

The Ontological Status of Critique¹

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Two previous papers by the author are summarized in order to provide the context for the arguments and results of the present paper. The author's previous research has identified the exact place where critique is epistemologically actioned and this enables the present paper to argue for the attribution of ontological status to critique. Since it is commonly acknowledged that a lack of critique results in dogmatism or bounded rationality, these latter two are investigated—in greater depth than previously considered in the literature—and, though they are shown to be inescapable, they provide a route toward a fundamental principle which systemically brings together ontological, epistemological, ethical, and emancipatory concerns. The principle can be stated as follows: One is more or less emancipated depending upon the extent to which one is aware of critique-bounded emancipation as an ontological necessity and thus to the degree to which one ceases to attempt escaping from practical critique into the realms of dogmatic emancipation and rationally bounded emancipation. The paper provides accurate definitions of critique and emancipation, showing that one cannot be considered without the other, thus framing the manner in which further discussion of these two intimately related issues can be continued. In keeping with the author's previous published research, the relevance of von Bertalanffy's deliberations to Critical Systems Thinking, as well as Sartre's philosophy to systems thinking in general, is upheld.

KEY WORDS: Critical Systems Thinking; von Bertalanffy; Sartre; systems epistemology.

1. INTRODUCTION

Though the notion of emancipation is centrally important in Critical Systems Thinking, it is noticeable that this field has never considered the one philosopher who has provided the most comprehensive study of freedom in the history of philosophical thought: the philosopher in question being Jean-Paul Sartre. Moti-

¹A shorter version of this paper is available in Georgiou and Introna (2000).

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vated by this discernible gap, the present author has recently indicated certain relevant aspects of Sartre's thought which, in line with that of von Bertalanffy, can inform Critical Systems Thinking (Georgiou, 1999, 2000). This has provided an interpretation of von Bertalanffy's writings as not inconsistent with, and at times directly influenced by, aspects of Sartre's phenomenology. Moreover, in what will be referred to as the *Epistemology* (Georgiou, 2000), a Sartrean understanding of von Bertalanffy's phenomenological epistemology was explicated via Ulrich's (1983, 1988) and Midgley's (1992, 1997a,b) notion of boundary judgments. This resulted in the identification of the exact place where critique is epistemologically actioned. Such identification enables the further pursuit of attributing ontological status to critique—the subject of the present paper.

Although it is widely acknowledged that a lack of critique results in dogmatism or bounded rationality, such acknowledgment retains a certain ambiguity. Where attempts have been made to highlight the importance of critique, they tend to concentrate on arguments regarding institutionalized power (Jackson, 1985), knowledge as power (White and Taket, 1997), and stakeholder interests (Ulrich, 1983). Though these are undoubtedly enlightening, they remain but empirical examples (lacking inductive validity) of an underlying, and as yet unstated, philosophical argument as to the ontological character of critique. Unless this ontology is argued, Critical Systems Thinking will forever be plagued by the need to repeatedly defend the importance of critique as well as its own emancipatory agenda, and moreover its ethical developments will remain impoverished. This paper will show how and why critique is a necessary epistemological phenomenon systemically related to ontological considerations as well as provide an in-depth explication of dogmatism and bounded rationality. Ethical consequences also begin to be addressed and, by way of preliminaries, one can hint at the axiological consequences by drawing upon Sartre's theory of ontological freedom, for the ontological status of critique is inextricably bound with this theory: the axiological consequence stemming from the ontological status of critique is that one is more or less critical depending upon the extent to which one is aware of critique as an ontological necessity and thus to the degree to which one ceases to attempt escaping from critique into the realms of dogmatism and bounded rationality.

The most relevant aspects of the research leading up to this paper will be summarized so that the ensuing arguments may be seen in context and understood in light of the inter-relations which bind the research as a whole.

2. REVIEWING THE *GROUNDWORK*

The paper which first presented a fully developed argument for the relevance of Sartre to the Systems field will be referred to as the *Groundwork* (Georgiou, 1999). Disagreeing with a foundationalist pursuit in Critical Systems

Thinking and questioning the bypassing of von Bertalanffy in this field, that paper served to demonstrate that Sartre's thought is not only relevant to informing Systems thinking, but that the basic premise of Sartre's thought is one of a systems view of the world. Systemic argumentation, that common denominating principle required of all diverse input into Systems thought, was demonstrated as also being a fundamental characteristic of Sartre's work.

In particular, the *Groundwork* demonstrated the relevance of Sartre in several distinct areas, creating the platform from which a Sartrean input to the Systems field could be launched. The overarching ethical concerns of Critical Systems Thinking, for instance, were shown to exhibit distinct Sartrean overtones. In addition, when turning to the beginnings of Systems thinking, the *Groundwork* demonstrated how von Bertalanffy's work pointed to a Sartrean input in the Systems field; concentrating on von Bertalanffy's philosophical deliberations, the *Groundwork* highlighted three ways in which the acknowledged founder of Systems thought was affiliated with the phenomenological, as opposed to the analytic, tradition in philosophy. First, von Bertalanffy's (1968, xxii) discussion of Systems epistemology was shown as having distinct Husserlian undertones—the more detailed examination in the *Epistemology* further demonstrated that von Bertalanffy's Systems epistemology was a distinctly Sartrean understanding of Husserl's own epistemology. Second, it was pointed out in the *Groundwork*—and fully argued later in the *Epistemology*—that von Bertalanffy's view of the Cartesian *cogito* was aligned, and could *only* be aligned, to Sartre's own (1957) conclusions, again reflecting phenomenological sympathies. Third, von Bertalanffy's attribution of primacy to ontology was shown as mirroring the approach of both Husserl and Sartre. By examining von Bertalanffy's argument on the nature of open and closed systems, it was further shown that where von Bertalanffy stressed an ontological primacy in any approach to ethics, this stress reflects a distinctly Sartrean approach to morality.

2.1. The Question

Perhaps, however, the most striking manner in which Sartre proved to be of interest to the Systems field was how he addressed a fundamental, yet lingering question stemming from the early days of Critical Systems Thinking. In the early 1980s, Mingers (1980) and Checkland (1981, p. 283) had attempted a synthesis of Soft Systems Thinking with aspects of the thought of Habermas. Jackson (1982) critiqued the Mingers/Checkland position, resulting in the rupture of the Critical Theory–Soft Systems Thinking connection and in the embryonic development of a Critical Systems Thinking dislodged paradigmatically from Soft Systems Thinking. Within those arguments, Jackson (1982) made a significant statement:

Habermas recognises that though the social world is created by man, it is not ‘transparent’ to him. It escapes him, takes on objective features and constrains him. Man is still in the grip of unconscious forces and his actions still have unintended consequences . . . there is [a] need for a critical moment (corresponding to an ‘emancipatory interest’).

Checkland (1982) responded:

The reader may feel it significant that when Jackson writes of Habermas’s view that the social world takes on constraining objective features, man being ‘in the grip of unconscious forces,’ he writes not that Habermas believes this to be the case but that he ‘recognizes’ it.

Why was it that Habermas could claim to *recognize* the opaqueness of the social world? Checkland asserted that such a statement could only be a statement of belief and not of perceived fact. As such, a particular *Weltanschauung* was at work here which had not been made explicit by Jackson. Instead of informing his critics about Habermas’ world-view, however, Jackson (1983) opted for informing them of his own *Weltanschauung* stating that he was prepared to view the social world through the radical sociological paradigms identified by Burrell and Morgan (1979). In addition, it seemed to him that:

social systems can sometimes escape the understanding and control of the individuals who, in interacting one with another, create them. They can therefore exhibit ‘objective’ characteristics.

Though Jackson’s reply was relevant to the subsequent development of Habermasian Critical Systems Thinking, Checkland was still left wanting a reply: the question referred to Habermas and remained unanswered. Moreover, even if Jackson’s own *Weltanschauung* was acceptable as mirroring that of Habermas, an explanation as to its validity was still required.

It is noticeable that Habermas’ “recognition” and Jackson’s *Weltanschauung* concern what Cooper (1999, p. 36) has called “the distinctive character of individual human existence”: alienation from the world. As such, the *Groundwork* stressed that the validity of such assertions required a justification which examines the very condition of Being, suggesting that Sartre provided this justification. Sartre (1958, p. 482) argues that although situations in themselves may appear to make us impotent:

the coefficient of adversity in things can not be an argument against our freedom, for it is by us—i.e., by the preliminary positing of an end—that this coefficient of adversity arises [and] although brute things can from the start limit our freedom of action, it is our freedom itself which must first constitute the framework, the technique, and the ends in relation to which they will manifest themselves as limits.

Sartre not only recognizes the “coefficient of adversity” (e.g., Habermas’ “opaqueness,” Jackson’s “objective characteristics”) of the world, *he provides the sound philosophical argument which renders his recognition credible*. More-

over, if he can answer this issue, how else can he inform Systems Thinking? *Especially Critical Systems Thinking which has been led by this very issue to consider critical awareness, social awareness, and human emancipation.* This paper will show how Sartre's response is one thoroughly grounded in a systemic relationship between ontology and epistemology, which relationship will also be recognised as evident in the writings of von Bertalanffy.

3. REVIEWING, AND EXPANDING UPON, THE *EPISTEMOLOGY*

The quest for attributing ontological status to critique is in two parts. The latter part unfolds in the ensuing sections of this paper. It is a direct consequence of the *Epistemology*, a paper which meditated at some length on Ulrich's (1983, 1988) and Midgley's (1992, 1997a,b) development of the notion of boundary judgments, especially the epistemological importance they ascribe to the notion of boundary. By substituting "boundary" with "knowledge," the *Epistemology* identified, and focused upon justifying, certain of Ulrich's and Midgley's conclusions, namely: critique is actioned at knowledge; knowledge is understood as never attaining the status of "objective or right" knowledge; there must be knowledge in order for critique to be introduced—thus critique is dependent on some positing of knowledge; without critique, knowledge is crystallized—attaining a false status of objectivity. In particular, the *Epistemology* showed (a) the reason why knowledge indeed never attains the status of "objective or right" knowledge, (b) how critique is dependent on some positing of knowledge, and (c) the exact place where critique is actioned. The issue of the crystallization of knowledge was not fully discussed in the *Epistemology*—the manner in which knowledge is crystallized in the absence of critique and hence attains a false status of objectivity unfolds in the ensuing sections of this paper.

3.1. Von Bertalanffy's Attempted Systems Epistemology

Though the meditations on boundary judgments triggered the *Epistemology*, ultimately they led to an in-depth investigation of von Bertalanffy's (1968, pp. 82–83, 239–241) attempted epistemology. His attempt may be summarized as follows. For von Bertalanffy, there exists some order in some reality. This order, and therefore this reality, may be understood by some mental capacity. Von Bertalanffy uses the terms "categories of experience," "categories of human cognition," and "categories of knowledge" interchangeably when referring to the mental capacity of consciousness to recognise the order of reality. What is crucial is that for von Bertalanffy (1968, pp. 239–240) "the categories of experience . . . have continually to justify themselves" and thus they are not static but constantly dynamic. Furthermore, for von Bertalanffy, the "categories of knowledge" are dynamically isomorphic to the order in reality. From these two necessities of

continual justification and dynamic isomorphism, the *Epistemology* argues that the categories themselves are constituted by knowledge, thus allowing for the categories' dynamic isomorphic development through continuous justification as knowledge accumulates. The categories of knowledge, then, are dependent on the acquisition of knowledge. In von Bertalanffy's theory they are construed as passive reactors to the active influence which knowledge exerts on them, thus their dynamism is only an activity of adaptability. There is no elaboration by von Bertalanffy regarding the emergence of knowledge—knowledge, in his epistemological outline, appears as magically given. The question arises then of how knowledge comes to be in the first place which would then allow for it to constitute the categories in the mental capacity, which would, in turn, enable the mental capacity to understand reality.

