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Rousseau on the Nature of Nature and Political Philosophy

Our theme is the relation between modern reductionist science and political philosophy. The question is whether political philosophy can meet the challenge of reductionist science and retain or regain its place as the queen of the social sciences. The answer turns on the adequacy of reductionist science to account for all that is real, including life, or whether recourse to forms or wholes is necessary to account for the beings.

Rousseau's moral critique of modern reductionist science or reason is by now a common-place. It is linked to vice in its origin, ends, and effects. In particular, it is associated with pride, and ultimately with undermining human good or happiness. Yet, Rousseau himself was a top notch natural scientist. He produced a very impressive body of work on chemistry, and especially botany.[1] As will be shown, exploration of the latter works reveals his philosophical critique of modern reductionist science as unable to access important truths about beings.

In his botanical works, Rousseau critiques reductionist reasoning on a very comprehensive level. He moves to his subject matter, plants, by means of division and collection, according to the natural kinds of beings. As an "observer," not a "moralist," he gives us to understand that we live as a part of a complex or heterogeneous whole. All is in truth a whole that entails *naturally* irreducible differences in kind: the non-living, "combinations of compounds;" plants, partaking of "spontaneous," non-local "motion;"

animals, “spontaneous, progressive, feeling and seeking” beings; and the human animal, the “spontaneous, sentient, active, seeking and thinking being.” Thus, we live in neither an infinitely differentiated all nor a homogeneous whole, neither a many nor a one. Moreover, we live in a heterogeneous whole which entails irreducible parts which, in turn, are wholes with irreducible parts, and so on, down to “simples” which are also ultimately wholes with parts, “combinations of compounds.”[2] Two points concern us: first, the place of whole—part or form—matter in Rousseau’s natural science; and second, the evidently *natural* status of man as the seeking, thinking being.

As we move to Rousseau’s study of plants it will prove useful to remind ourselves, first, of his more famous claims about nature; and, second of some additional introductory statements found in his botanical works. In addition to his claims that nature—on the whole—is good, and does not lie, and that man is naturally good—we find the following general statement in his *Discourse on Inequality among Men*: “Man gets the idea of how nature proceeds from the study of the generation of plants.” Then in his botanical works we find the following general statements. First, ”nature does nothing in vain.” Second, “nature has provided a summary of her work” in plants, especially her flowers. Lastly, plants exhibit an “irrevocable” law, the “law” of the “nature” of all embodied beings.[3] As we will see, the noteworthy points of these statements are, first, that one can learn something important about the nature of nature as such, including the nature of man, from the study of plants; and the second point, in the form of a question, is what is the law of nature and its relation to modern reductionist science?

As with his account of the natural whole, Rousseau begins his "Introduction" to botany with a serious qualification of reductionist science. Without naming names (Bacon and Descartes), Rousseau critiques "certainty" as the very meaning of possible knowledge, as well as its goal, the ultimately instrumental purposes of certainty as knowledge, namely, to "make the entire human species immortal." To "regard" plants in this way is to study their "virtues," that is, "effects on the human body" for the sake of physical cures. This requires, in turn, the reductionist study of their "matter," their "simples"—not as the complex wholes or as "compounds" in "combinations"—but to find derivative "remedies" to cure sickness and even death itself. Botany is thus reduced to instrumental chemistry and physics which abstract from the phenomena itself: both the plant itself and its matter or simples as ultimately compounds or complex wholes with effects greater than the sum of the parts.[4]

However, Rousseau, as natural scientist, as an "observer" not a "moralist," as a botanist, asked the paradigmatic Socratic question: what is a plant? As such, he sought "knowledge of plants themselves," even "knowledge of a single plant." As their beauty is but an "invitation to study," the latter, not the former, is the "best half" of botany. He seeks to "exhaust" a single plant and even all plants, that is, to come to know all that is knowable about a plant or plants. Since plants are wholly natural, he seeks to discover the very nature of each and all plants. Since each plant *is* at least as much *this* plant as it is this *kind* of plant, there is much to learn.[5] Fortunately, it is adequate to our purposes, to move from general to more specific and from negative to more positive accounts in order to discover Rousseau's understanding of the nature of nature.

