

## Chapter III

### Gregory Bateson's Cybernetic Framework

At the outset, it seems honest to admit that discussing Bateson is a frustrating task for several reasons. For one, as I have hinted in the previous chapter, he is not a well-known figure for those of us anyway that plan to publish their first books in the years to come. For the more seasoned authors or intellectuals, on the other hand, he is a figure way past his heyday, whilst they never were quite sure whether he ever deserved a “heyday”! In both the instances, the burden of (re)introducing him falls upon me, while I am aware of my own major limitations as an introducer and am also in the know of, admittedly, some of the more articulate introductions I have encountered that Bateson is lucky to have received already.<sup>1</sup> Finally, Bateson's work is very multidisciplinary, recursive, non-systematic, and oftentimes vacuously prolix, thereby asking on its own for a systematizing and sympathetic introduction. Given the totality of the circumstances, I must defer the reader to the existing introductions for a more general, detailed, and comprehensive insight into his life and works, reserving for myself the more specific task of looking at his ruminations for how they might relate to EC and Luhmann's theory of EC.

The plain fact is that EC does not come through easily as a theme in Bateson. It is, therefore, more a matter of deciding to examine and piece together his thoughts on a range of matters that are relevant to EC and somehow interrelated. Among those thoughts are included his reformulations of such critical terms from his times as *communication*, *information*, *cybernetics*, *evolution*, and *ecology*. I shall discuss them under the following four subheadings—each representative of a distinctive strand within his thought: (A) Psychiatry; (B) Ecology; (C) Cybernetics; and, (D) Evolution. While these subheadings may not suggest that *social communication* was a direct interest of Bateson, the discussions below shall show otherwise. *Communication* got Bateson's attention in the earlier years of his career—in connection with his research in *psychiatry*—whereas *ecology* increasingly occupied his mind in the latter years. It would not be incorrect to say that *ecology* eventually became the dominant framework within his thought, even as it was rendered in terms of his redefined communication.

### **A. Psychiatry: Entropy, Codification, Metacommunication**

Bateson developed his thoughts on psychiatry in a close association with Jurgen Ruesch, and it would be safe to say that the representative elements of their hypothesis and methodology are found in their 1951 treatise, *Communication: The Social Matrix of Psychiatry*.<sup>2</sup> What the two offer could be aptly called a *communicative system* theory of psychiatry (even though Ruesch refers to it once as a “unified theory of communication”).<sup>3</sup> At the heart of their efforts is a thorough reworking of psychiatry into a social science about general communicative interrelationships among individuals—from its previous avatars as (1) a medical, somatic treatment of major individual psychoses (through insulin or shock therapy, for example), and (2) psychoanalytic treatment of individuals traumatized by unfortunate personal or family affairs (such as through counseling sessions). As such, Ruesch and Bateson: identify psychiatry and psychiatric illnesses as *systemic* problems of communication; deem the *reflexive* aspect of communication as the pivotal theoretical problematic (whereas “the scientific investigation of communication is made difficult by the fact that we have to communicate in order to investigate communication”);<sup>4</sup> highlight and address the problem of putting boundaries on, or levels to, communication (as in delineating the communicative context of the patient amid stimuli from the outside world, within the clinic, and within himself or herself);<sup>5</sup> and, underline *communication* as the neutral process that links biological and psychological aspects of being.

The importance of the treatise to our considerations lies in what it does to *communication* and how that has affected Luhmann’s theory of EC (especially, for example, his distinctions between *system* and *environment* and between *psychological* and *social* systems). For a start, it is useful to reminisce that Ruesch and Bateson were inspired by the intellectual synergies of the late 1940s (and their outgrowths), particularly those related to the advances in research on *information*. Alongside, they were influenced by the socio-psychological environs of the industrialized world in the aftermath of World War II. Those environs had the following two major dimensions to them: One, there was the *massification* of psychological and psychiatric illnesses caused by the large-scale destruction, suffering, involuntary migrations, and unsettlements

resulting from the World Wars. Two, there was the concomitant rise of systemic thinking, projected in the surge of capitalistic industrialism, on one hand, and in welfare programs in liberal democracies and centralized planning in the communist bloc, on the other. Ruesch and Bateson viewed the above developments as the sign of the passing of “the age of individual,” and concluded that “the old ways of coping with human problems had become ineffective.”<sup>6</sup> Specifically, they lamented the unavailability of any “unified or general theory...that could adequately represent the person, the group and society all within one system.”<sup>7</sup> It is such a theory that they sought to provide in the given treatise.