Although this is an inadequate epistemological theory, the *Epistemology* found enough here to point toward a phenomenological influence enabling further development of the Systems epistemology envisaged by von Bertalanffy. In particular, according to von Bertalanffy knowledge arises due to reality and "categories of knowledge" conditioned by isomorphy. Similarly, according to phenomenology, knowledge arises due to phenomena rich in essences and consciousness' spontaneous intuition (of these essences) conditioned by isomorphy. The phenomenological notion of essences was discussed at some length in the *Epistemology* but need not be repeated for the purposes here. Instead, a clarification of consciousness' *spontaneous intuition conditioned by isomorphy* will serve to inform the ensuing discussion.

3.1.1. *Excursus: Initial Clarification of Consciousness' Spontaneous Intuition Conditioned by Isomorphy*

Intuitions are understood as the creation, by consciousness, of some theory about phenomena which enables consciousness to engage with the said phenomena. There is no issue here of whether the theory leads to "right" or "wrong" engagement, "good" or "bad" engagement and so forth: an intuition simply allows for *some* conscious engagement with phenomena by consciousness.

As such an intuition is conditioned by isomorphy, for the theory will be isomorphic to *some* ideal (again, not necessarily objective or correct) engagement with the said phenomena. This is not dissimilar to Checkland's (1981) *Weltanschauung* concept: whether one engages with a prison as "rehabilitation center" or as "university of crime" (Checkland, 1989), both such *Weltanschauungen* are theories about the phenomenon in question which are isomorphic to the phenomenon's complete, and hence ideal, manner of being.

Finally, created intuitions are spontaneous *not* in the sense that they are blind, chaotic, and meaningless. First, spontaneity signifies that they are inescapable, that they are created always-already by consciousness if consciousness is to be understood as engaging with phenomena. Second, spontaneity refers

to the manner in which consciousness always-already engages with phenomena *prior to reflecting about them*, as leading Sartrean commentator Joseph Catalano (2000: 137) notes:

We do not first conceptualize our prereflective involvement in the world. On the contrary, although our interior life is produced by us, our conceptualization of this activity occurs relatively late in life, and it is a difficult conceptualization to achieve. It is in this sense that we become surprised by the meaning of our own actions, particularly as these are reported by others.

Thus intuitions are to be distinguished from (inner) reflections about phenomena. Intuitions do not stem from consciousness thinking about its own (and, in this sense, necessarily) previous engagement with phenomena; intuitions are understood as created *in the act of engagement* and are directed toward the manner of being of phenomena themselves. Importantly, there is no reduction here to a recursive relationship between consciousness' engagement and its intuitions, in the sense that engagement would guide the development of intuitions which, in turn, would further enhance engagement and so on. There is, instead, a simultaneous upsurge of consciousness' engagement, on the one hand, and consciousness' creation of intuitions, on the other. Indeed, the one *implies* the other—contrary to their being understood as recursively *dependent* on each other. A recursive theory of consciousness' engagement with phenomena would remain on the level of reflected engagement, which necessarily *follows* the simultaneous upsurge. Such theorizing would beg the question as to which element of the recursive relationship came first and thus ultimately drown itself inside a vicious circle. Comte (1988, p. 5) theorized that this circle could only be broken through further intuiting, illustrating this with reference to the “spontaneous development of theological conceptions” which, for him, freed the primitive, recursively trapped human mind. Comte's theorizing, however, only serves to illustrate the primacy of spontaneity, of that initial intuition-rich engagement, of that pre-reflective immersion with phenomena in which consciousness always-already finds itself and it therefore highlights the impossibility of reduction to a recursive understanding of engagement and intuitions. A recursively based epistemological theory cannot account for the development of knowledge and the place of critique within this development.

3.1.2. Continuation: Von Bertalanffy's Attempted Epistemology

If the mental ability to understand reality is constituted by categories of knowledge which “have continually to justify themselves,” then any such understanding is necessarily on the level of dynamic intuitions, as opposed to some attainable objective, hence static, knowledge. The thesis that knowledge is never anything but intuitions is not strange to phenomenology (nor, as shown later, to von Bertalanffy) and is excellently explicated by Detmer (1986, pp. 186–196) who, furthermore, shows how the very process of attaining a supposedly “attain-

able objective knowledge” requires intuition and ultimately reduces the supposed possible objectivity of knowledge to intuitive knowledge. Similarly, Audi (1998, pp. 250–259) shows how deductive knowledge, though at first appearing to point the way toward some objectivity, is necessarily dependent upon, and in this case also reducible to, inductive knowledge which, in turn, is defined as conjectures, that is, intuition.

Significantly, von Bertalanffy adds a critique of Cartesianism to his epistemological deliberations which provides the clue as to whose phenomenology (e.g., Husserl’s, Heidegger’s, Sartre’s, etc.) can most accurately inform them. The *Groundwork* first pointed to von Bertalanffy’s rejection of Cartesian dualisms by stating that von Bertalanffy’s view of the Cartesian *cogito* mirrors that of Sartre. Although what von Bertalanffy has to say is minimal, it is sufficient to enable certain paths to be taken which coincide with Sartre’s philosophy:

The *Cartesian dualism* between matter and mind, objects outside and ego inside, brain and consciousness, and so forth, is incorrect both in the light of direct phenomenological experience and of modern research in various fields; it is a conceptualization stemming from 17th-century physics which, even though still prevailing in modern debates, is obsolete. (von Bertalanffy, L., 1968, p. 220)

Descartes’ question was an epistemological one: what can be known (with certainty)? The step from this epistemological position to the ontological positing of reality and consciousness as logically cut-off from each other is the really disturbing notion in Cartesian philosophy (Cooper, 1999, p. 48). It is this latter disturbing development in Cartesianism which von Bertalanffy rejects and seeks to correct. In effect, the only aspect from the Cartesian *cogito* which von Bertalanffy accepts as given is the only one which does not resort to speculation: that Man engages with phenomena.

Von Bertalanffy calls “obsolete” the Cartesian dualistic conception between matter and mind, “of objects outside and ego inside, brain and consciousness,” appealing to the “direct phenomenological experience” which has revealed such conceptions to be illusory. The obsolescence which von Bertalanffy confers is directed toward the mistaken step in Cartesianism from epistemology to ontology and to any conclusions, such as the ones he lists, which result from this step. If Cartesian dualism, with its attribution of logical independence between consciousness and phenomena, is made obsolete then there still remains the question of the status of consciousness and phenomena and of how knowledge arises from (either or both of) them. Furthermore, and crucially central for the present purposes, the question arises as to whether it is the case that the ego is no longer inside but outside, and hence is actually just an object, not mysterious to the rest of the world but open to it, with its supposed owner only experiencing a privileged intimacy with it but no more knowledge of it than anyone else. This was first argued by Sartre (1957) in his application of a correction to Husserl’s

phenomenology whereby an ego need not necessarily be involved in the possibility of knowledge. Any agreement, such as von Bertalanffy's alignment to the "modern research" which embraces the "direct *phenomenological* experience" and which simultaneously refers to the obsolescence of an ego inside must necessarily be an agreement with Sartre—although von Bertalanffy does not mention him by name.

Von Bertalanffy points to phenomenological influences and Sartre's rejection of the ego. Consideration as to how such issues serve to inform von Bertalanffy's Systems epistemology is required. This will allow for an expanded understanding of the epistemological importance placed upon boundaries in the Systems literature, as well as lead to the first conclusions which enable the explanation of the ontological status of critique.

3.2. Intentionality

One of the aims of the *Epistemology* was to expand upon the epistemological importance placed upon the notion of boundary or, more precisely, *the activity of creating boundaries* which was termed "bounding." Bounding can be equated to phenomenological *intending*. The theory of intentionality is, briefly, that consciousness is always consciousness *of* something, in other words consciousness intends phenomena. By intending, it is understood that consciousness directs itself at a certain phenomenon, in other words bounds it, delineates a boundary around it which necessarily posits or implies the exclusion of other phenomena.

3.2.1. *The Epistemological Engagement of Bounding*

In the same way that bounding is epistemologically important in Critical Systems Thinking [as argued, for instance, by Ulrich (1983, pp. 175–264)], intentionality in phenomenology "applies primarily to the theory of knowledge" (Sokolowski, 2000, p. 8). Additionally, in the same way that consciousness, as a phenomenon, engages with other phenomena by intending them, actors (themselves phenomena) engage with situations (other phenomena) by bounding them. What makes such intending/bounding distinct from any other inter-phenomenal engagement, however, is that the engagement of consciousness and that of the actors is necessarily an *epistemological* engagement. Yet, there is nothing in pure intentionality, in pure bounding, to enable epistemological engagement. Pure intentionality is but a blind, chaotic intending.

Auguste Comte (1988, pp. 4–5) provides the first step toward understanding epistemological engagement by noting that consciousness' engagement with phenomena requires "some theory or other," i.e., some knowledge (Georgiou, 2000). This is to say that consciousness' intending requires some epistemological input to guide it. Consequently consciousness' intending is never undertaken *purely*:

being distinct from any other type of inter-phenomenal engagement, consciousness' engagement with phenomena is undertaken in some epistemological fashion, *in some epistemological mode*. To the statement "consciousness intends that phenomenon" a question is immediately raised: "how is consciousness intending that phenomenon?". Without the question answered, intentionality reverts to a blind, chaotic intending equal to all other inter-phenomenal engagement usually understood as determinable by cause-effect laws. In other words, when referred to singularly, intending (bounding) has no meaning either conceptually or actually in the context of consciousness *qua* consciousness. In systems terms, intending (bounding) is a moment, not an independent part which can be understood on its own.

In sum, consciousness' intending is distinctly an epistemological engagement and, hence, the *mode* of consciousness' intending is an epistemological mode. Given this, the question of the nature of knowledge is immediately raised, for it is through an understanding of this nature that the epistemological mode of consciousness' intending can be described. In the present case, von Bertalanffy points the search for such understanding toward phenomenology and to how philosophers in this approach have understood the nature of knowledge.

3.2.2. *The Nature of Knowledge as Intuition*

Beginning with Franz Brentano (1995, p. 138) [the teacher who most influenced Husserl (1919)], he pointed out that "we only have knowledge when we make judgements"—implying that the latter are but a route to the former. Husserl (1990) echoed that the route to complete epistemological correspondence with the essence of phenomena (objective knowledge of phenomena) is through such judgments, which he called *intuitions* (of essences)—again, making the latter distinct from the former and simultaneously implying that whereas intuitions may be changeable [liable to what Husserl called *imaginary free variation* (Merleau-Ponty, 1964)], knowledge itself is static, inscribed for all time once attained. Thus far, von Bertalanffy shies away from this static conception of knowledge—and from these phenomenological philosophers—since his "categories of knowledge" do not lead to some static objective knowledge but are, on the contrary, condemned to "have continually to justify themselves."

Moving on to Sartre, however, phenomenology takes a distinct turn in favor of intuitions as knowledge. For Sartre (1958: 172) "there is only *intuitive knowledge*": the idea that intuitions, as malleable epistemological routes liable to continual justification, lead to a nonmalleable static, attainable, objective knowledge free from the need of further justification is, for Sartre (1958: 308), "contradictory; there is only the point of view of *engaged* knowledge" and as "engaged" such knowledge is inextricably tied to characteristics of pre-reflectivity such as isomorphy, *Weltanschauungen* and spontaneity. Furthermore, knowledge *qua* knowledge manifests itself through consciousness *and* to conscious-

ness: an objective knowledge which singularly manifests itself *to* consciousness is contradictory in the sense that there is no knowledge without Comte's observation that consciousness *creates* "some theory or other." This understanding is much closer to von Bertalanffy's with his need for continual justification of "categories of knowledge." Sartre's stress on "engaged" knowledge is, furthermore, in line with von Bertalanffy's subtle disagreement with viewing Man as primarily a spectator, an *ens cogitans*: von Bertalanffy does not outright reject the spectatorial premise but rejects its supposed primacy in explaining *how knowledge emerges* (Georgiou, 2000).

