of motivation. Are we to say that frustration is a kind of anti-motivation, i.e. a negative motivation compared to whatever positive motivation grounded causality for the original action-series? Are we to say frustration has its own cause standing as negative or anti-cause to the positive cause of the initial motivation? This would not seem to be an absurd proposal, but it still falls short of what a systematic theory requires because giving up in frustration would seem to implicate that an on-going state of dissatisfaction could be a condition for terminating actions. This would not be consistent with the idea of having frustration be an anti-motivation because opposition (*Widerstreit*) leading to negation of further grounds for action implies the negation of *Lust per se*, the psychic condition of equilibrium. But the Quality of aesthetical judgment we would have to pair up with the idea of the *feeling* of frustration as hypothesized here is sublimity. The *momentum* of sublimity is not a terminating function; it is an energetic for action.

We cannot have a theory that leads us to eventually conclude that toleration of an on-going condition of inexpedience for the categorical imperative of practical Reason is possible in some circumstances because the categorical imperative is *categorical*. It admits *no* tolerance for inexpedience under *any* circumstance. Shall we then say the anti-motivation (frustration) combines with the original motivation to produce something that both is *and* is-not motivation? The Quality for the aesthetical judgment in this case is the *momentum* of beauty (which *is* a terminating function). Shall we say that having one's aim frustrated is beautiful? Or ugly?

We get caught in such a spiral of one conflict-resolving hypothesis leading to a new conflict because of the initial supposition that motivation is something persistent in an action-series. How does an infant deal with frustration? The behavioral answer is immediately evident to any parent: it vocalizes its frustration; in other words, it cries. In larger terms, its behavior is indicative of the *rupture* of one sensorimotor cycle *and the substitution of another*. Shall we say the infant thinks crying will be a magical-phenomenal scheme for satisfying a frustrating situation? Everything psychology has learned about infantile intelligence tells us this is an absurd proposition. Step by step, we find ourselves forced to abandon the idea of motivation as something that is the persistent in an action-series.

Yet the very idea of motivation *loses its context* if it is not regarded as being *in some way* either a ground of activity, a connection to such a ground, or a means of realizing a satisfaction through actions. Simply put, a motivation that does not motivate – produce action or be productive of action – is a contradiction in terms. The clue we need to put us on the right track in

regard to finding a *Realerklärung* of motivation is presented to us by the preceding example, namely the rupture of a first sensorimotor cycle with the substitution of a new one. Beside every action realized in motoregulatory expression there must stand an appetite. There are numerous examples in the class of observable infantile frustration behaviors pointing out to us that the sort of appetition involved here concerns *intellectual* appetites, and we call the ground of an intellectual appetite a *motive*. From the *judicial* Standpoint, motive is the assertoric Modality of the judicial Idea (synthesis in continuity of Self-*Existenz*). The judicial Idea of motive is: judgments held-to-be-binding under the principle of formal expedience by reflective judgment are binding determinations of the motoregulatory expression of actions. From the *practical* Standpoint, we regard *a* motive (*Bewegursache*) as the *cause* of an intellectual appetite.[1] We must here draw a careful distinction between the term motivation and the term motive. A motive is distinct from a stimulus, which Kant called a cause of a sensuous appetite:

> Appetite is thus *a* Lust *so far as it is a ground of the activity to determine certain representations of the object*. If the representation is a ground for determining us to the object, then we *desire* the object. Dissatisfaction in an object, insofar as it can be the cause of a representation, is *holding-in-detestation*.[2] [KANT (**28**: 254)]

Now strictly speaking appetite and *Lust* are not the same thing and so we must be wary of reading Kant too literally in this quote. It would have been better if Kant had said "the relationship between appetite and *Lust* is a ground etc." [3] We are talking about an aspect of the theory perched on a logical boundary point where *nous*, *psyche*, and the judicial Idea come together, and here we must take care to keep our Standpoints properly in sight. The distinction between appetite and motive is one of Standpoint: appetite is an Object of practical judgment and an object of the practical Standpoint; motive is an Object of reflective judgment and an object of the judicial Standpoint. Appetite is *a determination to take action*; the motive function asserts a *condition* specifying a possible activity.

We are also dealing here with considerations at the confluence of: somatic organization in *psyche*; the applied metaphysic of the sensorimotor idea in maintaining our correspondence between the facet B of *nous* and *psyche* and the facet A of our knowledge of empirical

[1] It must also be noted we have a second Kantian technical term, *Bewegungsgrund*, that also translates into English as "motive." *Bewegungsgrund* is a ground of motion. Kant uses this term in connection with the determination of volition. "Motive" in this connotation is the rational (non-sensuous) counterpart of a sensuous mainspring and denotes a rational reason for acting according to choice in some particular circumstance. "Motive" in this connotation is problematic, whereas "motive" in the connotation of *Bewegursache* is assertoric.
[2] Holding-in-detestation is holding-to-be-binding in the context of *Unlust*.
[3] Which, for all we know, he might have. Volume 28 of *Kant's Works* is a collection of lecture notes and it would not be shocking if a student were to record something a little different from what the lecturer actually said. We do not know the name of the student who recorded the lecture quote given here.

experience; and our systematic structure of *nous* as substance for the logical division of mind. In dealing with this, it is crucial to keep in mind the following point: *A new reflective judgment is made at every moment in subjective time*. Indeed, the making of a reflective judgment is what *marks* a moment in time. Every such marking marks a perceptible difference between sensibility in the present moment and sensibility in the immediately prior moment. Motivation as an Object of reflective judgment *is not a substance* because the perceptions belonging to reflective judgment are affective and not bound to the determination of subjective time that *objectively* defines what it is *to be* a substance. This means we cannot say *with objective validity* that motivation as object persists in time. Rather, we must understand this idea as the Object of a problematic givable (*dabile*) in noetic representation *that corresponds as accident* to substance in the sensorimotor idea; this latter substance is **information**.

It is from here that we can come to a *practical understanding* of motivation in the context of *the overall process of judgmentation in general*. Information is the substance in which the noetic representation and its corresponding (reciprocally determined) somatic representation inhere as accidents. The possibility of the somatic givable (*dabile*) falls under the condition of the category of causality & dependency (physical causality) while that of the noetic givable falls under the causality of freedom. Therefore the *complete* possibility is governed by the rule that *expression* of the intelligible cause is known through a *co-determined* appearance as a physical cause. But to know such an appearance presupposes *impression* of the senses (receptivity) with consciousness, which is perception. This is the rule of community in Relation of the judicial Idea, which we name ***emergency in experience***. The synthesis in continuity is the process of reciprocal co-determination of the physical *nexus* of *soma* and the form of logical expedience in reflective judgment. Perception is *accommodated* in this synthesis such that the determined noetic representation is one that is at the same moment *assimilated* in an action expression by which the accident of its somatic counterpart is co-determined.

Because these stand in a thorough-going Relation of community at *all* moments in time, this logical continuity *in all subjective time* is a necessary and formal binding principle, namely ***a principle of effecting an orientation in activity*** across multiple moments in time. The principle serves as a practical ground for determinations of the *elater animi* that is reflected as a **constancy of purpose** in the transformations of the formal accidents in Nature (objectivity) from moment to moment. It is constancy of purpose and not motivation *per se* that persists in subjective time. This is the objectively valid real explanation of motivated behavior. The idea of a motivational system speaks with objective validity only to the thorough-going accord between *soma* and representation in a reflective judgment of logical expedience.

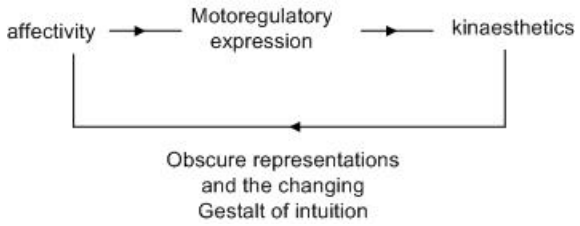

Figure 10.1.1: The cycle of affective interaction.

All this is as much as to say motivation (accommodation of perception) is a ***self-regulating transformation*** effected in the cycle of affective interaction (previously illustrated in Figure 7.3.8 and repeated here as Figure 10.1.1) *acting for the conservation of structure* in the system of the Organized Being. What is a teleological law of judgmentation in *nous* is, *at the same time*, a function of expression through physical causality in the accidents of *soma*. To the appearances of an activity in a series of moments in time corresponds the series of markings of these moments by reflective judgment. Teleological judgment provides a formal organization for the matter of desire judged in aesthetical judgment, thus makes for this matter a form of expression (desiration) and sets the affective context for practical Reason. All that remains for some part of this manifold to be called *motivating* is for it to be made an appetite through a determination of choice. This is why motivation has been a difficult idea for psychology and neuroscience to grasp. It is not a *thing* as such but rather a *process* of transformation.