On the broadest level, Ruesch and Bateson refuse to reduce *communication* to the verbal or written exchange among humans. Instead, deeming “[the psychiatrist] and the communication engineer, of all scientists...to be most aware of the laws of communication,” Ruesch looks toward cybernetics and communication engineering for their key conceptual definitions.<sup>8</sup> The reliance on the above fields has partly to do with the assumption that they bridge the gap between the human and non-human domains by focusing “not upon the person or the group, but upon the message and the circuit as units of study.”<sup>9</sup> In sync with the above, Ruesch defines *communication* as a “social matrix” in which human beings are exposed to

repetitive and consistent bombardment with stimuli [originating,] on the one hand, in the social behavior of other people and, on the other hand, in the objects, plants, and animals with which people surround themselves.<sup>10</sup>

Likewise, he defines *information* as the “arrangement of nervous impulses and connections [consisting] of relationships which are systematically derived from those among the original events outside the organism.”<sup>11</sup> The organism being considered, however, is under highly particular, and heretofore unknown, pressures—in that the “modern man has to contend with human interaction, man-machine interaction, and machine-machine interaction.”<sup>12</sup>

Ruesch and Bateson apply the concept of *entropy*—also understood as the random errors (noise) occurring through the transmission of signals and as measure of the efficiency of transmission systems—and the Second Law of Thermodynamics to frame the *holistic* problem of individual and systemic psychiatric irregularities. Viewing these

irregularities as manifestations of informational disequilibrium within a communicative system, Ruesch argues that

physiologist, psychologist, and psychiatrist alike are concerned with problems of order and disorder, entropy and the maintenance of the organism; the difference between these scientists is that the physiologist is concerned with the exchange of calories and chemical elements, and the psychiatrist and psychologist with the exchange of information [...] <sup>13</sup>

In focusing upon the dynamics of communication among interacting individuals, Ruesch prominently includes the body as the “communication apparatus of man,” <sup>14</sup> but warns against thinking in “anatomical terms when considering the internal network of communication.” <sup>15</sup> Instead, he advises comparing “the individual with a social organization”—such as a nation-state, whereas “messages from the borders and from all parts of the nation are transmitted to the capital and to all other places by means of intricate network.” <sup>16</sup> The presumed motive behind such a comparison is to ensure that the analytical focus stays on the transmission or interaction rather than on the message or the carrier; the effect of the comparison, however, is that it obliges us to view *communication* in inescapably *systemic* terms. This is also considered scientifically sound—something that Luhmann would vigorously argue in his writings—because the “communication apparatus of man [is] a functional entity without anatomical localization.” <sup>17</sup> Hence:

For practical purposes...events occurring in other persons are accessible to an observer in terms of inference alone; all he observes is the stimuli which reach the other person and the latter’s reactions; the rest is subject to conjecture. Furthermore, the observer, being a social stimulus for others, possesses knowledge about the origin and the nature of some of the stimuli which he feeds to other individuals. In such a system, which includes the observer as an integral part, the actions of the first person are stimuli for the second person and the response of the second person are stimuli for the first person. <sup>18</sup>

Expectedly, Ruesch and Bateson underline *relativism* as the trait inherent to all communication. In order to explain the mechanism of this relativism, they introduce the concepts of *interpretation*, *perception of perception*, *choice*, *codification*, *circularity*,

*self-preservation*, and *metacommunication*. *Interpretation* ensures that “any change in the state of an organism can be viewed from varied standpoints and can be registered consciously or unconsciously.”<sup>19</sup> And, to the extent that all individuals are inescapably part of the game of interpretation, “the term ‘role’ refers to nothing but the code which is used to interpret the flow of messages.”<sup>20</sup> Accordingly, all communicators are at once observers or interpreters of each other, and the resultant posture of observing-while-being-observed is a prerequisite for any social communicative system:

The perception of the perception...is the sign that a silent agreement has been reached by the participants, to the effect that mutual influence is to be expected. The mutual recognition of having entered into each other’s field of perception equals the establishment of a system of communication. The criteria of mutual awareness of perception are in all cases instances of communications about communication.<sup>21</sup>

The “communication about communication” mandates the exercise of *choice* on the part of the individual in the form his or her “preference”—and is instrumental to simplifying existential/informational complexity through *categorization*. Hence:

“Preference” always refers to an organism’s reaction to two or more possibilities which have been perceived. These possibilities refer on the one hand to a series of perceived stimuli and on the other hand to a series of anticipated reactions of the organism. In order to facilitate a decision in the face of these multiple choices, the organism subdivides the perceived stimuli and the anticipated reactions into groups. Through a series of complicated processes, the individual finally comes out with a statement of preference. Such a statement of preference we shall term value.<sup>22</sup>

“Choice,” “value,” and “preference” occur in the treatise mostly as Ruesch’s summary statements; they attain their refined, systematized, and developed meanings in Bateson’s formulation of *codification*. Another way of putting that is that *codification* provides the sophisticated explanation for how Ruesch’s *choice*, *preference*, and *value* act out at the level of individual cognition and expression.<sup>23</sup>