3.3. Preliminary Conclusions: Intending–Intuiting/Bounding–Judging

Given that (1) consciousness' intending is distinctly an epistemological engagement, (2) the *mode* of consciousness' intending is an epistemological mode, and (3) only by explicating an understanding of the nature of knowledge can the epistemological mode of consciousness' intending be described, in following von Bertalanffy the nature of knowledge is equated with intuitions and, therefore, intuition is consciousness' epistemological mode of intending. Now, Koestenbaum (Husserl, 1998: xxvii), in his explication of Husserl's Paris Lectures, notes that:

Husserl, following Brentano, holds that the essence of consciousness is intentionality [...] *Intentionality is a discovery about the nature of consciousness.* To the question "What is consciousness?" phenomenology answers "intentionality."

Given the discussion thus far, however, a more precise answer is available. If intentionality is *a* discovery about the nature of consciousness, then the understanding of the nature of consciousness is completed with the discovery of its equally important, and systemically related, *intuitionality*. Intuition is consciousness' continuous activity of spontaneous creation of some theory about a phenomenon which enables orientation and engagement with the phenomenon. Husserlian consciousness has an outward intentional direction whilst simultaneously creating spontaneous intuitions about (thus, by definition, outwardly directed at) phenomena. Intentionality must necessarily be accompanied by spontaneous intuiting, otherwise consciousness is nothing but a chaotic, meaningless intending. Spontaneous intuiting must also be necessarily accompanied by intentionality otherwise there is no directed phenomenon about which to intuit. Intentionality and intuiting are therefore two elements of consciousness, neither to which consciousness is reducible. Consciousness, it turns out, is a systemic, irreducible activity of intending–intuiting directed at phenomena.

Since any epistemological understanding of intentionality only makes sense given its complementary intuiting, and since consciousness' intentionality is a bounding activity, any epistemological understanding arising from the activity of

bounding—as required, for instance, in the Critical Systems literature—requires the latter’s complement: the activity of *judging*. The attribution of epistemological importance to the activity of bounding only makes sense when bounding is understood as bounding–judging: it is bounding–judging and not just bounding which enables knowledge and epistemological investigations.

In order to obtain a full picture of how consciousness intends (bounds), it is necessary to describe the characteristics of intuiting (judging). An understanding of these characteristics will justify von Bertalanffy’s claim that intuitions require continual justification. However, the relevance of Sartre’s rejection of the ego as constitutive of consciousness must first be explicated, for its most important conclusion directly informs the characteristics of intuition.

3.4. Sartre’s Rejection of the Ego

An intuition—as judgement—is closely linked to the positing of belief about the existence of a phenomenon. In describing Roman Ingarden’s critique of Husserl, Mohanty (1997, p. 44) notes that if this intuition is made and then becomes a past conscious act, “its effect is an abiding part of the reflecting ego—unless and until it is subsequently modified or cancelled.” The “reflecting ego,” in this case, is a term which designates some repository for intuitions and, ultimately, for knowledge—a place or space in which either “abides.” The designation of such a repository, however, poses two immediate problems and a third, indirect, problem.

First, as Sartre argued (1957, 1958: xxviii), there is no mechanism which can explain how an abiding intuition can be subsequently modified or cancelled. The ego, the repository, itself would require some mechanism behind it which would enable subsequent modifications or cancellations. Conceptualizing a mechanism in this way would lead to an infinite regress conceptualizing other enable mechanisms, and hence one is no nearer to explaining not only the possibility of modifications and cancellations, but, the possibility of how the abiding intuition remains. Second, if intuition, as the basis of knowledge, is to be construed as a continuous activity, as per von Bertalanffy, or spontaneous creation, then, by definition, it can never assume a static form which then abides in the “reflecting ego”: it cannot contradict its definition which stresses continuous activity (a definition which, as will be shown, stems from Husserl).

Even if such problems were not enough, however, there arises a third, indirect but, in the present context, more significant issue which Kirkpatrick and Williams (Sartre, 1957) address in their introduction to Sartre’s disagreement with Husserl. Any notion of ego—be it understood as a repository in consciousness, or, as a Husserlian structure of consciousness *essentially* involved no less than objects in the very possibility of any act of consciousness whatsoever—reverses the initial claim of phenomenology to be able to

investigate objects in their own right. Instead, it renders objects dependent for their various characteristics upon the activity of the ego. The intended object is thus reduced to being a product of the activity of the transcendental ego—an activity which acts upon directly given contents of consciousness, usually called “sense-data.” The study of the intentional object in phenomenology becomes a study of the principles governing the activity of the transcendental ego by which the object is constituted out of such contents (“sense-data”). Ultimately, the study of objects themselves refers the character of every object to the activity of consciousness—for a study of the object reduces to a study of the principles governing the activity of the transcendental ego by which the object is constituted out of “sense-data.” With Husserl the question arises: by whom or what shall the *contents* of consciousness be fashioned into intended objects—i.e., by whom or what shall the “sense-data” be fashioned into intended objects; how is the object constituted out of “sense-data?” Husserl invokes the transcendental ego as the actor. With Sartre (1957), in rejecting the Husserlian notion of ego, nothing constitutes contents of consciousness into intended objects, precisely because by denying the transcendental ego there is no need to revert to affirming “sense-data”—i.e., contents—or a constituting mechanism. Since there is no need to revert to affirming “sense-data,” consciousness has no contents. All content is on the side of the object—which serves to explain why many respected commentators recognize a nontrivial materialist slant in Sartre (Levy, 2000, pp. 222–228; Catalano, 2000, p. 105; McCann, 1993, p. 116). Consciousness is sheer activity (a “spontaneity”) transcending (intending) toward objects. The reality of consciousness is the reality of intending what is other than itself. Even in reflection whereby consciousness reflects upon itself, it reflects upon a past consciousness and not on its present intending—it forever escapes its present being. Moreover, since content is only on the side of the phenomenon, the character of the phenomenon regains its independence and is available for phenomenological investigation in its own right—as phenomenology aims from the start.

Crucially then, in understanding phenomenology in this way, Sartre necessarily renders the Husserlian “reduction” impossible (since the reduction’s aim is to enable an analysis of consciousness). For if consciousness is freed of any notion of ego, and if thereby there exist no contents (“sense-data”) in consciousness, then consciousness is never alone for it always intends some object beyond itself. To perform the reduction would be to revert to a nonintentional consciousness which would reveal nothing due to the very nonintentionality—there would be nothing for phenomenology to describe or analyze. If the reduction is invoked in order to enable phenomenology’s principle aim—to investigate the phenomenon of consciousness—then this invocation fails in grasping this isolated consciousness for the simple reason that consciousness is never alone, it is never isolated from an intended object for it always intends an object. The consequence is that there can never be a phenomenological inquiry of consciousness as

shut off or separable from the world. As Kirkpatrick and Williams (Sartre, 1957, p. 25) point out, “involvement in the existing world, which Husserl invidiously termed “the natural standpoint” in contrast to the “reduced neutral standpoint” of his philosophy, must be quite inescapable for consciousness, and therefore inescapable for phenomenology itself.” Sartre’s correction to Husserl plunges consciousness into the world of phenomena and condemns it to remain there always-already. To use one of Sartre’s distinct phrase structures (1958, p. 441): consciousness cannot be sometimes intentional and sometimes nonintentional; it is wholly and forever intentional or it is not intentional at all.

Having thus identified consciousness’ inextricable engagement with phenomena—a thesis in line with Sartre’s insistence on “engaged knowledge” and von Bertalanffy’s rejection of the primacy of the spectatorial premise—the characteristics of intuition, that is, the manner in which von Bertalanffy’s “categories of knowledge” “continually justify” themselves, can now be explicated. The *Epistemology* suggested that von Bertalanffy’s continuous justification of intuitions comes in two modes: reinforcement or development of intuitions. This is not an unfounded suggestion but one based upon Husserl’s own arguments regarding intuition. An explication of these, not undertaken in the *Epistemology*, will (1) serve to support von Bertalanffy’s insistence upon the continuous justification of intuitions (judgments, “categories of knowledge”), will (2) enable a complete description of how—in following von Bertalanffy—knowledge emerges, and will (3) serve to inform Systems Thinking.

3.5. Consciousness’ Modes of Intention: Reinforcement and Development of Intuitions

The discussion has already described at length the nature of intuition as the continuous, spontaneous epistemological *a priori* condition for the possibility of the emergence of knowledge. It has already noted that continuous intuition is necessary if the world is not to be viewed in a constantly chaotic manner. In other words, as continuous creation of some theory or other which enables engagement with intended phenomena, *continuous intuition is necessary for the possibility of experience*. Thus, the function of intuition, as the epistemological *a priori* condition for the possibility of the emergence of knowledge, is embedded within what Husserl calls “the natural attitude”—whose pervasiveness has already been noted via Sartre. For it is in this attitude that consciousness is in need of some theory or other in order to engage with intended phenomena, in order to realize the possibility of experience and escape chaotic, pure, intuition-less intending. Moreover, since purely intending consciousness is blind, intuition is the mode in which consciousness intends: as noted earlier, intuition is consciousness’ *mode of intention*.

Given that consciousness as intending–intuiting engages with phenomena,

and given that consciousness might sometimes engage so with the same phenomena over and over again, consciousness does not necessarily create new and mutually exclusive intuitions with each act of intending–intuiting. Von Bertalanffy’s “continuous” does not imply, and is not to be confused with, variety or novelty: the continuous creation of some theory or other could be the *same* theory or another. Husserl has already identified this dual characteristic of intuition: he names the two modes of intuition *and so forth* and *one can always again*. Natanson (1973), in his discussion of Husserl, calls them, respectively, *continuity* and *repetition*. Thus, since continuous intuition is necessary for the possibility of experience, and since it has the dual characteristic identified by Husserl, Natanson (1973: 35) can write:

Continuity and repetition are conditions necessary for the possibility of experience.

Natanson explains how, for Husserl, “continuity and repetition are the basal presuppositions for there being anything given as part of our day-to-day reality” and how continuity and repetition are the “primordial assumptions about any element of experience (1973: 16)” —thus situating intuition in the natural attitude as discussed above. Natanson (1973, p. 33) also explains that Husserl “finds that naïve believing-in-the-world involves [these] two interpretative modes of intention—“idealizations,” in phenomenological terminology—which are at the basis of perceiving experience as continuous and orderly.” This echoes the earlier identification of intuition as consciousness’ mode of intention, as well as consciousness understood as always-already plunged into engagement with phenomena—indeed, Natanson (1973, p. 12 ff.) rests his entire discussion of continuity and repetition upon Husserl’s thesis of the natural standpoint which understands consciousness in this way.

Natanson notes that, although the context in which Husserl first wrote of continuity and repetition is that of the ideality of logical structure, this context is but one of many illustrative frameworks through which they may be understood. Indeed, Husserl (1970) himself later embedded them in his discussion of *Lebenswelt* and Natanson also prefers a more experiential framework—one which closely matches that taken in the *Epistemology*.

3.5.1. *The Mode of Development of Intuitions*

Natanson (1973, p. 33) quotes Husserl as describing continuity/*and so forth* as “the form of reiterational infinity.” It is important to note that Husserl (1969, p. 188) does not say “repetitional”—he explicitly writes *reiterational*. Although, in general, dictionaries stress only the repetitive aspect of reiteration, the *-iterational* significance of the word points not simply to repetition but to a *development* as each iteration is passed through (in the same way, say, that each cycle of a heuristic, iterational methodology further develops a description). This is confirmed by Natanson’s (1973, pp. 34–35) explanation when he stresses that

this form, this intuitive mode, allows for “adding new interpretative elements,” remaining open for “emendation and expansion”—in other words, remaining open to what the *Epistemology* called “a greater degree of isomorphic accuracy to the phenomenon’s essence.” Thus, this “interpretative mode of intention” is what the *Epistemology* identified as the mode of development of intuitions.