Activities serve the central process of equilibration dictated by the categorical imperative. But the only way by which reflective judgment can monitor this process is by judgment of the actual state of satisfaction or dissatisfaction presented at each moment in time. The only way reflective judgment can serve practical Reason is through possible determinations of motoregulatory expression *anticipating* a series purposive for the negation of the intensive magnitude of *Lust per se*. In this context, a control system theorist would call the motoregulatory expression judged logically expedient in teleological judgment a *predictive control law*. The accommodation of perception (motivation) is consequently to be regarded as an act of expressing in the particular the *form* of a predictive control law. This expressing cannot *a priori* guarantee empirical success, and an accommodation that produces in actual experience the *frustration* of equilibrium *will not be maintained*. Rather, perception will be re-accommodated. The *purposiveness* in motivation is conserved but the *expressions* in the particular meant to serve the categorical imperative are not. They respond to the aesthetical perception of happiness/unhappiness actually produced and so it is that we call the union of somatic organization and the powers of perception the act of innovation in *Lust-Kraft*.

But this is not all. Seen from the practical Standpoint, the manifold of rules is a value structure

the Organized Being constructs for itself through acts of practical judgment. *Coherence with this value structure* in the presentations of reflective judgment is the practical condition for *choice*. That which is presented in reflective judgment and coheres with the manifold of rules is ***valued***. That which does not cohere or cannot be immediately assimilated into this structure – and which therefore requires an accommodation – is ***disvalued***. From the practical Standpoint, perception is an *evaluation* and the determination of appetitive power is *valuation*. **Valuation *is the practical validation of actions as being in formal compliance with the condition of the categorical imperative***. Every act of choice is an act of validation when the immediate consequence of the act is permission of the action implicated in reflective judgment. Every act of choice in which the action is vetoed originates an act of ***reevaluation***. As Piaget put it, reevaluation is the act of changing the perspective of perception. ***The expression of reevaluation is an act of speculative Reason*** and we call this expression by the name ***ratio-expression***.

Reevaluation is the logical first act of accommodation in adaptation. It concludes with a transformation effected in the structure of the manifold of rules. In this practical context, the manifold of rules is the representation of *laws of compliance* with the dictates of the categorical imperative. Here it must be emphasized that this means nothing more than *formal* compliance, not *material* compliance, because Reason knows no objects of appearance:

> If a rational being is to think of his maxims as practical universal laws, he can think them only as principles that contain the ground of determination of will, not by their matter but only by their form . . . Now nothing remains of a law if one separates from it everything material, i.e. every object of will, except the mere *form* of universal legislation. Therefore, either a rational being cannot think of *his* subjective-practical principles, i.e. his maxims, as being at the same time universal laws or he must assume that their mere form, by which they are fit for universal legislation, of itself and alone makes them practical laws. [KANT (**5**: 27)]

To be fit for universal legislation means to comply with the pure purpose of practical Reason, and this is nothing else than the purpose of attaining a perfect state of equilibrium. The manifold of rules serves as the condition of compliance in determination of appetitive power. Combination in the manifold of rules sets the practical *Realdefinition* of the value structure of an Organized Being. *Motivation is therefore also transformation in a self-regulating law of compliance for judgmentation in general*. Motoregulatory expression is one means of assimilating perception, and this form of assimilation completes the second part of the animating principle of somatic organization. Motoregulatory expression is the proactive form of assimilation, and what is proactive here is the impetuousness of reflective judgment. *Reasoning* is the second form of expression, acting wholly in the noetic plane and affecting the accommodation of perception through regulation of the acts of determining judgment. This leaves our *Realerklärung* of

motivation unaltered but adds another dimension to the means by which perception is accommodated, namely the spontaneity of *nous* in bringing concepts back into the synthesis of apprehension and the synthesis of apperception. This second form can be seen as a *reactive* form of the regulation of adaptation by the power of Reason. Acts of reflective judgment immediately implicate possible sensorimotor schemes of action that directly produce accommodation of perception via kinaesthetic feedback. Acts of Reason only mediately produce accommodation of perception through orientation of determining judgment and the determination of appetite. An appetite can be viewed as a homologue of intuition, the key difference here being that all intuitions are conscious representations but an appetite is never represented in consciousness and remains only an obscure representation. Motivation (accommodation of perception) is the logically necessary condition for acting to assimilate Desires into the manifold of rules. Thus we have the purposive character normally ascribed to the idea of motivation and also the transcendental ground of objective validity for the *noumenon* of the motivational subsystem.

§ 2. Motivational State

Neuroscientists and psychologists tend to use the terms "motivation" and "motivational state" synonymously. In point of fact, neither science has actually settled on one agreed-upon definition and different groups of researchers employ different definitions, a fact that is in part responsible for the failure of each science to produce a single well-developed theory of motivation. The single point of agreement is that the idea of "motivational state" is intended to serve temporarily and is an idea these sciences hope to eventually be able to dispense with altogether. The term is introduced in order to seek out hypotheses for explaining what is often called "the goal-directed quality of behavior." The term "goal-directed *quality* of behavior" is used instead of the simpler phrase "goal-directed behavior" because the latter phrase is seen by both sciences as implicating or threatening to implicate a return to theoretical teleology or even vitalism, which are paradigms all *physical* sciences are duty-bound to reject because both contradict the premising of physical causality required for theoretical objective validity by the category of causality & dependency.

Instead, both sciences presently bind themselves to a paradigm that in bygone days was called the automaton theory of mind. Psychologists today tend to avoid using the terms automaton and automaton model in part because in the past this paradigm came under very devastating criticisms by well-respected theorists such as William James. The weaknesses exposed by these criticisms have never been successfully dealt with by psychology. However, avoiding the name by no means avoids the problems that beset the paradigm, and in point of fact the various models used in psychology and neuroscience are nothing else than automaton models.

Why do scientists feel obliged to use an automaton paradigm in conducting neuroscience and psychology research? Different authors provide different arguments, but the following one by Kupfermann offers an explanation suitably general enough to serve the purpose of explanation:

> Specific motivational states, or *drives*, represent urges or impulses based upon bodily needs that impel humans and other animals into action. . . Drives or motivational states are inferred mechanisms postulated to explain the intensity and direction of a variety of complex behaviors . . . Behavioral scientists posit these internal states because observable stimuli in the external environment are not sufficient to predict all aspects of these behaviors. [KUPF: 750]

As it happens, disagreements spring up at once as to the definitions of such terms as "states" and even over any equating of the idea of "motivational states" with the idea of "drives." Nonetheless, the *issue* neuroscience and psychology are trying to deal with is made clear enough by Kupfermann's explanation.

The various attempts to define the terms "motivation" and "motivational state" are so vague and non-rigorous in psychology and neuroscience that system theorists are inclined to say none of these definitions are definitions at all. System theory is a heavily mathematical science. It uses mathematics to make very precise scientific statements and automaton theory is one of the major topics within system theory. The mathematically rigorous foundations of automaton theory were developed primarily in the 1950s through the work of a relatively small number of pioneers whose ranks included R. Bellman, R. Kalman, J. von Neumann, and A. Nerode. The first definition we shall need is the mathematical definition of *state of a system*:

> The state of a system, $X(t_0)$, at time t_0 is the amount of information at t_0 that, together with knowledge of the system's inputs $Z(t)$ for times $t \geq t_0$ determines the behavior of the system $Y(t)$ for all times $t \geq t_0$.

Here the variable t represents objective time and, as we have seen already, this is a mathematical object (facet B) to be regarded as a parametric variable for which the correspondence of principal quantity with phenomena of facet A is made by enforced agreement with measurement procedures employing clocks. The time parameter t may be either a continuous variable (a real number) – in which case the system is said to be a continuous-time system – or it may be a discrete variable (typically an integer) – in which case the system is said to be a discrete-time system. We will only talk about continuous-time systems here because everything we have to say can also be said, with appropriate mathematical modification, of discrete-time systems.

$Z(t)$ is a vector representing and placed in correspondence with a set of measurable signals regarded as belonging to the environment in which the system is placed and affecting the system as stimuli. $Y(t)$ is a vector representing and placed in correspondence with a set of observable and measurable behavioral phenomena of the system. The phrase "knowledge of the system's inputs"

means the input signals have been observed and measured and we know the quantitative outcomes of these observations and measurements.