Bateson, borrowing the idea from communication engineering’s *binary system*, defines *codification* as “the substitution of one type of event for another, such that the

event substituted shall in some sense stand for the other.”<sup>24</sup> As such, *codification* has the following normative and functional features: (1) It “must be such that relationships are preserved” —indicating the presence of *negative entropy*;<sup>25</sup> (2) The codified information is “multiplicative,” i.e., “the elementary unit of information must contain at least [the] double aspect of asserting one truth and denying some often undefined opposite;”<sup>26</sup> (3) Messages look both backwards and forwards in terms of time, i.e., “[o]n the one hand, the message is a statement or a report about events at a previous moment, and on the other hand it is a command—a cause or stimulus for events at a later moment;”<sup>27</sup> and, (4) It necessarily includes the “information” about, and the “value system,” of the speaker.<sup>28</sup> A codification failure—for being a matter of incongruence either between the internal code and its external referent within the individual mind or among individuals in reference to a given set of realities—is to be understood as a communicative rupture or a psychiatric disorder.<sup>29</sup> The theoretical corollary of such a failure lies, of course, in the idea of treatment, whereas Ruesch defines “mental health” as the “ability to mutually correct the meaning of messages and to mutually influence each other’s behavior to each other’s satisfaction.”<sup>30</sup>

Ruesch and Bateson go on to reason why and when *codification* succeeds and fails—both at the general level of social communication and the specialized level of psychiatric treatment. In the latter case, Ruesch frames the dynamics between the patient and the psychotherapist as the primary problematic deserving of a well-worked out explanation:

The central problem of psychotherapy may...be restated as follows: How does it happen that in the interchange of messages between two persons with differing system of codification and evaluation, a change occurs in the system of codification and evaluation of either or both persons?<sup>31</sup>

However, insofar as dissenting individuals within society, including patients and psychiatrists in their mutual interactions, often succeed in reaching a point of congruence or a state of communicative equilibrium, Ruesch and Bateson deem the *system* of social communication *self*-corrective as a whole. Partly inspired by Walter B. Cannon’s theory of homeostasis,<sup>32</sup> Ruesch locates the evidence for systemic self-correction, -sustenance, and -organization at least at the following four levels: (1) the evolvment and

availability of psychiatric clinics or mental hospitals (and associated services); (2) successful treatments; (3) the general willingness of communicators to influence, and be influenced by, each other to appreciable degrees; (4) the general ability of individuals to live meaningfully within the system despite their personal differences or disagreements from it. Bateson views this self-corrective mechanism in terms of “irritability” and “adaptive action.”<sup>33</sup>

Bateson’s elaboration of *codification*, together with Ruesch’s definitions of *communication*, *value*, and *preference*, sketch of the disciplinary needs of psychiatry, and general reflections on psychiatry and culture, are meant to fulfill “the basic requirements for the construction of a psychiatric system.”<sup>34</sup> Whereas, a psychiatric system, in the words of Ruesch, must: (1) “be circular;” (2) “have the characteristics of self-correction;” (3) be able to “satisfactorily solve the problem of part and whole function;” and, (4) “clearly define the position of the observer and therefore state the influence of the observer upon that which is observed and vice versa.”<sup>35</sup> Notably, by “psychiatric system” Ruesch and Bateson meant not only the communicative system of society, nor just the medical setting of a typical psychiatric treatment, but also the *theoretical* system employed to explain the above two in *continuous* terms of communication. As such, the structure of Ruesch and Bateson’s construction is significant because it betrays a remarkable, even though qualified, affinity both to Luhmann’s portrayal of society (or social systems) and to the structure of his own theoretical arguments.

Perhaps the most important facet to keep in mind about the psychiatric system here are the norms of *circularity* and *self-preservation* (the latter being closely related to *self-correction* or *self-organization*): They both point up the requirement for psychiatry and psychiatric discourse to be able to explain consistently, rationally, and *fully* (at least) the most important concepts and events typically involved in the praxis—in the terms that they themselves proffer. That is because circularity is to be expected not just from the operational reality of an actual psychiatric or communicative system in society, but also from the mechanism employed to *explain* it—in other words, from the *theory* of psychiatry (or communication). Whereas, a theory of psychiatry, just like a psychiatric or social system, is expected to “preserve” itself by virtue of being self-reflexive.

That a communicative system can preserve itself by relying entirely upon itself—i.e., upon communication—is consistent with Ruesch’s idea that “the perception of the perception” or “communications about communication” constitute a prerequisite for any operative psychiatric/communicative system. However, this prerequisite of a self-perpetuating self-reliance (or self-reflexivity) is at once the central theoretical problematic (of circularity) within the clinic: That is because it leaves no outside, or perfectly objective, position from which to ascertain the success of a communication or treatment. Ruesch details the problematic as under:

As a result of participation in the system—and non-participation is impossible—the patient’s behavior is going to be influenced by the psychiatrist, and vice versa. Not only may the patient get better or worse while we explore him for the first time, but our own disturbances of communication may obscure our assessment of the patient. We are never quite secure in what we are doing, and only a check by another person, either an outsider or the patient himself, will enable us to gauge the effect of our own actions. The ability to mutually correct the meaning of messages and to mutually influence each other’s behavior to each other’s satisfaction is the result of successful communication. This is the only criterion we possess, and if we possess, and if we achieve such a state, it indicates mental health.<sup>36</sup>