3.5.2. *The Mode of Reinforcement of Intuitions*

The mode of reinforcement of intuitions was characterized in the *Epistemology* as being that which enables harmonious engagement with phenomena:

This reinforcement is most evident in intuitions of familiar physical objects with which human beings engage. Though one does not explicitly affirm these intuitions to oneself again and again, this reinforcement is nevertheless occurring. One recognises it, for example, when one steps back from objects and realizes that one has taken them for granted. This ‘taking for granted’ is the act of constant reinforcement of intuitions.

Natanson (1973, p. 34) quotes Husserl as describing repetition/*one can always again* not as some atemporal ideal of repetition but as a “return to an ideal signification unity or to any other ideal unity”—a return to that signification “taken for granted” in the *Epistemology’s* description above. Bergson (1911, p. 46) similarly argued that the notion of repetition is “possible only in the abstract” due to temporality which “gnaws on things, and leaves on them the mark of its tooth”:

If everything is in time, everything changes inwardly, and the same concrete reality never recurs . . . what is repeated in some aspect that our senses, and especially our intellect, have singled out from reality, just because our action, upon which all the effort of our intellect is directed, can move only among repetitions.

Natanson stresses that the earlier mode of continuity/*and so forth* contains within it this mode of repetition/*one can always again* (in other words, the mode of development of intuitions contains within it the mode of reinforcement of intuitions). The latter is not only the possibility of returning to whatever one commenced with: “When Husserl speaks of “one can always again” as an idealization, he is referring to the *a priori* status of typified *expectation* (Natanson, 1973, p. 35; italics added).” Husserl’s “return to unity” is not so much a return to the past but a return to the future, to a teleological governing. Since this teleological governing is contained within continuity/*and so forth*, to speak of a mode of development of intuitions is to imply some form of telos, be it functional or ideal. The *Epistemology*, as quoted previously, echoes Natanson’s (1973, p. 35) use of the example of “familiar physical objects” or tools to illustrate that the mode of continuity/*and so forth* contains within it the mode of repetition/*one can always again*:

The utility of simple tools in daily life is based on the possibility of repetition as a structural principle of everyday experience. Having learned to use a scythe, the farmer expects that each time he picks up that implement, holds it in the proper position, and swings it in that stiff, threshing rhythm he will be able to mow tall grass. If the blade is recently sharpened and the farmer executes his movement in traditional fashion, the grass is expected to fall. Any failure in the procedure must be due to its mechanics. Even before there is any thought of trouble, there is the tacit certainty that what worked in the past will continue to work in the future . . . Each empirical instance of using a tool in a routine way presupposes a nonempirical assumption: that routine use is always possible and that it will produce standard results.

Teleology, here, is inescapable for everyday experience, that is, for the natural attitude, and has acquired the status of “structural principle”—in Natanson’s example in the form of “expectation.” Every “empirical instance” presupposes some finalistic assumption. So that, if through Sartre’s correction to Husserl, consciousness has been plunged into the natural attitude and the world of phenomena, if consciousness is always-already engaged with phenomena, then it never escapes teleology.

It is important to be clear that where continuity/*and so forth* contains within it the mode of repetition/*one can always again*, it is not to say that repetition/*one can always again* is a special, derived form of continuity/*and so forth*—the two are distinct. “Testing the tool,” as Natanson notes in the same passage, “does not mean testing the idealization its use exemplifies.” An empirical experience may fail, but a failure of the expectation, of the teleological governing, of the functional or ideal telos, in short, a failure of the “*structural principle of everyday experience*” *qua* principle, *qua* “general criterion of life” (von Bertalanffy, 1968, p. 258) [which the *Epistemology* characterized as “nevertheless occurring”] would not only mean, what Natanson (1973: 35) calls, “a negation of everydayness, a nihilation of order within life” but the evaporation of life and epistemological understanding altogether. In short, the mode of development of intuitions necessarily implies a development back to, or towards, some functional or ideal telos—i.e., it implies a return to, or it refers to, this telos.

In stressing the “return” aspect of repetition, and further, in exemplifying it through illustrations of familiar objects or tools, thereby uncovering the element of teleology and “expectation,” Natanson’s discussion of this second “interpretative mode of intention” matches the *Epistemology*’s formulation of this mode of intention as the mode of reinforcement of intuitions. Where von Bertalanffy ascribes continuous justification to his “categories of knowledge,” this justification is, therefore, more precisely, reinforcement or development of intuitions. The *Epistemology* shows how fully intuitions correspond to von Bertalanffy’s description of categories of knowledge: as the mental capacity of consciousness to recognize the world, the capacity required if the world is not to be viewed in a constantly chaotic, misleading manner.

3.5.3. *The Teleological Pervasiveness*

It is worth noting that, throughout its history, philosophy has consistently given way to the teleological “structural principle of everyday experience.” The teleological stress of Natanson’s Husserl is echoed, for example, by Bergson (1911, p. 50), who described his own philosophy as transcending “both mechanism and finalism” while being “nearer the second doctrine than the first.” Additionally, in an effort to combat and transcend the two evils of realism and idealism, philosophical history regularly offers a supposedly required third mode which invariably comes in the form of a teleology, introducing an element of purpose which, it is assumed, can neutralize the two debilitating singularly persistent pursuits of realism and idealism. Natanson (1973, pp. 179–189), again, shows how Husserl and Weber both fall back on a Hegelian maintenance of the “directedness of the past.” In the philosophy of science, Holton (1988) demands a third mode—that of *themata*—for the spontaneous creation of the future. Ultimately, however, the Husserlian/Weberian argument, due to its Hegelian empirico-historicity, falls back on realism, while Holton’s argument, with its associated “guesses” and recourse to “creation,” falls back on idealism.

Recourse to a teleological “third way,” in an attempt to combat realism and idealism, only serves to further enhance their very delineation, ultimately supporting these two as the only epistemological paths. Despite this, there is a generally assumed consensus that the twin towers of realism and idealism are there to be stormed and razed and so the effort continues to transcend these epistemological routes. von Bertalanffy, sensitive to the epistemologically required twin scientific paths of induction and deduction, makes no attempt to transcend them. Indeed, his Sartrean phenomenological inclinations lead to Husserl’s dual modes of intention as discussed above. Since von Bertalanffy indicates no desire to transcend these two modes, then at least an attempt can be made to uncover their individual dynamics—as has been begun by following Natanson. The present understanding of these dynamics will be enhanced later in the discussion on dogmatism and bounded rationality, which will show that the teleological pervasiveness in each is epistemologically viable only as long as consciousness forms part of this telos. This is followed by a further uncovering of the central role of consciousness when a distinctly Sartrean view of the modes’ dynamics highlights the centrality of intending–intuiting, thus reinforcing von Bertalanffy’s insistence that intuitions be “continuously justified.”

3.6. **The Resulting Ontological Aspects**

When studying von Bertalanffy’s philosophical deliberations, his rejection of a possible attainment of objective, static knowledge soon becomes clear (Georgiou, 2000; Georgiou and Introna, 2000). Conceptualizing an attain-

able objective knowledge leads to two refutable hypotheses of which von Bertalanffy is well aware. The first makes such knowledge consciousness-independent—rejecting (1) Sartre’s stress that there is only engaged knowledge and (2) von Bertalanffy’s rejection of the epistemological primacy of the spectatorial premise—resulting in epistemological reductionism and admitting of Descartes’ mistaken step which creates a gap between epistemology and ontology; a gap which, as Descartes concedes, is bridgeable only by recourse to pure faith. A second hypothesis is to allow for an immanent potentiality that objective knowledge may indeed be acquired. As the *Epistemology* shows, however, this is refutable through the systemic combination exhibited by intending–intuiting, von Bertalanffy’s continual justification of categories of knowledge, and Sartre’s rejection of the Husserlian ego:

The availability and possible appropriation of an absolute objective knowledge [would] imply that, once it has been reached, no further intending-intuiting takes place and the activity of consciousness either stops or somehow alters. In stopping, one is led into the realm of speculation regarding the death of consciousness. As to its alteration, no theory exists to explain the manner of alteration unless the absolute objective knowledge is conceptualized as finally abiding in consciousness. This necessarily requires Husserl’s ego and, due to this line of thinking, one reverts to the problem of infinite regress. For how would the ego make sure that this knowledge is indeed the supposed objective knowledge . . .? One would require von Bertalanffy’s insistence on the need for ‘categories of knowledge’ to continually justify themselves. But it has been shown that this insistence can only be made viable through a Sartrean rejection of the ego.

It is important to be clear that what von Bertalanffy’s philosophical deliberations lead one to reject is not objective knowledge *per se*, but only its attainability. There might very well be an epistemological limit at whose point objective knowledge may be recognised as finally grasped. However, the realization of this limit, the attainment of this objective knowledge, recedes with each state of its realization. Objective knowledge, as de Muralt (1974, pp. 11–43) argues, is an infinitely receding ideal whose degree of asymptotic recession is dynamically correlated with the temporal, current states of epistemological approximations which, by definition, realize it inadequately and, hence, isomorphically. These epistemological approximations are intuitions whose possibility presupposes some epistemological order, in the same way that von Bertalanffy (1968, pp. 82–83) presupposes that, for the possibility of isomorphs, an order exists in reality itself. It is noteworthy that von Bertalanffy (1968, p. 248) chooses to conclude his writings by explicitly pointing to his recognition that it is intuitions, epistemological approximations, that define “the limitation as well as the dignity of human knowledge”—thus echoing de Muralt who, in turn, is but reiterating Husserl’s (1970, pp. 21–59) arguments in his own last unfinished work.

For von Bertalanffy, the *unattainability* of objective knowledge is ontologi-

cal. No ontological status, however, can be attributed to objective knowledge itself. Its very existence is only inferred because temporally realizable knowledge is experienced as changing, developing, growing and appears to move toward some final point. Since this final point is defined as an infinitely receding ideal, it is its infinite receding, in contrast to objective knowledge *per se*, which is ontological.

Given this, von Bertalanffy (1968, p. 241) quite rightly insists that knowledge is fundamentally—that is to say, *ontologically*—conceived as orientation, as an enabler for engagement with phenomena. As per the previous discussion, its current isomorphical orienting state is a dynamic reflection of an equally dynamic asymptotically receding ideal. Von Bertalanffy's epistemological conclusion is Sartre's (1958: xxiii) recognition of the only remaining philosophical dualism in Husserlian phenomenology which makes any sense *in epistemology*: “the infinite in the finite.” Phenomenological philosophers have tended to label this finite, orienting knowledge *meaning* in order to contrast it with the infinite limit which can only be properly called *knowledge*. It is this finite, orienting knowledge, this *meaning*, which is inescapable in the phenomenological epistemology of von Bertalanffy. That is, consciousness cannot escape its own activity of enabling orientation—of steering a course through the world in order to “guide the organism in such a way as to preserve its existence” (von Bertalanffy, 1968, p. 241). “We are *condemned to meaning*” as Merleau-Ponty says (1962: xix), or, in the words of Cooper (1999, p. 47), “human being is inescapably *semantic*.”

von Bertalanffy, therefore, quite rightly claims that even the supposed universal mathematical laws only exist through some meaning attributed through human engagement (1968, p. 237). Such human engagement itself is, as discussed earlier, enabled through the continuous creation of some theory or other—i.e., through the creation of intuitions. Now, the ontological status of the condition of isomorphy in intuitions has been highlighted, not only through the above discussion on the possibility of objective knowledge, but also in the earlier discussion of Husserl's “idealizations” which form the basis of perceiving continuous order and, thus, justify von Bertalanffy's (1968, p. 83) presupposition of an “order exist[ing] in reality itself.” By following Natanson in the context of Sartre's ego-less consciousness, von Bertalanffy's assertion that intuitions be continually justified also attained ontological status. Where continuous justification is ontological, however, what form this continuous justification takes is not. In other words, neither reinforcement nor development of intuitions are ontological *in themselves*. What is ontological is the choice—the activity of choosing—*between* the modes of continual justification.