The quantity $X(t)$ is called the state vector (which system theorists take to be synonymous with the term "state of the system"). It is the mathematical object to which the definition is directed. As stated above, our definition is still vague because it does not state what we are to understand the phrase "amount of information" to mean. System theory does not use the *Realerklärung* of information developed in this book, nor does it mean for this phrase to be the same as the definition given to it by information theorists (scientists who work in the mathematical science known as information theory). Rather, "amount of information" is an operationally-defined object constructed using what is called a Nerode equivalence class [NERO]. Let us suppose we possess a mathematical model of the system such that given any pair of vectors $X(t_0)$ and $Z(t_0)$ we can calculate an output vector $Y(t_0)$

$$Y(t_0) = \mathbf{T}[X(t_0), Z(t_0)]$$

where **T** is the mathematical model of the model. Now let $\mathbf{N}_1$ be a set of input vectors $Z(t)$ over some domain $t_i \leq t < t_0$ sharing the property that for each vector the system output $Y(t_0)$ is the same (in the Slepian sense) at time t_0 regardless of whatever the input vector $Z(t)$ is for $t < t_i$. This set $\mathbf{N}_1$ is defined to be a Nerode equivalence class. If there is some t_i such that a Nerode equivalence class exists for every possible output vector $Y(t_0)$ then for each set $\mathbf{N}_j$ we can associate a single vector $X_j(t_0)$ called the **state of the system**. Thus, "amount of information" means, operationally, that for every Nerode equivalence class we know enough to be able to associate (again in the Slepian sense) one state vector X with each equivalence class.

This is a quite formidable-sounding mathematical beast indeed. In the vast majority of all systems with which system theory must deal, it fortunately turns out that being able to define the state of the system mathematically is not as formidable a task as the definition might make it seem. Over the years system theorists have developed methods (model structure identification theory and model parameter estimation theory) for dealing with the more difficult cases. Even so, there are real systems for which system theory does not know if this kind of mathematical description, called a **state-variable model**, does in fact exist (mathematically). One example is natural language. We currently do not possess a complete state-variable model[4] for even one of the natural human languages. This means system theory does not know if natural language can be modeled as an automaton. As mathematicians put it, we do not possess an "existence proof."

[4] By "complete" state-variable model, I mean a model known to be capable of dealing with every phenomenal aspect of natural language. There are state-variable models able to *approximate some* of the phenomena of language, but none of these claim to be able to predict *all* phenomena of language.

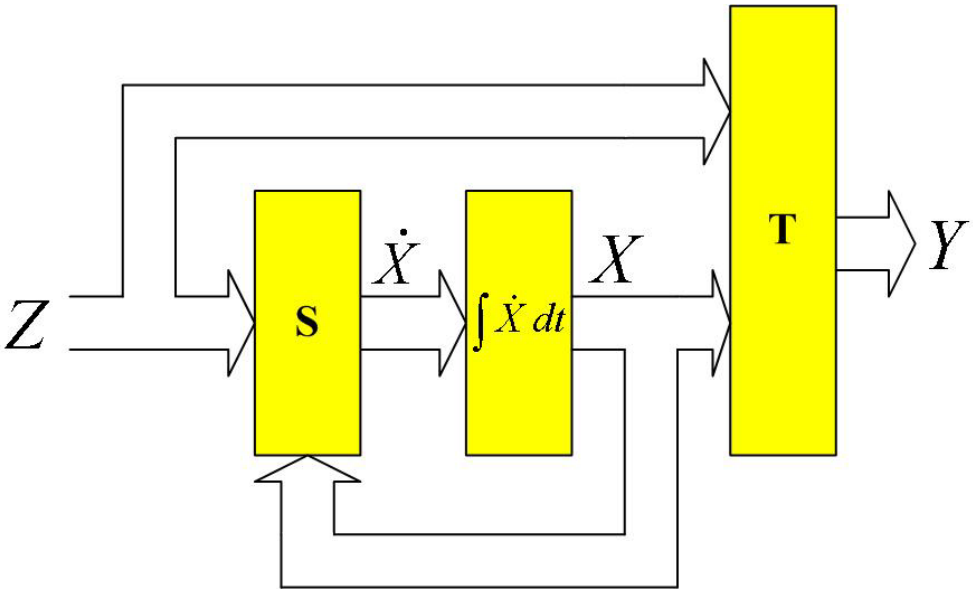

Figure 10.2.1: General block diagram form of an automaton with a continuous-time model.

Likewise, we possess no mathematical existence proof telling us that an automaton model exists (mathematically) for the idea of a motivational state. This is scarcely surprising when one considers how vague an idea this is in present day psychology and neuroscience, but nonetheless it does mean it is not known if it is possible to understand "motivation" (as psychology and neuroscience variously use that word) in terms of an automaton theory. We *do* know that *if* a system is describable as an automaton, its mathematical description will be of the form

$$\frac{d}{dt}X = \mathbf{S}[X(t), Z(t)]$$
$$Y(t) = \mathbf{T}[X(t), Z(t)]$$

where **S** and **T** are called the *state transformation* and *output transformation*, respectively. These mathematical objects are called functionals by the mathematicians. The term means "a function that has a domain that is a set of functions and a range belonging to another set of functions." We need not belabor this point here; it is enough to say that if a system really is an automaton then mathematics can deal with it. Figure 10.2.1 illustrates a general automaton in block diagram form.

What sort of *mathematical* system could *not* be an automaton? The answer here is pretty straightforward. No mathematical system can be an automaton if its mathematical form does not satisfy causality in the Margenau sense. This places restrictions on the equations that can be used to represent a system as an automaton. Equations do not come with an owner's manual or an application note telling us when, where, and how to use them. Rather, it is an applied metaphysic of the system that dictates to us the constraints we must employ in our mathematical theories. For

an applied metaphysic to be objectively valid, we must deduce and derive it on the basis of our Critical metaphysics proper.

Now, every real system – including the Organized Being – is known to us through experience and is known to us in terms of its appearances *as phenomena*. In the case of the Organized Being as *physical* being, all appearances of *soma* necessarily fall under the government of the notion of causality & dependency in the Relation of its successive appearances. Thus, an objectively valid understanding of *soma* must be one where the condition of causality in the Margenau sense is necessary for the possibility of experience, and this means that if we had a system model of *soma*, this model would and must be an automaton model.

There now comes into our considerations of this applied metaphysic yet another condition, namely the condition of thorough-going reciprocity between *nous* and *soma*. The division between mind and body is merely logical, not real, and this means that any objectively valid theory of mental objects (such as motivation) must necessarily be understood in mathematical forms (under the causality of freedom) for which there is a transformation taking these mathematical forms over to somatic descriptions according to Margenau's Law. This constitutes nothing less than a *metaphysical proof* that an automaton model is possible (exists) for the Organized Being. For the idea of motivational state, the task before us is to explain from the basis of the practical Standpoint applied to *nous* and *psyche* what *objectively valid form* this model must have. This endeavor will take us directly to what we will be calling *the motivational dynamic* of reasoning and judgmentation in the next section.

Before passing on to that discussion, however, a little bit more must be said in regard to the general theory of automata. The earliest automaton systems looked at by theorists were quite deterministic, by which is meant that there was no concept of uncertainty or randomness contained in these early models. We can call this *the classical theory of automata* and it was this classical model that was so effectively criticized by James and others. Later research introduced probabilistic concepts into the theory to extend it to what is commonly called stochastic system theory. Today automaton theory, which we may call *the modern theory of automata*, takes into its topic a broader context that includes such ideas as systems described by Markov processes, what are known as Petri networks, so-called Bayesian network theory, and the theory of fuzzy systems. Indeed, to a system theorist even quantum mechanics is but an example of a stochastic automaton system. Furthermore, the modern theory of automata also takes into its context adaptive automata, i.e. systems conforming to the general mathematical form noted above but in which the **S** and **T** functionals undergo changes according to what is typically called an adaptation rule.