It is as a solution to this *circularity* that Bateson pleads for attending to *metacommunication*, i.e., “all exchanged cues and propositions about (a) codification and (b) relationship between the communicators.”<sup>37</sup> Even though this plea comes on the top of the refusal to localize the communication apparatus within the individual anatomy, and the rejection of the importance of *consciousness* to the study of codification and communication, it is not meant to deny the importance of the individual to the communicative system.<sup>38</sup> The primary unit of Ruesch and Bateson’s analysis (and hence of their view of the communicative system called society) remains the human individual: *insofar as* the ideal of a completely objective, all-observant “superhuman observer” is ruled out as a fallacious fantasy.<sup>39</sup> In other words, *metacommunication* shows the way

out of the circularity through a reaffirmation of observational relativism at the expense of the hope for the ideal superhuman observer. Wherefore:

At the intrapersonal level, the focus of the observer is limited by the self, and the various functions of communication are found within the self. At the interpersonal level the perceptual field is occupied by two people, at the group level by many people, and at the cultural level by many groups.<sup>40</sup>

In the end, and following K. Gödel, Bateson admits *contradiction* as an inevitable condition of dealing “simultaneously with both objective communication and metacommunication”<sup>41</sup>—as in psychotherapy—whereas “all attempts to build a coherent body of statements at several levels of abstraction must always end in paradox and contradiction.”<sup>42</sup> On the social level, he stresses the significance of subjective relativism, rather than some transcendental objectivity, to the entire phenomenon by pointing out that “the qualities and characteristics of metacommunication between persons will depend upon the qualities and degree of their mutual awareness of each other’s perception.”<sup>43</sup> This is despite the fact that “the importance of the single individual diminishes, and at the higher levels one person becomes only a small element in the system of communication.”<sup>44</sup>

Ruesch and Bateson’s reworked model of psychiatry, intended to explain larger systemic problems in the communicative terms, basically added a *communicative* dimension to the other systemic models that pervaded the intellectual milieu of the period between 1940s and 1970s. Viewed especially in the retrospective light of Luhmann’s theory of EC, the most relevant theoretical contributions of their psychiatric model can now be recapitulated. They must include:

- the rendition of *communication* and *society* as a *psychiatric system* and vice versa;
- the problematization of communicative limits or levels (and the resultant de-localization of communication, and its understanding as a *system* without any definitive boundaries);
- the view of *communication* as a self-sustaining, self-corrective, and self-organizing evolutionary system;

- the stance that absolute objectivity is impossible within the communicative realm at each and every level—whereas “perception of the perception” or “communication about communication” is at the heart of any communicative success;
- the idea that communicative dynamics are part of the same systemic continuum across biological, psychological, social, and physical interfaces, and can be studied—for a start—based upon “a non-human model;”<sup>45</sup>
- the continued focus on the individual despite the acknowledgment of both relativism and systemic dynamics;
- the hypothesis that *codification* is the way through which humans connect among themselves within given environments, whereas the worst disconnects constitute serious psychiatric or communicative problems.

Of all of the above, the last bit is perhaps the most significant because it underlines: (1) the communicative relativism among humans with respect to both each other as well as the environment, and (2) the effort involved in “connecting” as such. In relation to the above, Bateson argues that

[n]egative entropy, value, and information, are in fact alike in so far as the system to which these notions refer is the man plus environment, and in so far as, both in seeking information and in seeking values, the man is trying to establish an otherwise improbable congruence between ideas and events.<sup>46</sup>

In many ways, Luhmann’s theory of EC, as we shall see, is an elaborate explanation for precisely how this “otherwise improbable congruence between ideas and events” relating to the environment is in fact achieved on the systemic level. Unlike Bateson (and Ruesch), Luhmann would exclude the individual from the equation altogether, focusing, instead, on how social subsystems interact among themselves (in their bid to fabricate the aforementioned *congruence*). Furthermore, Luhmann would further radicalize the *systemic* aspect by sharply demarcating the psychological from the social. It is the latter where *ecological communication* would be made to rest.

## B. Ecology

In the forgoing section, I discussed how Bateson (and Ruesch) viewed *psychiatry* as a mightily useful subset—and the handiest exemplar—of *communication*, which in turn was the *general* epistemological framework of his choice.<sup>47</sup> However, Bateson’s subsequent writings suggest that *ecology* ended up replacing *communication* as the chosen general epistemological framework. I personally consider this development a matter of chronology rather than as a decisive evidence that *ecology* finally superceded all else in Bateson’s thought on the whole. Hence, I shall view *ecology* as only *one* of Bateson’s major concerns;<sup>48</sup> of interest would be its shape and character within his writings.

The significance of discussing *ecology* in the context of Bateson lies primarily in the fact that it did not mean to him *just* what it commonly does—“the study of the relationships and interactions between living organisms and their natural or developed environment” and/or “the relationships between individual organisms and between organisms and their environment.”<sup>49</sup> Instead, endowed with a conspicuously broadened and particularized meaning at once, *ecology* occurred strictly alongside three other major concepts in his writings: *communication*, *information*, and *evolution*. This placement is critical for us in retrospect because it appears to have allowed Bateson to generate a particular modality of relationship between *ecology* and *communication* that by default bears upon the future theorization of EC.