Finally, the earlier discussion made it clear that, whereas phenomenology has, at least on an introductory level, singularly pressed for the ontological status of intentionality, when considering intentionality's epistemological importance it becomes clear that intentionality is inextricably bound with intuitionality. The

Table I. Outline of Ontological Aspects

Ontological	Not Ontological
Activities of intending–intuiting/bounding–judging	
The condition of isomorphy in intuitions/judgments	
Continuous justification of intuitions/judgments	
Choice—the activity of choosing–between reinforcement or development of intuitions/judgments	Reinforcement/development of intuitions/judgments
Knowledge as orientation, i.e., meaning The infinite receding of objective knowledge	Objective knowledge
The unattainability of objective knowledge.	

ontological status of intending–intuiting is the bedrock upon which all the other identified ontological aspects rest. The results can be summarized in Table I.

3.6.1. The Application of Critique

Where something has thus far been identified as ontological, it is so identified due to epistemological necessity—without the ontological elements, the very possibility of the emergence of knowledge fails. By the same token, given that knowledge emerges, the ontological aspects are the fundamentals which must *be* in order for this emergence to arise at all. There is an irreducible systemicity evident between ontology and epistemology and so, due to this, the ontological results form what can be labeled as an *onto-epistemology*. [Fuenmayor also made use of this label but the thesis here draws not upon those researches for three fundamental reasons of difference which, for the present purposes, need not be explicated in full: Fuenmayor (1991a,b) appears at times dangerously close to reducing systemicity to recursion, and at other times to substituting one for the other; Fuenmayor’s (1991c) “onto-epistemology for interpretive systemology” is a recursively based inquiring process between an onto-epistemology for a systems approach and one for reductionism, a process much removed from the present thesis; finally, Fuenmayor’s interpretive systemology (Fuenmayor and López-Garay, 1991) is built upon Habermasian foundations which are clearly absent from the present thesis. In addition, the central role of the figure/background gestalt relationship is interpretive systemology has been maintained throughout its development (López-Garay, 1999), a relationship which holds no central role in the present thesis.]

The theory of knowledge presented thus far has yet to incorporate, at least overtly, that most central of all epistemological aspects, namely, critique. Without identifying a place for critique, the onto-epistemology ultimately risks generat-

ing dogmatism or bounded rationality instead of knowledge which can transcend these two undesirable traps. Critique is an epistemological activity directed at epistemological phenomena. The question remaining is twofold: *to* which phenomenon of the onto-epistemology can critique be directed, and, *by* which phenomenon of the onto-epistemology is critique so directed?

One can begin by arguing that critique is directed at the bedrock of the onto-epistemology, that is, critique is directed at intending-intuiting. After all, critique-less intending-intuiting would reduce to either chaotic intending-intuiting or circular intending of the same phenomenon with the same intuited theory. Ultimately, such critique-less intending-intuiting is nothing but the pure intentionality identified earlier as applicable to all inter-phenomenal engagement save that of consciousness or actors. Therefore, critique must be applied to intending-intuiting if the onto-epistemology is to remain a viable epistemological thesis.

There is, however, nothing epistemological about *intending* in intending-intuiting. As argued earlier, not only is it intuiting which renders intending epistemologically significant, intuiting is also the epistemological mode of consciousness' intending. Given that critique is directed at epistemological phenomena, critique should be directed at the *intuiting* of intending-intuiting. More specifically, given the dual characteristic of intuiting, critique should be directed at the mode of reinforcement and the mode of development of intuitions—that is, von Bertalanffy's "continuous justification."

This much is acceptable given critique's need of an epistemological phenomenon toward which it may direct itself. However, before exploring how critique impacts upon the two epistemological modes of consciousness' intending, one may also want to argue that critique should be directed at the prior ontological choice which, by its very definition as choice, appears in need of some critical guidance. The choice concerns itself with choosing one of two possible epistemological phenomena. The choice itself is not an epistemological phenomenon, that is, knowledge does not arise from it—knowledge, as has been argued throughout, arises from intuitions. Therefore, the ontological choice does not meet critique's need of an *epistemological* phenomenon toward which it may direct itself.

The ontological choice has, however, been defined as an activity and the question does still remain regarding which phenomenon of the onto-epistemology actively directs critique. Two activities constitute the onto-epistemology: the ontological choice and intending-intuiting (the remainder of the onto-epistemology is constituted by ontological conditions arising from these activities). The manner in which the latter attracts critique has already been tackled. This leaves only the ontological choice. If the ontological choice is not itself an epistemological phenomenon attracting critique, might it be the phenomenon which actively directs critique? The route to answering this question begins by explor-

ing the effect of the absence of critique upon the modes of continuous justification of intuitions.

4. THE UNCRITICAL MODES OF CONTINUOUS JUSTIFICATION OF INTUITIONS

The importance of critique is commonly defended by conceiving it as the bastion which prevents dogmatism or bounded rationality. In itself, this defense retains a certain ambiguity for although dogmatism and bounded rationality are arguably reprehensible, they nevertheless do appear to enable an orienting knowledge. Moreover, there is a valid argument in support of a little dogmatism or bounded rationality which highlights that, were it not for the perseverance of a particular line of thought in the face of all the evidence, civilization as well as the sciences could never have emerged. This, however, is to confuse dogmatism and bounded rationality with perseverance. For if dogmatism, for instance, is evident as a contributing factor in the rise of science, it is but a *contributing* factor. The support for dogmatism or bounded rationality has always been on the level of “a little of it does not harm” and “it contributes to the overall project or to the momentum of progress.” The reprehensibility of dogmatism and bounded rationality arises in their being construed as ends in themselves. The next two sections explore the consequences of thus construing dogmatism and bounded rationality (i.e., uncritically) given the onto-epistemological results of the research thus far.

4.1. Dogmatism—The Uncritical Mode of Reinforcement of Intuitions

What is given in this uncritical mode is that consciousness has previously created some theory or other, some judgment or guiding code, which enables engagement with phenomena. However, this theory, this judgment, this guiding code, is being reinforced uncritically, which is to say that there is no need for further intuiting by consciousness: only intending—yet this particular intending will be clarified shortly. Consciousness has attributed an objectivity to whatever theory, judgment or guiding code has emerged within previous intending–intuiting. This is defined as dogmatism and has the following consequences.

First, as already identified, the uncritical mode of reinforcement reduces consciousness to singular intending whilst ignoring that intending ontologically operates along with intuiting.

Second, this uncritical mode assumes that the ontological condition of isomorphy has been surpassed and is no longer relevant or needed since objectivity has been attributed to whatever theory, judgment or guiding code has emerged within previous intending–intuiting—thus deceptively converting such theories into objective knowledge. This ignores the ontological necessities of isomorphy and the unattainability of objective knowledge.

Third, this uncritical mode assumes that the infinitely receding horizon of objective knowledge has finally been reached, thereby ignoring the ontological status of this infinite receding.

Fourth, in thus assuming to have reached the infinite, intuitions no longer operate ontologically in enabling orientation between consciousness and phenomena. Instead, there is an assumed objective knowledge which, by definition, is now logically cut-off from consciousness, dominates it and directs it. Consciousness becomes the passive reactor to knowledge, being in constant causal deterministic reaction (as opposed to spontaneous action) to it.

Finally, in having reached the infinite, the end of time has been reached. The ontological outline makes it clear that with the end of time there is no role for consciousness and therefore consciousness is destroyed. Where the reduction of consciousness to sheer intending was previously signaled, consciousness is actually not even needed for *that*. Intending is causally determined by the dominating objective knowledge.

In summary, with the end of time intending–intuiting is no longer ontological, neither is the condition of isomorphy, neither is the continuous justification of intuitions and neither is choice between modes of continuous justification. But not only are they no longer ontological—the dominance of objective knowledge and the attainment of the end of time render them *impossible!* The uncritical mode of reinforcement paints a scenario for the constitution of consciousness as a crystallized functional phenomenon completely liable to causal determinism. This, however, is a trivial result for the analysis concerns the inextricable link between consciousness *qua* consciousness and its onto-epistemological *raison d'être*—the whole analysis itself has stemmed from the epistemological question surrounding boundary-judgments. The primary value in explicating this uncritical mode is the emerging insight that although the ultimate attainment of objective knowledge is impossible, were it in any case to be reached it would be of no epistemological value for the consciousness which sought it. Furthermore, even by dogmatically *assuming* that the intuition constitutes ultimate epistemological objectivity, consciousness is led down a road of no epistemological value, let alone its own destruction, simply because of the lack of any contact with contingent experience which is inherent in such an epistemological position. In the words of Merleau-Ponty (1964) describing the first of two fronts on which Husserl's struggle was focused, the uncritical mode of reinforcement “attempts to arrange for us an access to the truth lacking any contact with contingent experience.”

In the systems literature, recognition of this scenario is illustrated by Flood and Ulrich's (1990) warning against decision-making which adheres to some convergence or absolutisms. In the history of management science, the failure of this mode in the context of human systems is best illustrated in the attempt to realize the “moon-ghetto metaphor”—that is, the “hopelessly over-ambitious”

attempt to apply the power of successful moon-landing optimization techniques to inner city social problems (Rosenhead, 1989, p. 4, 1992).

4.2. Bounded Rationality—The Uncritical Mode of Development of Intuitions

What is given in this uncritical mode is that consciousness has previously directed itself at a certain phenomenon, in other words has bound it, has delineated a boundary around it which necessarily posits or implies the exclusion of other phenomena. However, consciousness has remained singularly and uncritically focused on this phenomenon, which is to say that consciousness is no longer in need of actively intending since all intending is fixed at the phenomenon. Consciousness has posited the phenomenon as the only singular phenomenon and the only singular reference point for intuiting. In this case there is intuiting—but it is intuiting of an insular, singular kind; it is intuiting of only this phenomenon. This is not dogmatism but bounded rationality and it has the following consequences.

First, as already identified, the uncritical mode of development reduces consciousness to singular intuiting, ignoring that intuiting ontologically operates along with intending.

Second, although this uncritical mode does recognise the condition of isomorphy as relevant—since objectivity has not been attributed to whatever theory, judgment or guiding code has emerged from intuiting—objectivity has, however, been attributed to the phenomenon by positing it as the only phenomenon there is. The initial act of intending, leading to this juncture, is assumed as the only intending possible.

In addition to recognising the condition of isomorphy, this uncritical mode also recognises a recess of objective knowledge. However, as in the previous mode, neither is recognised as ontological. In attributing objectivity to the singular intended phenomenon it alone governs the possible horizon of knowledge. Given that the phenomenon is singularly intended, this phenomenon itself singularly delineates the possible horizon of knowledge. Since this horizon refers to a singular phenomenon, objective knowledge is ultimately attained once the epistemological constraints presented by the phenomenon have been overcome.

Epistemological development is reduced to a mere result of external causes which act upon it. Any affirmation of intuitions, therefore, is singularly effected by causes working from outside of any intending-intuiting. In effect, intuitions of phenomena are justified solely by the phenomena themselves. The role of consciousness is not only epistemologically unnecessary, it is impossible. This consequent destruction of consciousness similar to the previous mode is, as mentioned earlier, the trivial result. The primary epistemological insight from the uncritical mode of development is that intuitions lack any self-referential reflec-

tion. In the words of Merleau-Ponty (1964) describing the second of the two fronts on which Husserl's struggle was focused, the uncritical mode of development "reduce[s] the life of man to a mere result of external conditions acting on him and see[s] the philosophizing person as entirely determined from the outside, lacking any contact with his own thought and therefore destined to skepticism." The latter allusion to skepticism indicates the ultimate questioning of epistemologic purpose—the "so what?" which is the correlate and indication of an epistemologically bounded rationality—which necessarily arises from any epistemological development lacking self-referential reflection.

In the Systems literature, the uncritical mode of development is illustrated through the concerns expressed on the issue of holding singular goals as the overriding driving decision-making factor—say, efficiency. This was the scenario which led Checkland (1981) to argue that at least three factors should drive the management of transformation: efficiency, efficacy, and effectiveness. Significantly, he extended these to include ethicality and elegance (Checkland, 1999, p. A25; Yolles, 1999, p. 327). Furthermore, it was recognition of this uncritical mode which led him to insist that implementation may require systemic desirability but, more importantly, should be focused on *cultural feasibility*. Similarly, when Ackoff (1979) accused management science of "masturbation," it was this uncritical mode he had in mind.