When probabilistic concepts are introduced into a theory it becomes very important that we

properly understand what these concepts do and *do not* contribute to theoretical knowledge. The practical meaning of the word "random" is nothing more or less than a statement that we *do not know how to predict or explain how* some event occurred. A probability is a *noumenon* and the mathematician introduces the concept of probability distributions in order to be able to describe the *phenomenon* of statistical regularity. A statistic is something that is measured; it belongs to the world of phenomena as a principal quantity. A probability distribution, as an object, is a supersensible object. This has epistemological consequences. Kant wrote,

> To the doctrine of the certainty of our knowledge belongs also the doctrine of the cognition of the probable, which is to be seen as an approximation to certainty.
>
> By probability is to be understood a holding-to-be-true from insufficient grounds, which, however, have a greater relationship to the sufficient than the grounds of the contrary. Through this explanation we distinguish probability (*probabilitas*) from mere likeness (*verisimilitudo*), a holding-to-be-true on insufficient grounds insofar as these are greater than the grounds of the contrary.
>
> The ground of holding-to-be-true can be *objectively* or *subjectively* greater than that of the opposite. Which of the two it is one can only find out by comparing the grounds of holding-to-be-true with the sufficient grounds; for then the grounds of holding-to-be-true are greater than the grounds of the opposite *can be*. With probability, then, the ground of holding-to-be-true is *objectively* valid, while with mere likeness it is only *subjectively* valid. Likeness is mere magnitude of persuasion, probability an approximation to certainty. In probability there must always be a standard by which I can appraise it. This standard is *certainty*. For as I shall compare the sufficient with the insufficient grounds, I must know how much is required for certainty. Such a standard, however, falls away in mere likeness, since here I compare the insufficient grounds not with the sufficient but only with those of the contrary.
>
> The moments of probability may be either *homogeneous* or *heterogeneous*. If they are homogeneous, as in mathematical knowledge, they must be *numbered;* if they are heterogeneous, as in philosophical knowledge, they must be *pondered*, i.e. appraised by their effect; this is but the overcoming of hindrances in the mind. The latter do not give a relationship to certainty but only of one likeness to another. Hence it follows that only the mathematician can determine the relationship of insufficient to sufficient grounds; the philosopher must be satisfied with verisimilitude as a merely subjective and practically insufficient holding-to-be-true. For in philosophical knowledge, because of the heterogeneity of the grounds, probability cannot be appraised; here the weights are, so to speak, not all stamped. Even of mathematical probability therefore one can properly say only that *it is more than half of certainty*. [KANT (**9**: 81-82)]

The distinction between probability and verisimilitude seems to be one of which a great many science students, professors, and researchers today appear to be blissfully unaware. With today's availability of standard statistical analysis software, it has become a common experience for me, as a neuroscience professor, to see graduate students presenting statistical results from their experiments in which they innocently report statistical levels of confidence – a number generated by the software package – that are so astoundingly high that they far exceed the measurement accuracy capabilities of the instruments that were used to perform the study. Here is rich fertilizer for growing a Plato's garden of illusory pseudo-knowledge.

Probability has objectively valid employment in *mathematical* science, but it is important to always remember that this mathematical world is facet B and its products can only establish and be established as *hypothesis* and not certain fact. It presents as a hypothetical-practical rule for observable occurrences (phenomena). If probability is reified – which happens frequently in science today – the explanation is divorced entirely from objectively sufficient grounds for holding-to-be-true. Probability cannot be made into a *thing* in the world of facet A. Conclusions drawn from this reification are mere verisimilitudes which, no matter how subjectively appealing, are not valid science. What we must do instead is always carefully examine the theoretical methodology by which we identify those principal quantities in facet B used for establishing correspondence between the stochastic mathematical model and phenomena of facet A. This, in point of fact if not philosophy, was a primary factor driving the development of set membership theory beginning in the late 1960s. Without a Critical examination directed to the proper identification of principal quantities, what stochastic modeling is most likely to do is produce lovely and very satisfying transcendent illusions.

§ 3. The Motivational Dynamic

The idea of state as object can be regarded as the representational outcome of a synthesis of the ideas of the *Sache*-thing and the *Unsache*-thing. In theoretical understanding of the former, Relation in the idea of the *Sache*-thing falls under the notion of substance & accident and the *modus* of persistence in time; Relation in the idea of the *Unsache*-thing falls under the notion of causality & dependency and the *modus* of succession in time. The idea of state, then, has in theoretical understanding Relation falling under the category of community and the *modus* of coexistence in time. For theoretical understanding Relation is form of the form of combination in the manifold of concepts, and for the idea of the motivational state our understanding of its Relation in this manifold must therefore be an idea going to co-determinations (community) among the processes of reasoning and judgmentation in general. This is because these processes are the processes for the Organized Being's capacity for acting as agent.

Motivation is accommodation of perception. Within the general idea of motivational state it stands as the matter of motivational state and subsists in concepts (in the manifold of concepts), rational rules (in the manifold of rules), and the energetics of affectivity (in the manifold of Desires). This is because our context is that of the spontaneity of *nous* and these are the factors that go into accommodation of perception. To complete the Critical idea of the motivational state we also require the form of the idea and we give to this the name the motivational dynamic. Motivational state is the unity of the matter (motivation) and the form (motivational dynamic).

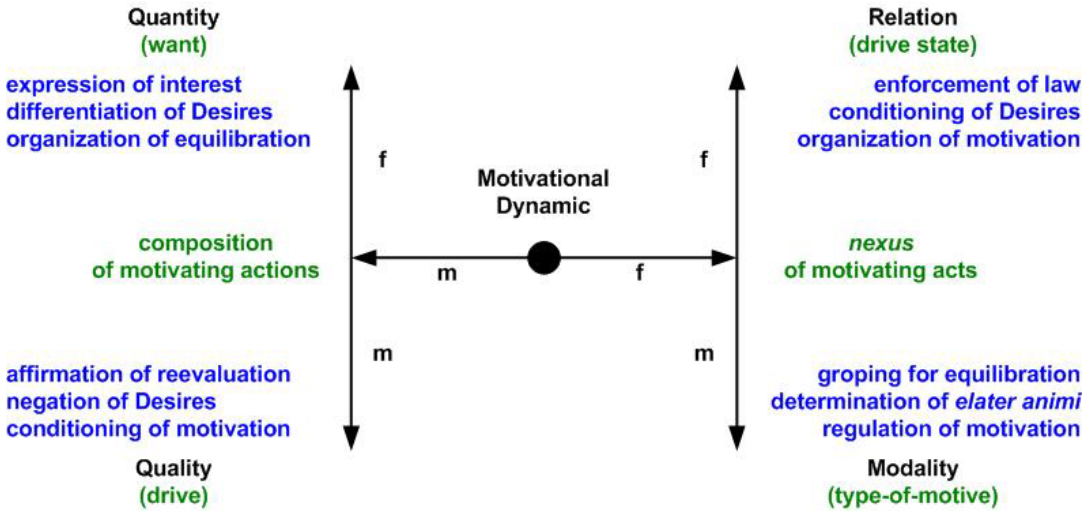

Figure 10.3.1: 2LAR structure of the motivational dynamic.

By the term **dynamic** in general we mean a representation of the *Existenz* of a *Vermögen* (potential power of organization) for a particular type of spontaneity. By **motivational dynamic** we mean the representation of the *Existenz* of the potential power to organize and regulate the accommodation of perception (motivation). For this representation we require our four titles of Quantity, Quality, Relation, and Modality. It is the task of this section to elucidate the context of these titles for the motivational state and deduce their functional *momenta*. Figure 10.3.1 illustrates the 2LAR structure that results.

§ 3.1 The Titles of Motivational Dynamic

To the four titles of Quantity, Quality, Relation, and Modality in the motivational dynamic we give the names want, drive, drive state, and type-of-motive, respectively. In this subsection the reason for assigning these names to the titles and the explanation of these terms is discussed. The specific functional *momenta* under each will be explained in the subsections that follow this one.

The motivational dynamic is a *Vermögen*, which is to say it is the form of an ability. In this case, the ability of which we speak is the ability for the Organized Being *to be an agent*. Agency is the power to actualize change in appearances, and for the Organized Being this power is the power of acting. It is from this that we arrive at our initial 1LAR division of the idea of the motivational dynamic, namely as composition of motivating actions and *nexus* of the motivating acts. A **capacity** is the potential power to realize an ability in an action, and this first division presents us the capacities necessary for the possibility of *organized agency* as we must view it within the context of motivational state and under its determining notion of community in Relation.

Next we divide the composition of motivating actions into a form of composition and a matter

of composition. For the form of composition we have the idea of **want**: representation *in concreto* of a condition for adjusting accommodation of perception through behavior grounded in the causality of freedom according to particular standards *a priori*. Conformity to such standards is inherent in the idea of acting to regulate by reasoning, and the standards for establishing a *causatum* under the condition of the categorical imperative must necessarily be *a priori* (prior to experience) because the capacity is one that is necessary for the possibility of experience itself.