To begin with, a plant is neither an "absolute substance" nor merely epiphenomena of its aggregate parts, its "matter" or simples."[6] Nothing is either formless matter or matterless form. A bit more specifically, the purposes or ends of a plant are self-reproduction and death. Its movement—birth, growth or development-- is oriented to and by these ends. Plants—and all life forms—exhibit the life cycle: birth, growth, self-reproduction, maturity, decay, and death. This is an "irrevocable law," the "law of (the) nature," of all embodied beings.[7] Thus we begin to see the law of the nature of irreducible complex beings. More specifically, the plant forms or organizes itself into its shape, its parts, and the structure of its parts, to perform operations for its ends. It "brings together" its parts which are also sub-wholes with parts. They mutually influence each other just as the whole forms and informs them. A plant is a whole and parts, a whole greater than the sum of its parts, yet dependent but with effects on its parts. It transforms non-living beings into its organism.[8] More generally, a plant entails spontaneous internal active causation combined with a passive, receptive or responsive capacity in relation to external causes. Moreover, that which is referred to as "life," the "principle of life," causes multiple, diverse, structured change or movements towards ends. The plant life form is thus a heterogeneous whole, a complex unity of form and matter, an irreducible emergent complexity, a self-emergent whole. In all, a plant exhibits the marvelous mystery of "metamorphosis."[9] For our present purposes, the most important truth to extract from the "irrevocable law" of the nature of plants is precisely this: structured movement or change as activity; and activity as the process of actualizing natural potential.

Now, since "we get the idea of how nature proceeds from the *study* of the generation of plants," it follows that the natural way to study is also exhibited by the proper way to study plants. Rousseau thus proceeds in his botanical works to exhibit his own education and to teach others the proper, natural way of learning.[10] As will be shown, these learning activities constitute actualizing the *natural potentials* of the soul and mind of the human being.

Since the human animal is the spontaneous, progressive, seeking, active, sentimental and thinking being, it follows that man must be in need of learning, of education. Man must learn what "suits" him.[11] For instance, though plants are generally a delight to the eye and good to eat, some are beautiful but not good (hemlock), some are good but not beautiful (figs); and some are good but taste bad. Man must learn the distinction between the naturally good and the naturally beautiful for man. Though all that is natural is on the whole good, only some of the natural is good for man. And not all that is beautiful is good for man. In short, man must learn to know the distinction between the true, the good, and the beautiful in the search for what is truly good for man.[12]

More interesting, perhaps, is an apparently more elevated need and hence stance towards plants in relation to actualizing natural potential. Rousseau describes the natural movement or change from little or no awareness of a plant to progress in knowledge of the "true character" of a plant, the "natural notion" of the plant.[13] As a given plant "presents itself naturally," to display or "show [its] visage," its natural to-be- noticeables, its surface, shape and therefore colors; so man can only come to notice plants or a plant in

the way man is most naturally able to notice, namely, by a sort of intellectual glance, a natural power of the mind's-eye.[14] To fully appreciate this initial awareness—intellectual perception—one must be moved by "disinterested love," "love of nature" and hence "truth." One must "learn to love nature," develop a "healthy," as opposed to a "furtive," mind, and learn "sound reasoning" based on "careful observations."[15] These, in turn, require the activity of actualizing natural potential. For instance, as mind and sight are linked, so both must be mutually "cultivated" by "practice," by "exercise" in order to learn how to see and to know "little by little," and above all, to "clarify the mind," by trial and error study of plants.[16]

More specifically, in the beginning is the look, the surface-shape-form and hence color of the plant. It is a sort of unity or whole that is this-not-that- being, a thing-and this kind of-being. Its dimensionality, unity or solidarity, is intellectually perceived by man by a sort of primal solid geometry. Man notices its surface-shape-form-color as its unity or wholeness. On the basis of this initial movement to and from awareness of a plant, to the beginning of knowledge of a plant, man proceeds by "analysis."[17] This is the movement to the parts that are such as of the whole, to the mutual relation of the parts and back to the whole that constitutes the parts. The goal is to "exhaust" the plant, to know all that is knowable about the plant, including the purpose of each part in relation to each other and the whole. The limit, the least incomplete knowledge, in Rousseau's view, is clear. On the one hand, is the aforementioned life cycle, the law of the nature of embodied beings. On the other hand, is the mystery of what is called the "principle of life." For life is both

one, "unity," but is also with diverse parts or functions, such as nutrition and growth, etc.[18]