5. EXPLORING DOGMATISM AND BOUNDED RATIONALITY

The singular, uncritical pursuit of either mode of justification of intuitions to its end results in the demise of the onto-epistemology. Thus, attention is immediately directed to the ontological choice, that fork in the road at whose point the two modal paths of justification are signaled. Suddenly, this ontological choice acquires a central urgency both, for the very possibility of ontological status to those aspects identified in the *Epistemology*, including the choice's own status, and, for the very possibility of epistemologic development. It becomes apparent that this juncture must be traversed carefully if there is to be epistemologic development. Is it to be understood that at times the left fork is to be taken and at times the right? If so, what informs this choice? More accurately, what is the choice founded upon—what is its foundation? In other words, to what can one point as a justification for the choice so informed? And what ethical questions arise from such an understanding, given that the choice is ontological and hence value-less in itself? The route to answering such questions involves the continued exploration of the delineation and dynamics of dogmatism and bounded rationality, the recognition that systemicity, in contrast to dialectical synthesis, is the apodictically epistemological attribute, and the recognition that Ulrich's epistemological "self-responsibility" attributed by him to practical reason belongs, rather, to the onto-epistemology's ontological choice.

The first common feature of both modes of justification, taken singularly as above, is that they each project toward the attainment of some form of epistemological end. The role of consciousness is only relevant as long as this end is still to be reached. Once reached, there is no further use of consciousness. Simultaneously, however, the epistemological end itself becomes worthless for without a consciousness to enable its manifestation and worth, the epistemological end crumbles into nothingness. Given the systemicity between consciousness and epistemology, aspiring to reach an epistemological end is self-defeating for both. Moreover, if truth and validity are to be juxtaposed as this epistemological end then these noble aspirations are thus highlighted as meaningless in themselves. This is because, construed in this way, the epistemological end, once attained, is fissured from its consciousness leaving it behind to rot in the same way a butterfly abandons and is forever separated from its cocoon. Truth and validity only have epistemological value as long as there is a consciousness which posits them as such. But wherever there is consciousness there is no objective truth, only intuitions; in other words, only phenomenological intentional truth. Such is the status of truth and epistemology in general (i.e., intentional) if systemicity, in contrast to dialectical synthesis, is adhered to. By delineating the two modes of justification in the light of the history of philosophy and by exploring their dynamics, the dynamic of the ontological choice itself can be addressed.

5.1. Delineation

No matter the systemicity inherent between consciousness and epistemology recognized by following Husserl, Sartre, and von Bertalanffy's own General System Theory, the history of philosophy remains strewn with attempts to reach, or theorize the attainment of, the epistemological end. The uncritical mode of reinforcement is akin to Cartesian rationalism since this epistemological position lacks any contact with contingent experience. This uncritical mode's ultimate epistemological fate is exemplified in Wolff's *Philosophia Prima Sive Ontologia*, a Leibnizian rationalism which at first attracted Kant but which, due to its inability to link logical certainty with reality, he later was to define as dogmatic—the label attributed to this mode in the above analysis. The uncritical mode of development, on the other hand, is akin to Lockean empiricism since this position ascribed epistemological affirmation solely to causes external to any intending-intuiting. This uncritical mode's ultimate epistemological fate is exemplified in Hume's *Treatise of Human Nature*, which develops empiricism to its logical conclusion and simultaneously destroys the viability of this epistemological approach due to its inability to prove the logical necessity of experiential laws, hence plunging into skepticism—a conclusion reflected by Merleau-Ponty earlier.

The weak foundations of such attempts in this history can be described

in terms of the modes of justification investigated previously. Dogmatism lacks epistemological value if by this is meant knowledge which can realize itself in phenomena. It lacks deduction. Bounded rationality, on the other hand, lacks epistemological value if by this is meant knowledge that can transcend its initial reference to a phenomenon and apply to other phenomena. It lacks induction. At best, each has regional, and not the claimed universal epistemological value as asserted by its respective proponents. That is, each may apply to a certain limiting approach to epistemological development and, additionally, to only a limited type of epistemological development. Sartre (1958, xli) similarly argued regarding the Parmenidean principle known as the Law of Identity.

Such delineations serve to further highlight the supposed need to transcend them via a “third way,” as discussed earlier. Where, as mentioned before, von Bertalanffy indicates no adherence to this supposed need, he unfortunately fails to indicate a workable embrace of the two routes. Sartre, however, in explicitly presenting his own critical task in view of such delineations, is of some help here:

I refuse to choose between realism and solipsism, materialism and idealism—I refuse this face-to-face sterility, traversing the history of philosophy, of those who posit the world as without consciousness against those fanatics of consciousness without world. How can one believe in the materiality of things without believing that that which we perceive is entirely dictated by them and is nothing but the reflection of a truth inscribed in their substance? How can one believe in the operation of consciousness without, inversely, going as far as to say that it is this, this operation, which confers on things the essence of their truth and their meaning? [Lévy, 2000, pp. 155–156—direct translation]

Lévy (2000, p. 156) goes on to point out that Sartre desires “a ‘true’ thing, a ‘true’ subject and, in between the two, a dialectic which goes beyond the face-to-face sterility of object-ivism and subject-ivism [direct translation].” That is to say, in pure phenomenological fashion, the only aspect from the Cartesian *cogito* which Sartre (along with von Bertalanffy [Georgiou, 2000]) accepts as given is the only one which does not resort to speculation: that Man engages with phenomena. For Sartre, sensitive to the fact that a teleological “third way” inevitably resorts to a choice between realism and idealism, if there is to be a dialectic, the “thing” and the “subject” are to be its *only* components. That is, if there is to be any epistemological transcending, it will travel along the only routes available: embracing realism and idealism, or, dogmatism and bounded rationality; paths which form not only the routes but the very definition of the destination as well. The manner in which the Sartrean dialectic reinforces this, its nature, and its relevance to von Bertalanffy are further explained below.

It is interesting to note that the interdisciplinary philosopher Charles Taylor also denies, in conspicuously Sartrean terms, any supposed helpful contribution arising from the *standard* idealism–materialism distinction. The standard perception of the dualism only reduces to one question:

Does the reality precede the philosophical formulation or vice-versa? But this question is totally sterile, because it has left out the really interesting level [...] There isn't a single answer to which is the independent variable; it depends on the situation. Sometimes you find certain formulations have tremendous impact in history; at other times they are obviously limping behind very deep changes in the social imaginary. It is this constant, complex inter-relationship which plays out in so many different ways that you very rapidly leave behind these crude issues about whether you're a materialistic or an idealist. (Klaushofer, 2000)

Furthermore, echoing the earlier observation that each singular mode of justification's projection toward a singular end results in no further use of consciousness, Taylor remarks, "I think you have to be utterly out of your mind to be either"—given the present analyses, literally! Additionally, if for Taylor, as for Sartre, one cannot be *either* dogmatic or rationally bounded, then one must *at least* be both. Herein lies the manner in which von Bertalanffy's epistemology rejects the transcendental "third way."

5.2. Dynamics

In broader terms of philosophical discourse, the two modes of justification can be recognized, respectively, as referring to and symbolizing: induction and deduction (Audi, 1998, pp. 250–259), meaning and reference (Rosenberg, 2000, pp. 165–173), Bergson's (1911) understanding of radical finalism and mechanism, Parmenidean and Pre-Parmenidean outlooks (Shand, 1993, pp. 1–20), and even rational comprehensive planning and incrementalism (Faludi, 1973). All such references serve to delineate either mode of justification but say nothing concerning their dynamics. Sartre's treatment of what he terms "in-itself" and "for-itself" provides a basis for understanding such dynamics which complements the understanding begun through Natanson's exposition and the earlier analyses of dogmatism and bounded rationality.

The technical understanding of in-itself as used by Sartre connotes a singularly pure self-referential phenomenon—much like von Bertalanffy's concept of a closed system—and, in the present epistemological context, this phenomenon is the epistemological mode of intending, i.e., intuiting. Dogmatism, in this case, is purely self-referential. It is constituted by its uncritically reinforced intuition to which it refers and which intuition lacks realization outside of itself. Dogmatism is knowledge-in-itself.

The technical understanding of for-itself as used by Sartre connotes a phenomenon which desires, and, in desiring, lacks. It is not purely self-referential for its desire is projected toward something other than itself: it refers to an other. More importantly, it projects toward the appropriation of this other into itself in order to complete itself. Bounded rationality, in this case, is not purely self-referential for its epistemological mode of intending (i.e., its intuiting) does not

refer to itself. Bounded rationality's epistemological mode refers to its intentional object. In this way, bounded rationality maintains an uncritical reinforcement of its intended object, as described in the earlier analysis. Its *epistemological* constitution, however, consists of its intuiting which hungrily *refers* to its bounded object: that which is other than epistemological. Bounded rationality is, therefore, knowledge-for-itself.

To Sartrean scholars it may at first seem surprising that dogmatism, with its affiliation to rationalism, mind and idealism should be understood as in-itself, for in-itself is used by Sartre to denote that most material of all phenomena: Being, or simply the stuff of the universe prior to its classification by consciousness. It would appear that dogmatism, being so closely linked with pure mind and hence with consciousness should be understood as for-itself, for Sartre identified consciousness with this understanding calling it a being-for-itself. Bounded rationality, similarly, appears to be more naturally affiliated with in-itself for it is intimately tied to some form of materialism. But this is to ignore the fundamental understanding of Sartre's terms as noted in their technical sense above and furthermore to miss the value of Sartre's investigations in understanding the dynamics of the two modes.

For instance, given dogmatism as knowledge-in-itself and bounded rationality as knowledge-for-itself, the Sartrean argument holds that the former is *purely what it is* and the latter *is what it is not and is not what it is*—where "it" continues to refer to the epistemological mode of intending, i.e., intuiting. From the earlier analysis, dogmatism is pure intuition intending, where its self-referential intuiting makes dogmatism epistemologically purely epistemological, i.e., it *is purely what it is*. Simultaneously, however, in being thus purely what it is, this epistemological intending lacks contact with contingent phenomena and therefore ultimately is of no epistemological value. Similarly, from the earlier analysis, bounded rationality is intention intuiting. Bounded rationality's intuiting, being based on its singularly bounded intended phenomenon—a phenomenon which intuiting *is not*—*is* this phenomenon: thus the epistemological mode of bounded rationality, i.e., intuiting, *is what it is not*. Being based on a singularly bounded intended phenomenon, however, bounded rationality's epistemological mode *is not* an epistemological phenomenon *qua* epistemological: intuiting *is not what it is qua* epistemological.

In the same way the pure epistemological intending of dogmatism is of no epistemological value, any epistemological conclusions arising from bounded rationality are but a masquerade behind which lie singularly bounded intended phenomena. In effect, it is not only dogmatism which is knowledge-in-itself: bounded rationality hides its epistemologically in-itself constitution behind a quasi-epistemological mask. There is no room in the dynamics of either uncritical mode for von Bertalanffy's insistence that intuitions be "continuously justified." Epistemological development cannot arise from the singular activity of

intuition intending or intention intuiting: epistemological development emerges from the systemic activity of intending–intuiting.

5.3. The Primacy of Systemicity

What the for-itself lacks, it seeks in the in-itself so that the for-itself may ultimately become a for-itself-in-itself, or in other words, complete. The dynamic of the history of philosophy is the battle for the epistemological for-itself to become complete, on the one hand seeking this completion in dogmatism, on the other seeking it in bounded rationality. In order to escape from either realm Kant proposed, via dialectical synthesis, his synthetic *a priori*, only to fall back into rationalism and the dogmatism inherent in his Categories stemming from his rationally bounded affiliation to natural science understood in Newtonian terms (Ulrich, 1983, p. 207). This result is not surprising: by definition, any synthetic process creates an end fissured from the dialectical opposites which enabled the end—thus the ultimate destiny of such a process is dogmatism or bounded rationality.