For the matter of composition we have the idea of **drive**: the practical determination of the moving power of actions. Moving power in general is the power to be a cause of change in an object's external relationships. In the context of motivation we are not dealing with relationships between the Organized Being and objects in the environment but rather with the relationships between the manifold of rules, the manifold of concepts, and the manifold of Desires. An action is a change of state in composing the matter of a manifold of organization. Drive is the idea of determining this composition. It is to be noted that this *Realerklärung* of drive differs markedly from the various usages psychology employs for the word "drive." Reber's *Dictionary* calls drive "a term with a plethora of usages, some quite precise, others very loose." Many psychologists treat the terms "drive" and "drive state" as synonyms. The *Realerklärung* of drive given above is fundamental in the sense that psychology's empirical usages of the term are to be derived from it.

From composition of the motivational dynamic, we now turn to the titles of the *nexus* of motivating acts. Act is the determination of a *Kraft* as a cause of accidents. An act is the making of a *nexus* in a manifold of organization. Here again we make an analytic division into matter and form to obtain our final two titles. For the form of *nexus* we have the idea of **drive state**: the *nexus* of reasoning in motivating acts. The functions of drive state are notions of rule-determined choice. More specifically, the idea of drive state is the idea of the structure of the capacity to act in accordance with practical concepts in determining the *Existenz* of this structure.

Lastly, for the metaphysical *nexus* (matter of *nexus*) we have the idea of **type-of-motive**: the *nexus* of judgmentation in motivating acts. A motive (*Bewegursache*) is judicially the binding determination of motoregulatory expression by an act of reflective judgment. From the *practical* Standpoint, it is the cause of an intellectual appetite. Type-of-motive is the idea of determining how representations are to be synthesized to produce appetites. Like the title of drive state, the title of type-of-motive gets its practical *Realerklärung* from the three synthesizing functions that stand under this title. We now proceed to the discussion of these *momenta*.

§ 3.2 The Motivational Dynamic and *Lust per se*

As the use of the word "dynamic" in the name implies, the motivational dynamic is the idea of

an active and on-going process of *kinesis*[5] in the Self-determinations of the Organized Being. It is a process of synthesis and, like all synthesis, we require three functions for each title to arrive at a complete explanation of the idea. The motivational dynamic is also an idea of *nexus* (form) in the 1LAR division of motivational state, and so these functions are connection functions. We begin by asking "connection of what to what?" in the context of motivational state. This is easily answered. We are dealing with the ability of the Organized Being to be an *organized agent* capable of exhibiting spontaneous behaviors, and so the three-fold operation of connection involves the connections of motoregulatory expression, appetitive power, and ratio-expression.

The first of these is the logical connection of *nous* and *psyche*, and, in particular, connection of *nous* and *Lust*-Organization. We recall from Chapter 4 that *Lust*-Organization is organized adaptation. This falls entirely within the logical division of *psyche* and the four titles in its 2LAR description are {schemes, energetics of *Lust*, psychic causality, psychic expedience}. A scheme is a constructed organization of activity. The energetics of *Lust* is the idea of the intensity of an inducement to carry out a scheme. Psychic causality is the idea of a *Kraft* of practical causality, in the idea of which the judicial and practical Standpoints of the causality of freedom meet. Psychic expedience is the idea of a standard gauge of evaluation in adaptation.

The motivational dynamic belongs to the logical division of *nous* and, thus, to a different logical division in the Organized Being model. In order to speak of relationship between the motivational dynamic and *Lust*-Organization, we must look for a bridge between these logical divisions. Fortunately, we do not have to look very far because we have already discussed it. It is *Lust-Kraft*, the anasynthesis of the faculty of pure consciousness and the adaptive *psyche*. The motivational dynamic stands in a mediate relationship to *Lust*-Organization through its immediate relationship to the faculty of pure consciousness.

Because the motivational dynamic represents the capacity to organize motivation, and because motivation is the accommodation of perception, want (Quantity) in the motivational dynamic, in relationship to *Lust*-Organization, is an idea of integration. The idea of integration in the faculty of pure consciousness is equilibration and so the integrating function of want is an idea of a form of composition of motivating actions that serves the process of equilibration. This idea is none other than the idea of a function for the dynamical **organization of equilibration**.

Because the motivational dynamic is also the representation of the capacity of the Organized Being to regulate motivation, its Quality (drive) in relationship to *Lust*-Organization is an idea of subcontrarity. This is because subcontrarity is an idea of conditioning (notion of limitation). Drive in this case refers to the **conditioning of motivation** as the active motoregulatory

[5] The Greek word *kinesis* means in general change of any kind.

expression of appetites. Subcontrarity in the faculty of pure consciousness is feeling in the context of a *practical interpretation* of the feeling of *Lust* and *Unlust*. Reason itself does not feel and so it is not with feeling *per se* (matter of affective perception) that drive, as matter of composition in the motivational dynamic, is concerned. Rather, it is with the consequences for action that drive is concerned (thus with the practical interpretation of feeling).

For Relation (drive state) in regard to *Lust*-Organization, the motivational dynamic is a representation of the transitive. The general idea of transitive Relation is the idea of that which is in common between two otherwise distinct representations. What the motivational dynamic here links together is perception, on the noetic side of our logical division, and non-autonomic action on the side of *Lust*-Organization. The transitive function of drive state is thus the function for the **organization of motivation**.

Finally, for Modality (type-of-motive) in regard to *Lust*-Organization, the function is that of a determining factor for the organization of motivation. Now, *to regulate* means either (1) to control or direct according to a rule, or (2) to adjust to a particular standard or norm. We do not say that the motivational dynamic controls or directs *psyche*. Its task is merely to organize the accommodation of perception and therefore it is the second definition that applies here. The function under the title of type-of-motive in regard to *Lust*-Organization is therefore the function of **regulation of motivation** according to an *a priori* standard of practical Reason.

The motivational dynamic is a capacity for bringing *Lust per se* in the logical division of *psyche* under the command of the categorical imperative. We know *a priori* and with transcendental necessity that the Organized Being must be in possession of such a capacity because the categorical imperative is the supreme law of the power of Reason and the grounding condition of the possibility for human Reason to be a practical Reason. The motivational dynamic shows us how (that is, the manner in which) *Lust per se* stands in relationship to this fundamental law of pure practical Reason.

§ 3.3 The Motivational Dynamic and Valuation

The discussion above puts us into a position to see that *Lust per se* in *psyche* is subservient to valuation in practical Reason. Valuation is the practical validation of actions as being in formal compliance with the grounding condition of the categorical imperative. We are now also in a position to see what it means to say that *Lust per se* is a "motivated wanting" (*Lust*) or a "motivated un-wanting" (*Unlust*). Now, the motivational dynamic extends to the determination of appetitive power in the practical act of valuation. Here we have to deal with the synthesis of presentation in the manifold of Desires and the practical structuring of perfection of actions by

means of representation in the manifold of rules. Acts of teleological reflective judgment are impetuous and this impetuousness is restrained only by the structured transformation of Desires into appetites of Reason.

Synthesis in Reason represents, on a purely practical plane, a structure of practical rules constructed through acts of practical judgment. Acts of aesthetical reflective judgment, on the other hand, produce no persistently organized structure of affective perceptions. Teleological desiration produces connections to motoregulatory expression, but these connections have only the principle of formal expedience for the law of connection and this principle is only a necessary *but not sufficient* condition for establishment of an action structure. If desiration then comes into conflict with the manifold of rules, Reason overrides reflective judgment. We can say that reflective judgment "doesn't know the rules" constructed by practical Reason, and this must be so because the manifold of rules *is* constructed and nothing *a priori* is to be found in it other than the apriority *of the law by which it is constructed*. Yet it is a fact of experience that a human being's "impetuous impulses" can be and are checked by rational consideration, and so we must make a transcendental inquiry into what is necessary for this to be possible. Here we find that it falls to the motivational dynamic of reasoning and judgmentation to *reconcile* the manifold of Desires with the conditions set by the Organized Being's rational rule structure.

In Quantity (want) this reconciliation is an idea of differentiation through comparison. Within the impetuous manifold of Desires some connections to motoregulatory expression, when combined in the overall context set by judgmentation, can come into conflict with the structure of rational rules. Unchecked by the determination of appetite, these impetuous connections would injure the structure of practical perfection, which is the Ideal to which acts of practical Reason are oriented *a priori* by the formula of the categorical imperative. Such connections to possible actions are vetoed by practical Reason. These are the Desires of reflective judgment not suited for the legislation of practically universal law. Concurrently, however, other connections of Desires do not come into conflict with Reason's rule structure and so do not come into conflict with the formula of the categorical imperative. This is to say these connections are *not-unsuited* for universal legislation. The function of want in this context is **differentiation of Desires** into two classes, namely the unsuitable and the not-unsuitable. We could call these the forbidden and the permitted classes of Desires.