*Ecology* concerned Bateson primarily as part of his overall epistemological quest—regarding, let’s say, how phenomena “work” or “make sense”—and not the other way round.<sup>50</sup> As a natural existential phenomenon, it provided him with *the* exemplar of an inescapably open-ended interconnectedness ironically asking for particular, concrete, and real explanations. However, as a field of scientific inquiry, *ecology* fascinated him—someone who loved to think big—because, while concerning itself with *specifics*, it also matches several features of his all-encompassing, seemingly ad hoc, epistemological ambitions that conventionally belong in the realm of abstractions or metaphysics. In other words, both as an existential phenomenon and as a science, *ecology* inherently validated Bateson’s tireless efforts at explaining nothing-in-particular

or everything-in-general! Accordingly, his latter-day ruminations crystallized in the form of what he calls the *ecology of mind*, which he defines all too loosely as under:

In the past few days, people have asked me, “What do you mean, ecology of mind?” Approximately what I mean is the various kinds of stuff that goes on in one’s head and in one’s behavior and in dealing with other people, and walking up and down mountains, and getting sick, and getting well. All that stuff interlocks, and, in fact, constitutes a network which, in the local language, is called *mandala*. I am more comfortable with the word “ecology,” but they’re very closely related ideas.<sup>51</sup>

Though it may seem from the above that the older Bateson turned out to be a New Age guru expounding the virtues of obscure oriental spiritual cults, the fact of the matter is that the man remained heavily invested in figuring out a “neutral” way to speak about how this system called “the world” works! The thrust in the above passage, therefore, is on “network,” though it is true that Bateson also wrote, cursorily, about Occidental and Oriental systems of thinking and doing, critiquing modern science and technology of the West for their belief in control of nature. In any case, he did not consider (his) spiritualism to be opposed to verifiable or rationalistic truth; quite the contrary, he believed that the *real* reality, examined in an unbiased manner, was sure to betray spiritualistic linkages across the universe.

Unsurprisingly, Bateson attempted to realize the “neutral” ways of investigating into reality by thinking doggedly in terms of minimalist *continua* rather than conventional material blocks, or definitional divisions, separations, or binaries among, within, or between radically “different” activities, things, or phenomena. Hence: *ecology*—presumably (a science of) empirical and concrete realities—*of mind*, (continuing through) the hub of (human) abstractions and ideas. A robust acceptance of the material and the non-living in the same space as the non-material and the living is the *sine qua non* for Bateson’s idea of ecology; contrarily, he viewed *ecology* as part of the proof that logically Reality cannot and should not be compartmentalized.

### C. Cybernetics: Existence as Communication

Bateson adopted *cybernetics* as the framework and “methodology” to pursue his epistemological quest and, eventually, to demonstrate and establish the fact of elemental *continuum* or interconnectedness. The choice presumes that *cybernetics* is the best positioned and articulated to expose epistemological mechanisms at their deepest and widest. However, as with *ecology*, so with *cybernetics*: Bateson upheld a deliberately selective idea of the latter as well, based upon his personal meditation on the topic.<sup>52</sup> Whereas, while accepting the focus within cybernetics on *relationships* (among myriad phenomena), he rejects the parallel focus in it on the *control* of those relationships (to particular ends or objectives)<sup>53</sup>—because he finds the latter incongruous with the ecological sensibility:

I prefer to use the term “cybernetic” to describe complete circuiting systems. For me, the system is man-and-environment; to introduce the notion of “control” would draw a boundary between these two, to give a picture of man versus environment.<sup>54</sup>

While the cybernetic interconnectedness is isomorphic to the ecological, it is also a highly promising provider of *universalistic* interfaces, let’s say, between organisms and the environment, organisms and machines, and organisms and organisms. The universalistic aspect derives from the fact that *information*—rather “transfer of information”—is the unit of cybernetic analysis, whereas “[t]he subject matter of cybernetics is not events and objects but the *information* “carried” by events and objects.”<sup>55</sup> Hence, differentiating a “cybernetic explanation” from a “causal explanation,” Bateson alludes to a third reason behind his own choice of the former—and hence, of the cybernetic framework itself: It makes one attend to alternatives:

Causal explanation is usually positive. We say that billiard ball B moved in such and such a direction because billiard ball A hit it at such and such an angle. In contrast to this, cybernetic explanation is always negative. We consider what alternative possibilities could conceivably have occurred and then ask why many of the alternatives were not followed, so that the particular event was one of those few which could, in fact, occur.<sup>56</sup>

Thus, cybernetic explanation allowed Bateson to think of happenstances or events in terms of negatives that presumably prevented alternative events from taking place: More technically, it made him focus on *restraints* that make a positive a probability:

In cybernetic language, the course of events is said to be subject to *restraints*, and it is assumed that, apart from such restraints, the pathways of change would be governed only by equality of probability. In fact, the “restraints” upon which cybernetic explanation depends can in all cases be regarded as factors which determine inequality of probability.<sup>57</sup>