In light of the *Epistemology's* investigation of von Bertalanffy's epistemology, the ontological status of the systemic infinite recession of objective, eternal knowledge is in proportion to the development of temporal knowledge—an argument presented in full by Husserl (de Muralt, 1974). Only due to this ontological receding, identified through a Sartrean and Husserlian understanding of von Bertalanffy, is consciousness allowed to exist at all; and only since the aspired completion of the epistemological for itself infinitely recedes is epistemological development enabled at all. In effect, the projection of consciousness in epistemological terms is not toward some epistemological end. The projection of consciousness is toward its own end. This projection may simultaneously intend any other end, be it an epistemological one, but this other end is only construed as such if consciousness own end is secured—otherwise it is defeating, both for the end projected and for consciousness. Laszlo (1972, p. 98) argued along similar lines when discussing the means–end systemicity of consciousness: “a means [used] as an end in itself.” But is it just consciousness, in other words, just intending–intuiting which is simultaneously means and end? Laszlo (1972, p. 99) is clear: it is the whole of human experience, encompassing knowledge, beauty, faith, morality and so on which is a means toward its own end. In the present context, it is the whole onto-epistemology which is itself a means and an end for itself.

Therefore, where Kant postulated dialectical synthesis, von Bertalanffy postulates systemicity. In contrast to a dialectical movement leading inevitably toward a Hegelian Absolute Spirit removed from its roots, von Bertalanffy's systemicity leads to emergent epistemology (an emergent property) which refers directly back to the composition of systemic ontological moments which together

have enabled such emergence. This emergent epistemology is never fissured from its system, such fissure being indeed impossible if the emergence and the system were not to crumble into nothingness—as is well known from general principles of systems. Thus, if epistemology in the Systems sciences is to be addressed in terms of its practical use, or become what Kant and Ulrich call “practical reason,” systemicity and not dialectics is to be the governing fundamental.

Sartre never used the term “systemicity” as understood in systems theories. Moreover, the term “dialectic” is scattered throughout his oeuvre. It would seem that Bertalanffyian systemic epistemology does not have a Sartrean correlate. In this instance, Lévy (2000, pp. 354–355)—in describing the nature of the Sartrean dialectic—is most helpful:

It is a new dialectic. It is a bizarre dialectic. It is a dialectic somewhat comparable to a ‘turnstile,’ a ‘spiral,’ more of a ‘multi-centered spiral’ [...] which differs from all other known dialectics, especially the Hegelian, on this major point, which changes everything: it functions as an operation in two moments. It has not three, but two terms. It does not say ‘*x* is opposed to *y* before fusing with it in order that they may, together, constitute *z*,’ but, ‘*x* and *y* are opposed to each other, yes; they never cease to oppose each other; there is, moreover, at each spin of the spiral, a sort of new rising, or projection, whose two moments—begotten as they are, not by some transcendental principle, or a God, but by an intrinsic wellspring, nested at the heart of Being—allow, in effect, to continue to talk of a dialectic; but if there is rising, or progress, if the dynamic of [dialectical] opposing moves on, at each turn of the turnstile, to a higher degree of complexity, there is no third term, on the other hand, which would reconcile the former two and end up halting the never-ending dynamic.’ It is a dialectic, therefore, which neither unties nor resolves itself. It is a dialectic lacking recourse or synthesis, irreparable. It is an operation which, literally, goes around in circles and breaks with the linearity [...] implied by all the other dialectics. [Direct translation]

This is the most concise and informative description of the Sartrean dialectic to date—and it illustrates that bridges between Systems and Sartrean scholarship are long overdue. Lévy’s “*x*” and “*y*” are von Bertalanffy’s and Phenomenology’s consciousness and phenomena—those two moments “begotten by an intrinsic wellspring nested at the heart of Being.” These two opposing terms are eternally opposed, but the form of opposition is not the Hegelian frontal attack which fuses into a third term (indeed, the Hegelian form makes no sense in this “never-ending” opposition). Instead, the opposition is not shaped in the form of attack at all: the two terms are but the moments of an eternal feedback loop, that “multi-centered spiral” which “goes around in circles and breaks with linearity.” Therefore, for “opposition” read “feedback.” The “rising” or “projection,” which reaches “a higher degree of complexity” with “each spin of the spiral,” is but the emergent property of this feedback loop, of this system, of this “dialectic.” Thus, the notion of feedback loop is not to be understood merely as a recursive phenomenon but as a systemic phenomenon enabling that most systemic

of principles: emergence. Being a “dialectic” which lacks “recourse” or a third synthetic term, and being unable to “untie” or “resolve” itself, its emergent property refers directly back to the two systemic moments which, by pushing each other on unceasingly, enabled this property and forever retain it umbilically tied to them with each progressive push of the spiral. This dialectic is not “bizarre” for Systems epistemology—it comes in the shape of that most fundamental Systems concept: the emergence-enabling feedback loop. It is the “dialectic” which grounds the onto-epistemology and opens the possibility for the critical pursuit of continuous justification of intuitions.

5.4. von Bertalanffy’s Intentional Truth and Ulrich’s Practical Reason

Epistemological development is thus recognized as the emergent property (in the Systems definition of this term) of an irreducible onto-epistemological system, comprising the ontological moments identified in the *Epistemology*. Given the previous consideration of the uncritical modes of justification, objective truth is dogmatism or bounded rationality. Given this, and coupled with the earlier Sartrean analysis of the dynamics of dogmatism and bounded rationality, truth is inextricably intentional truth through consciousness and to consciousness. How far away is this intentional truth, so crucial in von Bertalanffy’s epistemology, from Kant and Ulrich’s “practical reason?” Consider that as intentional, this truth is a truth of engagement with phenomena. As intentional *truth*, this intentionality founds itself on some intuited theory, i.e., some epistemological positing. Intentional truth is, therefore, epistemological engagement. Similarly, however, intentional *truth* is the reasoning upon which practical purpose founds itself; and, as intentional, this truth is a truth for practical purpose. This is but the meaning of practical reason as used by Kant and Ulrich. Von Bertalanffy’s intentional truth is therefore the Kantian practical reason.

The limits of this similarity can be found when considering Ulrich’s (1983; p. 277) concession that, ultimately, practical reason is morally self-responsible. For self-responsibility implies a systemic feedback process which is incommensurable with Ulrich’s Kantian-based logical Hegelian end whereby practical reason is removed from its roots. Ulrich’s concession is correct only given von Bertalanffy’s irreducible onto-epistemological systemicity. However, the moment von Bertalanffy’s onto-epistemology is brought to bear upon the issue of self-responsibility regarding practical reason/intentional truth, the limits of similarity with Ulrich are further highlighted. Practical reason/intentional truth *qua* epistemological engagement is, by definition, applied truth. The ontological choice, upon which the onto-epistemology hinges, contributes to such intentional truth (by choosing either mode of justification) *but is also informed by it*. Given that the ontological choice is, both, creator and transformer of intentional truth, given that it governs the manner (i.e., the choosing of either mode

of justification) through which such intentional truth arises as well as governing the continual content of such truth which informs it, it is not intentional truth/practical reason which is self-responsible but the ontological choice. The ontological choice is itself the justification for that which governs its dynamic.

Seeing that the ontological choice is but a moment in the onto-epistemology, whatever responsibility is attributed to it necessarily is attributed to the remaining moments—with the proviso that only those moments which are activities can, by definition, be so attributed. The only other active moment in the onto-epistemology is the activity of intending–intuiting (as noted earlier, apart from the ontological choice and intending–intuiting, all other moments are not so much activities as ontological conditions inherent to the onto-epistemology). Attributing responsibility to intending–intuiting is similar to Ulrich having attributed responsibility to practical reason—one need only consider that intentional intuition is the same as intentional truth since intuition is the positing of some theory, i.e., some truth. Importantly, however, the responsibility attributed to intending–intuiting is only *in lieu of that belonging to the ontological choice*—and this one discovers, not through Ulrich, but through von Bertalanffy.

6. THE SELF-RESPONSIBILITY OF THE ONTOLOGICAL CHOICE

The very possibility of practical reason/intentional truth, as well as its very responsibility, is only in lieu of the continuing possibility of an active ontological choice, i.e., one which continually chooses between dogmatism and bounded rationality. The ontological choice, the fork in the road prior to dogmatism and bounded rationality, is a crucial juncture of epistemological development. It is crucial because the only possibilities for such development, identified through von Bertalanffy, are dogmatism or bounded rationality—the very options which work toward the destruction of epistemological development and consciousness. Thus, whereas in previously viewing the ontological choice as, both, creator and transformer of intentional truth, as governing the manner through which such intentional truth arises as well as governing the continual content of such truth which informs it—whereas in this previous light the ontological choice was infused with self-responsibility, in light of the additional fact that dogmatism or bounded rationality are the only routes which enable such creation, transformation, emergence and content of intentional truth, the ontological choice is not merely self-responsible but *crucially self-responsible*.

For the ontological choice is not passive to possibilities (it must actively engage with dogmatism and bounded rationality), it contains in itself the origin of its (and the whole onto-epistemology's) possible disappearance or of its continued existence (since it is self-responsible and self-justifying), and it reflectively projects before itself future conducts designed to keep at bay the threat

of its own destruction in transcendental ends (ones which are not systemically related to itself). Such possibilities/future conducts, precisely because they are its own, are not determined externally. Thus, it is not strictly certain that they will be effective or adopted. Where determinism would ensure their sufficiency, they are only sufficient as potentially effective or potentially adopted due to the ontological choice *actively sustaining* them as such. The only refuge from the consequences of the transcendental ends of dogmatism and bounded rationality is the undetermined future of potentialities sustained by the ontological choice. Sustaining the potentialities can only occur through continually choosing between the very dogmatism and bounded rationality—any halt in the activity of choosing, any indecision, and the sustained possibilities freeze into dogmatism or bounded rationality. Thus, indecision itself calls for decision and the ontological choice continues its crucially self-responsible activity of choosing if it is not to crumble into nothingness along with the onto-epistemology and epistemological development.

In effect, the ontological choice is free to actively engage only with dogmatism and bounded rationality, it is free to determine its own (and the whole onto-epistemology's) disappearance or continuation, and it is free to determine the future conducts designed to keep the threat of transcendental ends at bay. But it is not *because* it is free that such possibilities/future conducts are possible. On the contrary, its very structure as crucially self-responsible choosing, simultaneously sustaining possible conducts as *possibilities*, is the condition and manifestation of its freedom. Sartrean scholars will readily recognize this description of crucial self-responsibility as mirroring (at times paraphrasing) what Sartre calls *anguish* (1958, pp. 16–45). Indeed, the two terms may be used interchangeably for, given what has been learnt of the ontological choice, it is the Sartrean *anguish* which is the ontological choice's mode of being.

Something more, however, can be learnt from the ontological choice's structure. In sustaining possible conducts as possibilities, its own possible transcendental freedom is manifested. From the earlier discussion, such transcendences are akin to dogmatism. In being engaged in crucially self-responsible choosing which is simultaneously limited to choosing between dogmatism and bounded rationality, the freedom is conditioned and thus situated, both by the inherent self-responsibility and by the limiting choices. From the earlier discussion, adherence to such limits is akin to bounded rationality. Thus, the very structure of the ontological choice is constituted by dogmatism and bounded rationality. Furthermore, from the present research, it become obvious that freedom as transcendence invites detrimental dogmatic consequences, and, freedom in limits invites detrimental rationally bounded consequences. For freedom *qua* freedom to make any sense, it requires something else. It requires an attribute. Since the structure of the ontological choice holds the condition and manifestation of freedom, it is here where this attribute may be found.

The structure of the ontological choice must include an attribute which stops this structure from singularly sustaining transcendental possibilities or from singularly supporting self-responsible limited choosing. In other words, recalling the previous discussion, it requires an attribute which stops the structure from singularly pursuing ends and stops it from singularly pursuing means. It requires an attribute which can facilitate the systemicity of means–end, which can discern when the balance between means and end needs adjusting, which, when faced with the fork in the epistemological road, can judge between the limited alternatives: in short, which can reflect upon the intentional truth arising through itself and manifested to itself. Such an attribute is an activity of facilitating, discerning, judging, reflecting. It is known as critique.