Thus Quality (drive) in the motivational dynamic has a negative character; this is to say that reconciliation in valuation is an idea of opposition. Practical Reason in an active sense can be said to act not so much to validate Desires as to *invalidate* them. An appetite of Reason contains the Desires allowable under the conditions set by the manifold of rules. There is an interesting

parallel between this idea and Freud's idea of "repression" as what he called a "censorship function." Freud was speaking of what he called "affect-formation" and, inasmuch as motivation is the accommodation of perception, the drive function in the motivational dynamic can be viewed as acting in such a role. But the practical context of drive goes to "censorship" only in the context of it being the function of **negation of Desires** in the synthesis of appetite.

For Relation (drive state) the reconciliation in validation refers to Relation between the manifold of Desires and the manifold of rules. This is because valuation contains a comparison between Desires (the seat of actions in motoregulatory expression) and the condition of the categorical imperative, the dictates of which are what is represented by the manifold of rules. Hence drive state in the context of valuation is an idea of external Relation, i.e., the **conditioning of Desires** function by the rational rule structure in the synthesis of appetites.

Finally, in Modality (type-of-motive) the reconciliation in validation is assertoric, an idea of determination. The categorical imperative of pure practical Reason does not cajole or scold. It *commands*. Reason, the power to regulate all non-autonomic actions of the Organized Being, is the enforcer of its command in determination of appetites through ratio-expression. That within the manifold of Desires passing validation in the judgment of practical Reason constitutes an *elater animi* in appetite. Type-of-motive in valuation is the **determination of *elater animi***.

§ 3.4 The Motivational Dynamic and Reevaluation

Evaluation is conscious representation regarded *from* the practical Standpoint *as* a practical reflection of Relation in the *Lust-Kraft* of the adaptive *psyche in regard to* a determination of appetitive power. This Relation in *Lust-Kraft* is called the act of evaluation. The formal unity of evaluation in perception is called the *value interest*. Every action legislated in the manifold of Desires by reflective judgment *ipso facto* has passed the judicial requirement of formal expedience. If this action is vetoed by Reason, it is because of *material inexpedience* in the manifold of Desires, i.e. the matter of Desires for the proposed appetite cannot be assimilated into the rule structure constructed by the acts of practical judgment. This means the manifold of Desires is in contradiction to the dictate of the categorical imperative and its representation is contrary to the achievement of equilibrium. Reason has only one way by which it can deal with the disturbance this situation presents and that is by ratio-expression through the power of speculative Reason *to alter perception* by invoking the employment of determining judgment. This is reevaluation, the *positive act* of accommodation of perception.

The motivational dynamic has a synthesizing function required under the acroamatic principle of thorough-going unity of consciousness in the Organized Being. In Quantity (want) this

synthesis falls under the idea of identification in our general 2LAR structure of representation. Reconciliation between Desires and the rational rule structure is not guaranteed *a priori* for any particular structure of rational rules and yet reconciliation in valuation is a necessary interest of pure Reason. The assimilation of Desires into the rule structure of Reason requires the possibility of accommodation of this rule structure, and that task falls to practical judgment. But this accommodation is not possible merely by a change in the rule structure because this structure is rigidly bound to compliance with the formula of the categorical imperative. Thus, accommodation is possible here only if it is accompanied by an alteration of Desires to bring the judgment of formal *expedience* by reflective judgment into harmony with the judgment of *purpose* by practical judgment. This act is, of course, the act of motivation.

Because Reason judges no objects of sense, motivation is made possible only through the employment of determining judgment and the synthesis of comprehension. Reason's interest in reevaluation is exhibited in perception by the aesthetical *momentum* of sublimity, the aesthetical mark of incompleteness and the energetic for rational action. The synthetical function of want is here the **expression of interest** by Reason, in satisfying extensive completeness according to the standard gauge of practical perfection[6], through ratio-expression.

In Quality (drive) the synthesis falls under the general idea of agreement. The synthesis is a *reactive* expression of the interest of Reason as an expression commanding actions taken to satisfy intensive completeness in practical perfection. Like want, drive expresses a condition to be met for satisfaction in reflective judgment. Both of these *momenta* of composition in the motivational dynamic are manifested as *negative* feeling in perception, and the positive character of identification of want (as a unity) and agreement in drive (as an affirmation) can be viewed as positive only in the context of *grounds for the satisfaction of Reason*. The accommodation actions undertaken in ratio-regulation by Reason are aimed at the achievement of equilibrium through reevaluation. The *momentum* of drive in reevaluation is the **affirmation of reevaluation**.

Relation (drive state) in the context of reevaluation for the synthesis of the motivational dynamic is the idea of internal Relation because it pertains to the general condition of the Organized Being *in toto*. Its logical character is categorical, as befits reactive servicing of the categorical imperative in reevaluation. As a synthetic function of non-autonomic regulation, drive state in reevaluation is the hand of Reason at work. This function is **enforcement of law**.

[6] The full discussion of the ideas of Critical perfection is given in Chapter 12. The Idea of perfection is the Idea of general conditions that would be met in an ideal state of equilibrium, i.e. absolute satisfaction of the final purpose inherent in the categorical imperative under the causality of freedom. That such a satisfaction is merely an Ideal of Reason does not preclude its practical employment as a standard against which Self-determinations can be compared. The Ideal of perfection can be likened to a line of poetry by Robert Browning, "Ah, but a man's reach should exceed his grasp, Or what's a heaven for?" (*Andrea del Sarto*).

At last we come to Modality (type-of-motive) in reevaluation. Reason knows no objects of sense and feels no feelings of *Lust* or *Unlust*. It possesses no innate ideas as the Rationalist philosophers once believed man to possess. Its act of reevaluation, therefore, can only be a problematic act expressed by summoning up the determinable within the manifold of concepts for purpose of accommodation of the manifold of rules. Reason, in acting through the motivational dynamic, must *find* its own way in seeking to effect the proper transformation of disturbance into equilibrium. We may justly say that here Reason must *grope* for the resolution of its judicial imbalance, and so we call the *momentum* of reevaluation in type-of-motive the **groping for equilibration**.

This completes our exposition of the twelve functions of the motivational dynamic. With this, the formal business of this chapter is concluded. But before moving on to the exposition of practical judgment, it is not inappropriate to make a few additional comments and remarks.

§ 4. Emotion

Like motivation, emotion is a topic psychology has encountered great difficulty in dealing with. The landscape of emotion theory today presents a panoramic kaleidoscope of competing and contradictory mini-theories. We even lack a common and agreed-upon technical definition of the word. Although everyone agrees that, whatever an emotion is, it is subjective, scientific approaches to emotion theory have all been either explicitly or implicitly ontology-centered, and most often this has been through an ontology-centered pseudo-metaphysic. This ontology-centeredness has the consequence that, although emotion is subjective, emotion definitions tend to treat it as an object *per se*. Some psychologists, e.g. Robert Plutchik and Ross Buck, posit the *Dasein* of a limited set of so-called "primary emotions." Others, e.g. William James, hold that there is an unlimited number of emotions and vest the possibility of this in viewing emotions as *Unsache*-things, i.e., actions played out on the stage of the body. Still others, e.g. James Russell, avoid prescribing crisp categories of emotions and take an approach that in bygone days might have been called a naturalist's approach to the questions emotion psychology tries to answer.

Chapter 15 of *CPPM* provides a more detailed and considerably lengthier discussion of this topic than we will undertake in this book. It is far easier to say what Critical emotion is not than to define what it is. It is not *Lust per se*. Nor is it the feeling of *Lust per se*. Nor is it desire, desiration, or Desires. It most certainly is not cognition. Nor is emotion to be sought within the context of pure Reason or determining judgment. Nor is it sensibility.

This would seem to eliminate everything within our logical divisions of *nous* and *psyche*. Is emotion then a something that belongs to the logical division of *soma*? Again the answer is no.

The context for emotion is mental and therefore we cannot seek it on the physical plane of organized being. This appears to eliminate everything, and so shall we say emotion is a fiction, that it is merely an illusory *noumenon* lacking a place in Reality? The chorus of voices that would rise up to denounce such a conclusion as absurd would be legion indeed, and this chorus would include your author.