Moreover, analysis or "sound reasoning," dialectical reasoning, based on careful observation begins and ends—exists between—two mysteries: one, on the side of man—intellectual perception—and one, on the side of the plant—the marvelous, mystery of metamorphosis.[19] The proper exploration of the natural potentials of the plant constitutes simultaneously the actualizing of the natural potentials of man.

An "eternal truth," an irrevocable law of the nature of complex life forms, the life cycle, is a foundation of Rousseau's political philosophy.[20] It is no accident that the beginning of learning, the education of the human mind, in the *Discourse on Inequality among Men* is identified as follows. "The movement" or change in mind to "the idea of the future," and hence of "death and its terrors," namely, that death can occur by chance at any present moment and disrupt the natural life cycle.[21] These truths of nature, of the human life form, including chance, constitute the foundation of political philosophy, the fundamental problems or questions of political philosophy, the naturally urgent questions of how and what way we ought to live, individually and collectively. For instance, at the intersection of the philosophical and the political ways of life must arise a question for both, the great question of political-philosophy: namely, why philosophy? [22]

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[1] Citations are from Kelly, C., *The Collected Works of Rousseau*. Vl. 8: 91-255 (University Press of New England, 2000). Cited C.W.B., below.

[2] C.W.B. 93. 96, 99, 108, 109, 115, 124, 128, 130, 133, 137, 139, 140, 156, 174, 191, 215, 251.

[3] Geurevitch, V., *Discourses and other Early Political Writings*. (Cambridge University Press, 1997) cited S.D. 168:22; C.W.B. 93, 212.

[4] C.W.B. 93, 212.

[5] C.W.B., 93, 95, 97, 108-109, 140, 144, 252, 255.

[6] C.W.B., 93, 109-10.

[7] C.W.B., 128.

[8] C.W.B., 108-109, 112, 116, 117, 121, 128, 140, 229, 250-25.

[9] C.W.B., 104, 107, 123, 125, 126.

[10] C.W.B., 96, 99, 130, 144, 176-177, 186, 189-190, 197, 198, 202, esp., 204-205, 207, 209, 215-216, 253.

[11] C.W.B., 124. Animals, including humans, as opposed to plants, can and must “go looking for one another.” CWB. 115.

[12] C.W.B., 103, 107, 116, 122-123, 130-131, 142, 148-149, 160, 212, 218, 230, 233, 250-252.

[13] C.W.B., 97, 153.

[14] C.W.B., 94, 114, 130-131, 135, 230-231.

[15] C.W.B., 59, 97, 133, 137, 149, 155, 170 ,173.

[16] C.W.B., 144, 150, 168, 170-171, 173, 183, 251-252.

[17] C.W.B., 132, 150, 18, 212, 242.

[18] C.W.B., 250, 138, 155, 156.

[19] C.W.B., 105, 155.

[20] C.W.B., 218.

[21] S.D. 142: 19.

[22] S.D. A root of the problem of political-philosophy is the natural inequality in mind or soul among human beings: "natural or physical inequality in mind or soul," in "powers" or "potentials," as great as the inequality between a "giant" and a "dwarf," are "nascent" and can—in the language Rousseau also applies to plants—if properly "cultivated," "grow," or "unfold," or "develop," or "take shape," and even "bloom." S.D., 131: 2-3; 150:30; 144:24; 142:18; 131:2-3; 171:27; 157:47-48; 165:19; 170:25; 150:30; 144:24; 142:18; 205:1; 165: 1; 141:17. As the political is always based on opinion or conclusion, so Rousseau thought it necessary to base his political teaching on the "common consent of men," namely, the opinion that they are "equal." S.D., 174: 33; 209: 8.