Bateson’s overall valuation of cybernetics translates into the idea that all available existence is, or can be seen as, *positive* or meaningful communication put into effect by a set of decipherable restraints or negatives. By viewing meaningful existence itself as the patterned left-over from all odds, so to speak, Bateson renders reality into a communicational dynamic between (negative) *restraints* and their (positive) eventual probability. Conversely, he regards “patterning or predictability as the very *raison d’être* of communication.”<sup>58</sup> And, in accordance, he asserts: “All that is not information, not redundancy, not form and not restraints—is noise, the only possible source of *new* patterns.”<sup>59</sup> In dispersed passages, Bateson attempts to explain what a typical cybernetic approach to (analyzing) phenomena would or should look like; let me quote one such telling account below:

If we find a monkey striking a typewriter apparently at random but in fact writing meaningful prose, we shall look for restraints, either inside the monkey or inside the typewriter. Perhaps the monkey could not strike inappropriate letters; perhaps the type bars could not move if improperly struck; perhaps incorrect letters could not survive on the paper. Somewhere there must have been a circuit which could identify error and eliminate it.<sup>60</sup>

For the staunch relativist that Bateson was, he considered both *restraints* and the resultant patterns integral to the overall communicational dynamics called Existence or Reality or Truth. The fourth reason, then, why Bateson preferred the cybernetic approach was that it could capably explain the logical only in relation to the non-logical, thereby making it

unavoidable to include *both* as equally central and germane to the process of explanation and to communication as a whole.

Bateson introduced the concept of *redundancy* in elaborating his cybernetic approach—and as part of his conviction that any production or even existence of meaningful(ness) requires the inclusion of absolute context. Used generally, and in simpler terms, *redundancy* refers to the collective, but partial, overlap of all observers and everything observed through, and into, the production of meaning-making. In some specific situations, such as those exemplified by the passages below, *redundancy* exposes the mechanism behind the substitution of message for reality:

If ... we say that a message has “meaning” or is “about” some referent, what we mean is that there is a larger universe of relevance consisting of message-plus-referent, and that redundancy or pattern or predictability is introduced into this universe by the message.<sup>61</sup>

“If I say to you “It is raining,” this message introduces redundancy into the universe, message-plus-raindrops, so that from the message alone you could have guessed—with better than random success—something of what you would see if you looked out of the window.”<sup>62</sup>

#### **D. Evolution as Meaningful Communication: “Restrains” & “Redundancies”**

*Redundancy* assumes significance in the context of *evolution*: Rather, it allows Bateson to link *communication* and *ecology* against the backdrop of *evolution*, but well within the framework of *cybernetics*. Just as in *ecology* Bateson found the exemplar of a natural, open-ended, and defiant inter-connectedness *amenable to* scientific explanations, in *evolution* he believed to have encountered a natural system demonstrative of cybernetically explainable (and/or generated) *restraints* and *redundancies*. Following this logic, a species, a genus, or a patterned group of organisms can be seen—by yet another group of fellow-organisms called humans—as a package of information *about* the environment presumably developed *in response* to the same over a period of time:

[T]here is the matter of phylogenetic learning and phylogeny in general. There is redundancy in the system, organism-*plus*-environment, such that

from the morphology and behavior of the organism a human observer can guess with better than random success at the nature of the environment. This “information” about the environment has become lodged in the organism through a long phylogenetic process, and its coding is of a very special kind.<sup>63</sup>

While positing *evolution* in communicative or cybernetic terms at the level of group, Bateson also reached out to trace its microcosmic counterpart in the gene, the carrier of information at the level of individual organism:

If, in the communicational and organizational processes of biological evolution, there be something like *levels*—items, patterns, and possibly patterns of patterns—then it is logically possible for the evolutionary system to make something like positive choices. Such levels and patterning might conceivably be in or among genes or elsewhere.<sup>64</sup>

In short, the gene, as the carrier of information, offers itself as the common cybernetic unit for the analysis of evolution *as* communication and, therefore, of an “ecological” communication in the end. Although Bateson accorded significance to the gene for its informational or cybernetic value, he was no biological determinist. Quite the contrary, it was his sworn opposition to Darwinian determinism, coupled with his commitment to reflexivity, that led to his viewing of evolution as a communication among various species and with the environment. For, it is only in a resolutely indeterminate and reflexive framework that all entities could have been looked at as partially (re)creating themselves in *response to*, or in communication with, all other entities.

The meaning of ecological communication changes radically as we move from Bateson to Luhmann in the next chapter. This change is as radical as it is perhaps dramatic: in that, while Luhmann rejects the naturalist, open-ended universalism of Bateson, he also borrows heavily from Bateson’s conception of *information* and from Bateson and Ruesch’s psychiatric formulations. As such, Luhmann theory of EC turns out to be a narrative about a self-enclosing, self-perpetuating society—that leaves the human observer, the only legitimate observer by default, no outs!

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## Notes

<sup>1</sup> Please see: John Brockman (ed.), *About Bateson*, E. P. Dutton: New York, 1977; Peter Harries-Jones, *A Recursive Vision: Ecological Understanding and Gregory Bateson*, University of Toronto Press: Toronto, Buffalo, London, 1995; Rodney E. Donaldson, "Introduction," Gregory Bateson, *A Sacred Unity: Further Steps to an Ecology of Mind*, A Cornelia & Michael Bessie Book: An Imprint of HarperCollins Publishers, 1991; Mary Catherine Bateson and Gregory Bateson, "Introduction," *Angels Fear: Towards an Epistemology of the Sacred*, MacMillan Publishing Company: New York, 1987.