In point of fact, we have *not* eliminated everything from the search for an explanation of emotion. All we have done is shed a little illumination on why the problem of emotion is such a difficult problem for empirical psychology. What we have *not* eliminated is the Organized Being itself *taken in total*. Those still unhabituated to the perspective of Kant's Copernican hypothesis will perhaps find this statement at least somewhat uncomfortable, but this is yet another reason why the oft-repeated admonition that our divisions in the Organized Being model are merely logical divisions and not real divisions is of central importance.

If a something called emotion is not to be found residing in any *one* of our logical divisions then we can seek it only in the thorough-going reciprocity of organized being, in which each of the parts stands as a cause of determination for all the others and, at the same time, as an effect of all the others on itself. Such a thing cannot constitute a primitive for theory nor even a function in theory nor, even so much less, a structure in the theory. Rather, it is a subjective character of the phenomenon of organized being and our eventual understanding of it (a future task for mental physics) will be an understanding in terms of the epistemologically prior constructs we are discussing in this book. In this, your author has a hunch that naturalist approaches, perhaps like Russell's, are the proper path for emotion psychology to take.

All that will be provided in this book is a Critical *description*, not a Critical *Realdefinition* (because emotion is not primitive), of the sort of character the search for emotion theory must seek. The character of emotion is to be sought from an affective perception in which the feeling of pleasantness or unpleasantness is produced *by means of* a momentary inhibition of actions *followed by* stronger motoregulatory expression of the power of life (*Lebenskraft*) [KANT (**5**: 226)]. This description is rather vaguely suggested by the Latin root of the word emotion, which is *emovere*, to move out. Kant's description makes it a bit more plain to see that the idea of emotion is dynamical, involves all three logical divisions of the Organized Being, and can be exhibited only in the *modus* of succession in time. Of current emotion theories with which your author has some familiarity, it is Russell's that most closely approaches this Critical perspective for viewing the topic of emotion at this time.

But Kant's description also raises up an even more perplexing question, as must be all too evident to you, the reader. What does the phrase "power of life" mean?

§ 5. The Critical *Realdefinition* of Life

The question "What is life?" has perplexed scientists and philosophers for millennia. The primary dictionary definition,

> **life**, *n.* [ME. *lif*, AS., *lif*, life]
> 1. that property of plants and animals which makes it possible to take in food, get energy from it, grow, adapt themselves to their surroundings, and reproduce their kind: it is the quality that distinguishes a living animal or plant from inorganic matter or a dead organism,

comes down to us straight from Aristotle. Chapter 12 of *CPPM* reviews the history of this idea in science. By calling life a "quality" we open the door to a great many transcendent speculations in both religion and in science. It was the keystone idea of vitalism in medicine and biology, yet an idea that led vitalism to *no* productive or useful discoveries in either science. In the 19th century its *explanatory* usage in science was banned altogether following the publication of Claude Bernard's seminal book, *An Introduction to the Study of Experimental Medicine*, which ushered in the modern era of medicine and biology. Bernard wrote,

> When an obscure or inexplicable phenomenon presents itself, instead of saying "I do not know," as every scientific man should do, physicians are in the habit of saying, "This is life"; apparently without the least idea that they are explaining darkness by still greater darkness. We must therefore get used to the idea that science implies merely determining the conditions of phenomena, and we must always work to exclude life entirely from our explanations of physiological phenomena as a whole. Life is nothing but a word that means ignorance, and when we characterize a phenomenon as vital, it amounts to saying that we do not know its immediate cause or condition.

As strange as it may seem that technical usage of the word "life" is banned from the life sciences, this was the price of progress and history since the time of Bernard has amply demonstrated the price was worth paying. In recent years the word "life" has made it back into the technical lexicon of biology but in a form remaining true to Bernard's dictum. We will call this *biological* life, and it is defined thus:

> (biological) **life:** Complex physico-chemical systems whose two main properties are (1) storage and replication of molecular information in the form of nucleic acid, and (2) the presence of (or in viruses perhaps merely the potential for) enzyme catalysts. Without enzyme catalysts a system is inert, not alive; however, such systems may still count as biological (e.g. all viruses away from their hosts). Other familiar properties of living systems such as nutrition, respiration, reproduction, excretion, sensitivity, locomotion, etc. are all dependent in some way upon their exhibiting the two above-mentioned properties.[7]

If one looks calmly at this definition, what one finds is that all it does is place conditions on what

[7] From M. Thain and M. Hickman, *The Penguin Dictionary of Biology*, 10th ed., NY: Penguin Books, 2000.

sort of thing a biologist is permitted to say is "alive" or "a living system." If a team of scientists and engineers were to someday build an android robot with enough "artificial intelligence" to justify saying it "had a mind," this machine would still not qualify to hold the title of "living thing" because it would not possess nucleic acids or enzyme catalysts. One should also note one more thing about biology's modern definition of life. This is that there is nothing in this definition that permits us to likewise define "death." A person who has just died still possesses the physico-chemical molecular machinery that defines "life" as above. The practical difference is that this machinery no longer works in such a way that nutrition, respiration, etc. occur. When it comes down to questions of life-and-death, we are still using Aristotle's criteria.

The definition of biological life has no predictive power. How, then, do we come by it? The simple fact is that in order to come up with this definition, biologists had to already have a catalog of things *everyone* was willing to call a "living system." Then when these things were studied, it was found that nucleic acids and enzyme catalysts were present in each and every one of them and absent (either one or the other or both) in all things everyone was willing to say had never been "living." The wildcard in this whole picture is the virus, which does possess nucleic acids but not enzyme catalysts. Microbiologists cannot agree on whether viruses as such are living systems or merely dangerous fragments of genetic material. For that reason, viruses are not called "living" or "dead" but rather "active" or "inactive," depending on whether or not they have invaded a host cell in a living organism. The definition of biological life is a well-honed convention, a pragmatic means of dividing up the world into the classes of "living things" and "non-living things" with a laconic concession that we will draw a distinction between "things that were living and are now dead" and "things that never were living" (inert "dead matter").

Of both the standard dictionary and the biology dictionary definitions of life, Reber's *Dictionary* remarks that there is an "unsatisfying circularity" of these definitions that "will have to suffice for now." Some psychologists use the phrase "mental life" but this phrase has no technical definition and is mere metaphor. All of the many attempts to define life come out of an ontology-centered way of looking at the world, and the question of how to define life has, for this reason, remained unanswered by science, by philosophy, or by religion inasmuch as these have remained wedded to their ontology-centered, pseudo-metaphysical prejudices.

If we wish to have a *Realdefinition* of life, such a definition must be grounded firmly in the acroams of the Critical metaphysics and can only be a *practical* definition. We cannot invoke mysticism, so-called vital forces, or spiritualism to obtain an objectively valid *Realdefinition* of life. The idea of life *per se* is the idea of a *noumenon*, and among all *noumena* there is only one of which any one of us can say its **real** *Dasein* is certain and absolute. This is, of course, the

noumenal *I* of transcendental apperception. Whatever other objects I might choose to call living, in holding this concept of that object to be true I will base my judgment on an inference of analogy by which I compare it with my knowledge of my own *Dasein*. Whatever else I might or might not call living, before this I first call myself alive. So it is for all of us. As Protagoras said, "Man is the measure of all things." If something else is, *in my judgment*, similar to me in sufficiently many ways, I will judge by inference of analogy that it is also the same as me when it comes to the question of life. This is in fact what humankind has done throughout history in granting or denying the title of "life" to the objects in Nature. Whatever has gone beyond this (animal spirits, vital force, etc.) is merely transcendent speculation and is no more than this. We judge the living by its exhibited properties we come to know through experience.

This, one should protest, is a subjective judgment of what to call "living," and that is so. An *objective* understanding of life must be made from stronger threads. Young children exhibit a very pronounced animism in their ways of looking at the world, calling "alive" a great many objects that we adults "know" to "not be so." Childish animism is one of the best exhibitions of fact for illustrating that our first judgments of life are made by inference of analogy. What we should not overlook is that concepts of life formed in early childhood exert an immensely powerful hold over us in later life because these concepts become deeply embedded and intertwined with so many other of our concepts of objects. You, the reader, should prepare yourself to find the Critical *Realdefinition* of life I am soon to present is going to be one you will probably react to initially with at least discomfort and perhaps even with the exclamation, "This is absurd!" I did the first time I came upon it in Kant's writings. I thought at first that it was absurd.