7. CONCLUSION

The research which begin with the *Groundwork* has led to the central pivot of von Bertalanffy's onto-epistemology—i.e., the ontological choice—and has found at its core the activity of critique. Where the indecision of the ontological choice (i.e., its cessation of its activity of choosing) leads to the crumbling of the onto-epistemology, the ontological choice cannot even arise as ontological without the activity of critique. At the very core of epistemological development and von Bertalanffy's onto-epistemology is the recognition that critique is ontological. Just as the ontological choice is the core of the onto-epistemology and responsible for its very possibility, critique enables the possibility of the ontological choice *qua* choice and thus permeates the onto-epistemology.

In effect the onto-epistemology remains a *critique-bounded* epistemology and the very possibility of epistemologic development remains a *critique-bounded* possibility. That is, it is the degree of activity of critique which defines the limits of epistemology and its development. Without critique, the onto-epistemology crumbles into nothingness in its entirety. In turn, without the onto-epistemology, critique cannot even arise—thus critique is only ever *onto-epistemological critique*.

Ulrich's further delineation between instrumental critique and practical critique can further contribute to refining the definition of the ontological critique. Given that the ontological critique forms the very core of the ontological choice, all the characteristics attributed earlier to the latter belong to the former (e.g., self-responsibility etc.). Coupling this with the ontological condition of the infinite recession of objective knowledge and the impossibility of attaining objective truth, what Ulrich (1983, p. 19) calls *instrumental critique* evaporates into fiction *qua* critique since its very instrumentality ultimately attributes objectivity and justification to some established norm, simultaneously ignoring that norms in themselves are answerable to consciousness and, in this ignorance, paving the

uncritical pursuit of either one mode of continuous justification of intuitions. Instrumental critique is not critique *qua* critique: instrumental critique is dogmatism or bounded rationality.

Ulrich (1983, p. 20) has identified that *practical critique* recognizes the impossibility of objective truth and so, in terms of the onto-epistemology, only this critique is self-responsible and is thus equated with the ontological choice. Epistemologic development more or less emerges depending upon the extent to which practical critique is exercised by the ontological choice. In addition, one is more or less critical depending upon the extent to which one is aware of practical critique as an ontological necessity and thus to the degree to which one ceases to attempt escaping from practical critique into the realms of dogmatism and bounded rationality, that is, into the realm of instrumental critique.

In conclusion, the arguments leading up to the development of the onto-epistemology and the attribution of ontological status to practical critique enable a reflection upon relevant research issues regarding the emancipatory agenda of Critical Systems Thinking. This emancipatory agenda is intimately related with ethical questions. However, since the ethical cannot be addressed prior to considering the implications for the emancipatory agenda, further research must begin with an understanding of the dynamics of emancipation.

The general thesis throughout the Critical Systems Thinking literature paints a systemic relationship between critique and emancipation. On the one hand, the degree of emancipation depends upon the extent to which critique is exercised—such emancipation may be labeled *critique-bounded emancipation*. On the other hand, the degree of exercise of critique depends upon the degree of emancipation—such critique may be labeled *emancipation-bounded critique*. The systemicity between critique and emancipation immediately places emancipation ontologically at the core of the onto-epistemology. This is akin to the Sartrean (1958) conclusion that freedom is ontological. However, the insights gained from developing von Bertalanffy's epistemology stress the more subtle Sartrean conclusion that this freedom is *a critique-bounded freedom*. In other words, attributing ontological status to freedom or emancipation (or critique for that matter) does not immediately paint an "anything goes" scenario—something which certain commentators, such as Brocklesby and Cummings (1996), who have ventured to comment on Sartre have missed. In fact, the "anything goes" scenario arises only when each is taken singularly, that is, when their inherent systemicity is ignored. As Bergson (1911, p. 47) notes: "to behave according to caprice is to oscillate mechanically between two or more ready-made alternatives *and at length to settle on one of them*"—and neither the mechanical oscillating nor the settling arise as possibilities for the continuation of the onto-epistemology. The "anything goes" scenario, capriciousness, arises through the uncritical pursuit of either mode of continuous justification of intuitions and is ultimately equal to either dogmatism or bounded rationality. In recognizing the systemicity between critique and free-

dom one removes the danger of attributing moral value to either of them, which attribution would tempt one to abandon oneself to their impulses and ultimately be reduced to Bergson's capriciousness. In the words of Jeanson (1980, p. 14) (whose commentary remains the only one on his thought that Sartre ever fully endorsed):

this freedom to which we are "condemned" must be made *our own* or else it too will soon appear as yet another determinism. We *are* free, but this in no way relieves us from having to *make* ourselves free.

Critique enables freedom to be "made our own" and critique is the systemic relation to freedom which keeps alive the onto-epistemology, or, equally said, it is critique as ontological which "in no way relieves us from having to make ourselves free." Relief, as has come to be shown in the discussion previously described, equates to capriciousness and the demise of the onto-epistemology (which demise would include, of course, that of consciousness).

Given systemicity, the same dynamic of self-responsibility which belongs to critique also belongs to emancipation. The whole critique-emancipation systemicity is thus infused with an ethical dimension. In essence, the onto-epistemology is actually an irreducible onto-ethico-epistemology. Ethics attains a level of urgency equal to that of the anguish identified as the ontological choice's mode of being. In continuously choosing, the ontological choice is continuously making ethically affected or ethically affecting choices. The urgency of these ethically immersed choices is further highlighted when one recalls that the onto-epistemology is embedded in Husserl's "natural attitude": ethics may be deliberated in detached, reflective thought but, long before that, it is acted out in consciousness' engagement with phenomena. Ethics is as unavoidable as Sartre has shown the natural attitude to be—indeed, ethics is sedimented in the natural attitude. Ethics has regained its principle *raison d'être*: as the philosophy of action *in action*. Ethics is unavoidable for the onto-epistemology—consciousness is already swimming in it.

Since the discussion of emancipation leads to such urgent conclusions, it is worthwhile recapping the very broad definition of emancipation in the history of Critical Systems Thinking. Emancipation encompasses issues such as the epistemologic ability of surfacing and questioning assumptions and values inherent in discourse and systems design—what is labeled as *Critical Awareness* and attempted in Ulrich's (1983) *Heuristics*. It also encompasses the degree to which human beings can be emancipated from the governing modes of institutionalized and cultural practice in society, which modes lie within a broad spectrum defined on the one hand by the "rigor" of the scientific method and, on the other, by the power of rhetoric—what is labeled *Social Awareness*. It further encompasses what is termed *Human Emancipation*, that is, the concern with people's well being as well as the development of their potential. Included here are such issues as the quality of human existence, emancipation from the perceived prevalence of efficiency and

effectiveness as dominant motivating factors, emancipation from the perceived limitations (if not contradictions) in heralded participatory work practices in the face of outcomes shaped by “invisible” forces, and emancipation from the Foucauldian (1980) stress on the might of knowledge, power. Importantly, *Human Emancipation* forms the underpinning of the other two concerns for without it they cannot materialize and, in turn, a consideration of the previous two is ultimately undertaken in order to enable *Human Emancipation*.

There is an underlying weakness, however, in some Critical Systems emancipatory attempts which assume that emancipation should be conceptualized as necessarily leading into some emancipated state. This is the path chosen by Habermasian-influenced Critical Systems Thinking with its affiliation to abstract ideal speech situations. Furthermore, it is also the path chosen by those “who regard the assurance of an objective and objectively knowable moral order as the only possible basis for a strong sense of responsibility” (McBride, 1999). In the same way that attributing objectivity to truth leads down the path of dogmatism or bounded rationality, any emancipatory state defined according to this conceptualization ultimately describes, respectively, a state of emancipatory transcendence or a state of emancipatory facticity. The former is an emancipated state removed from contingent experience and is therefore dogmatic emancipation, and the latter is a rationally bounded state of emancipation. Both lead to the demise of Human Emancipation, *qua* emancipation, and hence of Critical and Social Awareness. Sartre (1958) aptly demonstrates the futility of conceptualizing freedom transcendently (i.e., dogmatically) or factually (i.e., as rationally bounded), that is, of conceptualizing emancipation as an ultimate *state*. Thus, although Critical Systems Thinking may thus have empirically highlighted *from what* human actors need to be emancipated, there remains a persistent weakness in not having provided an adequate description regarding *into what* such emancipation leads. Furthermore, since Critical and Social Awareness are epistemological goals, conceptualizing emancipation in terms of an emancipated *state* ultimately leads toward the detrimental uncritical pursuit of either mode of continuous justification of intuitions.

Thus, any further research which aims at an adequate description regarding into what emancipation leads is inextricably bound to the dynamics of the onto-epistemology. Similar to epistemologic development, the dilemma of the whole notion of emancipation resolves around the fact that becoming emancipated is only possible through two constraining, regional, limiting approaches which allow for only a limited type of emancipation and which are the very approaches which work toward the destruction of emancipation, i.e., dogmatic emancipation and rationally bounded emancipation. There is no emancipation without the constant critical activity of the ontological choice. The moment critique is removed from the ontological choice, emancipation crumbles away. One is more or less emancipated depending upon the extent to which one is aware of

critique-bounded emancipation as an ontological necessity and thus to the degree to which one ceases to attempt escaping from practical critique into the realms of dogmatic emancipation and rationally bounded emancipation. Emancipation *qua* emancipation is only ever *critique-bounded emancipation*. The still undeveloped systemic ethics of Critical Systems Thinking—and, by association, its still undeveloped methodology—is an ethics of critique-bounded emancipation, where the critique itself is an onto-epistemological practical critique. To paraphrase Sartre's initial contribution in the *Groundwork*, the ethics of Critical Systems Thinking arising from von Bertalanffy's onto-epistemology recognizes that the coefficient of adversity in available means can not be an argument against emancipation, for it is by the preliminary positing of an end that this coefficient of adversity arises and although means can from the start limit emancipation, it is emancipation itself which first constitutes the framework, the technique, and the end in relation to which means manifest themselves as limits. As von Bertalanffy (1968, p. 187, 227) notes: little is left of Kant's supposedly *a priori* and absolute categories, nothing remains of his moral imperative, and, in the face of the systemicity inherent between ontology, epistemology, emancipation and ethics, the Kantian lineage is, in itself, "too simple for a complex world."

Finally, Critical Systems Thinking already lays claim to toolkit methods exhibiting well-defined strengths and weaknesses, their purpose being to provide some direction toward resolving issues. Equally there is a demand placed upon Critical Systems Thinking, not simply for the provision of a sense of direction but, for engaging actors to think direction through for themselves. It is in this arena where Critical Systems Thinking has demonstrated excellence. No doubt, Critical Systems Thinking is very persuasive in its assertions (Jackson 1983, 1991) and innovative in its toolkit design (Flood and Jackson, 1991)—in other words, it is at least as good as other approaches in providing a sense of direction. However, being a field of thought which lays claim to the "second epistemological break" (Flood and Ulrich, 1990) in Systems Thinking, a concentration on explaining and describing the felt sense of questionable direction reflected in its emancipatory concerns can yield valuable insights. For example, as described earlier, though it may appear as understood *from what* human actors need to be emancipated, it is less obvious *into what* they might be emancipated. Renowned Sartrean scholars [e.g., Jeanson (1980), Barnes (1997), Catalano (1996), McBride (1991), Anderson (1993), Spade (1996), Santoni (1995)] have always argued that Sartre has been invaluable in providing direction by not providing it but by engaging those who seek it to think it through for themselves. Sartre and von Bertalanffy can inform the *from what/into what* issue and hence reinforce the relevance of the Critical Systems emancipatory concerns. For starters, they have helped in attributing ontological status to critique, thereby contributing toward erasing the question which repeatedly hangs over Critical Systems: "why is critique important at all?". This in itself is direction.

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