<sup>2</sup> Jurgen Ruesch and Gregory Bateson, *Communication: The Social Matrix of Psychiatry*, 1968.

<sup>3</sup> *Ibid*, Ruesch, "Values, Communication, and Culture: An Introduction," p. 4.

<sup>4</sup> *Ibid*, pp. 6-7.

<sup>5</sup> Ruesch declares it *the* need—and *the* objective—for his contemporary psychiatry to evolve epistemological "systems which would embrace both events confined to the individual and events encompassing several people and larger groups." He attaches a universalistic significance to the proposed framework: because the connections between the internal and external world form the crux of the generic psychiatric conundrum. Evidently, the focus within the treatise on *valuation* or *choice* assists in evolving such a framework as it points to the connection that the individual—*observer*—seeks to establish between his internal mental world and the larger external system of communication. This is because "[t]hrough statements of preference, the inner workings of the mind of a person are revealed." See, respectively: Ruesch, "Communication and Mental Illness: A Psychiatric Approach," *ibid*, p. 62; and Ruesch, "Communication and Human Relations: An Interdisciplinary Approach," *ibid*, p. 45.

<sup>6</sup> *Ibid*, Ruesch and Bateson, "Preface to the 1968 Edition," p. vii.

<sup>7</sup> *Ibid*.

<sup>8</sup> *Ibid*, Ruesch, "Values, Communication, and Culture: An Introduction," p. 13.

<sup>9</sup> *Ibid*, Ruesch and Bateson, "Preface to the 1968 Edition," p. vi.

<sup>10</sup> *Ibid*, Ruesch, "Values, Communication, and Culture: An Introduction," p. 8.

<sup>11</sup> *Ibid*, p. 7.

<sup>12</sup> *Ibid*, Ruesch and Bateson, "Preface to the 1968 Edition," p. viii.

<sup>13</sup> *Ibid*, Ruesch, "Communication and Mental Illness: A Psychiatric Approach," pp. 90-91.

<sup>14</sup> *Ibid*, p. 16.

<sup>15</sup> *Ibid*, p. 29.

<sup>16</sup> *Ibid*.

<sup>17</sup> *Ibid*, p. 16.

<sup>18</sup> *Ibid*, p. 26.

<sup>19</sup> *Ibid*, p. 31.

<sup>20</sup> *Ibid*, p. 27.

<sup>21</sup> *Ibid*, p. 23-24.

<sup>22</sup> *Ibid*, p. 45.

<sup>23</sup> Claiming that the "brain is predominantly digital in its functioning,"<sup>23</sup> and that "codification must ...be systematic," Ruesch and Bateson go on to detail the functional system of codification. This is significant to their framework because

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[t]o describe codification [at the intrapersonal level] is to specify the relation between the neural, chemical, and other signals and the internal or external events to which they refer ...At the interpersonal level, [on the other hand,] the description of codification will define the symbolization processes of language together with the more tenuous symbolisms present in nonverbal communication.

See Ruesch and Bateson, "Individual, Group, and Culture: A Review of the Theory of Human Communication," *ibid*, p. 283. For all that, Bateson considers *codification* the central conceptual bridge between the so-called "mentalist" and "organicist" approaches within psychiatry—the former focusing on the individual (mind), the latter on the larger context.

<sup>24</sup> *Ibid*, Bateson, "Information and Codification: A Philosophical Approach," p. 169.

<sup>25</sup> *Ibid*, p. 170.

<sup>26</sup> *Ibid*, p. 175.

<sup>27</sup> *Ibid*, p. 179.

<sup>28</sup> *Ibid*, p. 178.

<sup>29</sup> Whereas:

The condition which the psychiatrist labels "psychosis" is essentially the result of the patient's misinterpretation of messages received; and the condition which we commonly label "neurosis" is the result of unfortunate attempts of a patient to manipulate social situations with the purpose of creating a stage to convey messages to others more effectively.

*Ibid*, Ruesch, "Communication and Mental Illness: A Psychiatric Approach," p. 88.

<sup>30</sup> *Ibid*, p. 87.

<sup>31</sup> *Ibid*, p. 82.

<sup>32</sup> *Ibid*, p. 58.

<sup>33</sup> *Ibid*, Bateson, "Conventions of Communication: Where Validity Depends upon Belief," p. 212.

<sup>34</sup> *Ibid*, Ruesch, "Communication and Mental Illness: A Psychiatric Approach," p. 79.

<sup>35</sup> *Ibid*.

<sup>36</sup> *Ibid*, p. 87.

<sup>37</sup> *Ibid*, Bateson, "Information and Codification: A Philosophical Approach," p. 209.

<sup>38</sup> As Bateson concludes, "[T]he introduction of consciousness as a concept will not profoundly modify the type of question which is here studied," *Ibid*, p. 183.

<sup>39</sup> See Ruesch and Bateson, "Individual, Group, and Culture: A Review of the Theory of Human Communication," *ibid*, pp. 273-274.