To get from transcendental apperception – which is knowledge of one's own *Dasein* with utterly no knowledge of one's own *Existenz* – and arrive at an objective concept of life, we must explore the phenomena and accompanying judgments of concepts that lead each of us to our conceptions of the Self and the real division we each judge to exist between the Self and the not-Self. We all make these judgments – not necessarily in precisely the same way but with a degree of commonality that, when one stops to ponder it, falls only a little short of the amazing. The crucial judgment, the one that first makes the real division between the Self and the not-Self more or less crisply established in the manifold of concepts, is based on a judgment of causality & dependency. Put in the simplest terms, phenomena one judges to be grounded in the causality of freedom are phenomena of the Self; phenomena that defy (in experience) containment under the ground of freedom end up in the division of the not-Self. The objectivity of the Self and the not-Self is based on this *at the root*. This Critical conclusion is born out in numerous studies by empirical psychology. Splendid examples of this can be found in [PIAG4] and [PIAG15].

At the deepest levels of distinction, this key judgment references the human capacity to be a spontaneous agent. In *Metaphysical Foundations of Natural Science* Kant wrote,

> The inertia of matter is and means nothing else than its *lifelessness* as matter regarded as it is in itself. *Life* is called the capacity of a *substance* to determine itself to act from an *inner principle*, of a *finite substance* to determine itself to change, and of a *material substance* to determine itself to motion or rest as change of its state. Now we know of no other inner principle of a substance for changing its state except *desire*, and in general no other inner activity at all than *thinking*, together with that which depends on it, the *feeling* of *Lust* or *Unlust*, and appetite or will. [KANT (**4**: 544)]

We see that this inner principle is nothing else than a principle of the agency of an Organized Being and it rests on *the practical function of mind* in our *understanding* of the *phenomenon* of being an *empirical* Organized Being. It is this basis in phenomenal experience that supplies objective validity for the principle under the general condition of the special standing of the *I* of transcendental apperception as the one *noumenon* for which knowledge of *Dasein* is absolute and certain for each one of us. From here it is only a short step to reach Kant's Critical *Realdefinition* of life:

> **Life** is the capacity of a being to take action in accordance with the laws of appetitive power. [KANT (**5**: 9fn)]

If we try to view this definition from the *theoretical* Standpoint what we get is sheer nonsense. We do not, for example, say a blade of grass has appetites or desires that it acts to try to satisfy. We do not say an amoeba makes choices or acts on them. However, the theoretical Standpoint is not the Standpoint in which the objective validity of the definition is anchored. Rather, this definition can only be viewed strictly from the *practical* Standpoint, the only one of the three Standpoints from which the *positive* idea of the causality of freedom is objectively valid. ***Noumenal* life is *practical* life**.

One consequence of this is the realization that it is Critically important to draw a crisp distinction between the definition of biological life and the *Realdefinition* of life *per se*. The former is the child of a failed ontology-centered metaphysic and its practical use is limited to mere classification of objects in Nature according to whether they do or do not fall within the topic of biology. It is not and cannot be objectively derived from the Critical *Realdefinition* of life. It is a convention. We shall have to change, in a most important way, how we think about (biologically) living things as a consequence. For example, I have utterly no objection to calling a blade of grass or an amoeba a living creature under the definition of *biological* life. Neither should anyone else. But there is utterly no phenomenon in Nature that implicates or requires us to impute to a blade of grass or an amoeba any capacity requiring the *function* of mind. The making of representations is the primitive act of the phenomenon of mind, and nothing about a blade of

grass or an amoeba even remotely hints that either object makes or uses representations. So far as we yet know, *everything* a blade of grass or an amoeba does is explainable on a physical basis and completely under a notion of physical causality & dependency. Until and unless this changes through scientific research, we must *deny* the quality of *Critical* life to them. The same is true for bacteria, viruses, all "plant life" and a great many other objects of biology, despite the fact that the definition of *biological* life does apply to them all. I think this conclusion is one that will take a lot of getting-used-to for most people. I think some of us never will get used to it. Nonetheless, this is not a mere matter of idle philosophical musings. The question of life is important in human affairs across a broad spectrum of social and political issues and the *Realdefinition* of life must lead to a Critical alteration of the landscape of these arenas.

§ 6. Motoregulatory Expression

The motivational dynamic and, indeed, all noetic spontaneity would consist of nothing but empty concepts if these noetic actions did not exhibit their reciprocal effects in *soma*. The idea of the expression of noetic representation in appearances of *soma* is **motoregulatory expression**. In somatic terms, motoregulatory expression is an idea that takes in all the basic mechanisms recognizable by neurobiology as making up what are known as the motor systems of the body. The somatic reflection of motoregulatory expression is to the whole of *soma* what spontaneity is to *nous*. Within the Organized Being model, motoregulatory expression belongs to *psyche*.

Figure 10.6.1 illustrates the 2LAR structure for motoregulatory expression. Its deduction and explanation in *CPPM* is found in chapter 16 of that work. The moments of motoregulatory expression admit to more or less straightforward explanation and in this book we will quickly run through them.

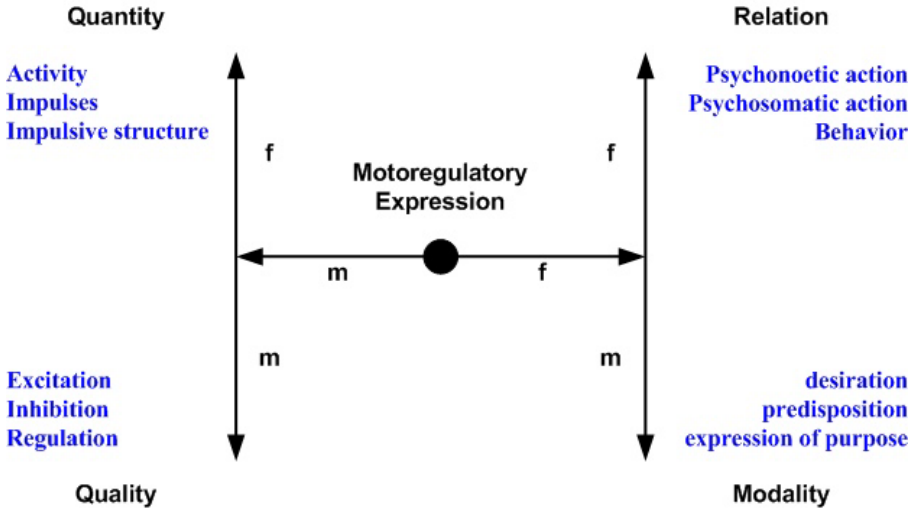

Figure 10.6.1: 2LAR structure of motoregulatory expression.

In Quantity, we have for the singular idea an *activity* (an identification), the particular idea of *impulses* (a differentiation) and the universal idea of *impulsive structure* (an integration). **Activity** in motoregulatory expression is the unity of behavioral appearances in *soma*. **Impulses** are differentiations in the complex of somatic signals regarded as comprising substructures of somatic activities in behavioral appearances of *soma*. **Impulsive structure** is the integration of divers impulses in the overall structure of an activity in behavioral appearance in *soma*.

In Quality we have the affirmative idea of **excitation** (an idea of agreement), the negative idea of **inhibition** (an idea of opposition), and the infinite idea of **regulation** in the adaptation of an expression of activity (an idea of subcontrarity). These moments are quite familiar ideas in biology. Excitation means expression of a somatic action, inhibition means preventing or stopping an action, and motoregulatory regulation means the coalition of acts of excitation and acts of inhibition in the adaptation of an impulsive structure.

In Relation we have the internal Relation of psychonoetic action, the external Relation of psychosomatic action, and the transitive Relation of behavior-in-general. **Psychonoetic action** is that in the appearances of somatic signals that stand as the somatic counterpart to representations in *nous*. **Psychosomatic action** is that in somatic appearance that corresponds to physical actions in *soma*, e.g. movement, that express appetites of *nous*. **Behavior-in-general** is the Object of acts and actions expressed by the agency of the Organized Being.

In Modality, the idea of the determinable is **desiration** *regarded as a desire made specific and demanded by the Organized Being*. Acts determining desiration belong to the process of teleological reflective judgment. The idea of the determination in motoregulatory expression is **predisposition**. By this idea we understand a *nexus* of perception and motoregulatory expression such that perception is viewed as having an immediate connection to some specific expression of activity and not regarded as a matter of choice but, rather, as an actual ground for some specific appetite. Finally, for the idea of the determining factor we have **expression of purpose** as the necessary connection between determinations of appetitive power and phenomenal manifestations of these determinations in *soma*. These are the moments defining the psychic function of motoregulatory expression as the co-determined capacities of *nous* and *soma* for realizing the agency of the Organized Being in appearances under the Relation of thorough-going community of *nous* and *soma*.