<sup>40</sup> *Ibid*, p. 274.

<sup>41</sup> *Ibid*, Bateson, "Conventions of Communication: Where Validity Depends upon Belief," pp. 223-224.

<sup>42</sup> *Ibid*, p. 227.

<sup>43</sup> *Ibid*, Bateson, "Information and Codification: A Philosophical Approach," pp. 209-210.

<sup>44</sup> *Ibid*, Ruesch and Bateson, "Individual, Group, and Culture: A Review of the Theory of Human Communication," p. 274.

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<sup>45</sup> See especially Bateson, “Information and Codification: A Philosophical Approach,” *ibid*, p. 186.

<sup>46</sup> *Ibid*, p. 179.

<sup>47</sup> Ruesch and Bateson did not intend their findings to serve as a mere reworking of psychiatry, but also as a general epistemological framework for the social sciences at large. As Ruesch notes:

The present book has been dedicated to the task of stating and illustrating at length the premises which underlie the various approaches to social science. We have chosen psychiatry as the focus of our attention because the psychiatrist in his daily practice is concerned with disturbances of communication; he and the communication engineer, of all scientists, seem to be most aware of the laws of communication. The essence of our message to the reader is that communication is the matrix in which all human activities are embedded. In practice, communication links object to person and person; and scientifically speaking, this interrelatedness is understood best in terms of systems of communication.

Ruesch, “Values, Communication, and Culture: An Introduction,” *ibid*, p. 13.

<sup>48</sup> I want to stress this point keeping in mind the otherwise outstanding account of Bateson’s overall philosophy that Harries-Jones provides. His account, erroneously in my view, centralizes *ecology*, making it appear to be Bateson’s *representative* concern. See , Peter Harries-Jones, *A Recursive Vision: Ecological Understanding and Gregory Bateson*, 1995.

<sup>49</sup> World English Dictionary, Microsoft Corporation, 1999.

<sup>50</sup> A clear hint of Bateson’s resolute truth-centred objective is found, ironically, in one of those elusive literary genres called poetry! See, for example, his poem “The Manuscript,” which he wrote in reference to a manuscript that his daughter further developed posthumously and published as *Angels Fear: Towards an Epistemology of the Sacred* (1987). The poem is included in the above book.

<sup>51</sup> Gregory Bateson, *A Sacred Unity: Further Steps to an Ecology of Mind*, ed. Rodney E. Donaldson, San Francisco: Harper, 1991, p. 264.

<sup>52</sup> For a more general introduction to the cybernetic movement, see V. L. Parsegian, *This Cybernetic World of Men, Machines, and Earth Systems*, Anchor Books: Garden City, New York, 1973. See also: Norbert Wiener, *Cybernetics*, The M.I.T Press: Cambridge, Massachusetts, 2<sup>nd</sup> ed., 1961; Gordon Pask, *An Approach to Cybernetics*, Hutchinson & Company: London, 1961; Jagjit Singh, *Great Ideas in Information Theory, Language, and Cybernetics*, 1966; Fredrick J. Crosson & Kenneth M. Sayre, *Philosophy and Cybernetics: Essays Delivered to the Philosophic Institute for Artificial Intelligence at the University of Notre Dame*, 1967; *Encyclopaedia of Cybernetics*, Tr. G. Glibertson, Barnes & Noble: New York, 1968; Neville Moray, *Cybernetics*, ed. Henri Daniel-Rops, Hawthorn Books: New York, 1963; Charles R. Dechert (ed.), *The Social Impact of Cybernetics*, 1967; V. H. Brix, *You are a Computer: Cybernetics in Everyday Life*, 1970; Giuseppe Longo, *Selected Topics in Information Theory*, 1972.

<sup>53</sup> Parsegian notes these two components very specifically as follows:

[E]ach of the [cybernetic] situations involves variables. Each involves *interactions* of machines or organisms *with the environment*, the

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interactions often taking circuitous routes. Each involves an element of *purpose*, or objective, and utilizes *control principles* addressed to those purposes. ... In fact the utilization and control of energy constitutes a main interest of cybernetics whether the energy is mechanical or human.

*This Cybernetic World of Men, Machines, and Earth Systems*, Anchor Books, 1973, p. 2. (First published, 1972.)

<sup>54</sup> Gregory Bateson, *A Sacred Unity: Further Steps to an Ecology of Mind*, p. 202.

<sup>55</sup> *Ibid*, p. 407.

<sup>56</sup> Gregory Bateson, *Steps to An Ecology of Mind: Collected Essays in Anthropology, Psychiatry, Evolution, and Epistemology*, Chandler Publishing Company: San Francisco, 1972, p. 405.

<sup>57</sup> *Ibid*, pp. 405-406.

<sup>58</sup> *Ibid*, p. 412.

<sup>59</sup> *Ibid*, p. 416.

<sup>60</sup> *Ibid*, p. 405-406.

<sup>61</sup> *Ibid*, p. 413.

<sup>62</sup> *Ibid*, p. 414.

<sup>63</sup> *Ibid*, p. 422.

<sup>64</sup> *Ibid*, p. 411.