

# Ruyer and his Elements towards a Metaphysics of Information's Origination

**Philippe Gagnon**

Ruyer, Raymond. *Cybernetics and the Origin of Information*. Translated by Amélie Berger-Soraruff, Andrew Iliadis, Daniel W. Smith, and Ashley Woodward. With an introduction by Ashley Woodward. Lanham and London: Rowman & Littlefield, 2024. xxvii-214 pages.

Readers interested by a philosophy of information must be grateful to these four translators, and to the publisher Rowman & Littlefield, for making available to an English-speaking audience this thought-provoking, and in many ways prescient book by French philosopher Raymond Ruyer, originally published in 1954, in the years when cybernetics as a philosophical programme was initially being investigated and republished with revisions a little more than a decade later.

Ruyer's *Neo-finalism* has been published in English in 2016 by the University of Minnesota Press, featuring a translation by Alyosha Edlebi, and the same publisher that publishes the current work has made available *The Genesis of Living Forms* in 2020, in a translation in English by Jon Roffe and Nicholas B. De Weydenthal.

The book is presented with an introduction, the use of clear and legible fonts, and the diagrams are reused with English insertions where needed. In general, the book is written without mistakes. If one will on occasion find a typo (e.g., *décroche* misspelled on p. 77), the main text has been proof-read to a satisfactory level. Sadly, this is not the case for the endnotes, which are replete with typos, from grammatical errors to misuse or absence of accents. If the book would be re-printed, the translators would do well to revisit, in chapter 1, notes 13, 21 (2 typos), 26 (2 typos), and 29. In chapter 2, notes 1 and 6. In chapter 5, note 4. In chapter 6, note 9. In chapter 7, note 11. In chapter 9, notes 4 and 5. In chapter 10, notes 4, 7, 14, 15, 49, 56, 57, and 64.

The introduction is useful, as it situates the criticism of Ruyer in terms of his option to refuse (if we state it in a summary way) an information without an informer, or a framing consciousness. An attempt is also made to draw implications of Ruyer's presentation for a philosophy of cognition, in our age of "deep learning" machines, pointing out some inevitably dated forms for some arguments, and alluding to the implications of this presentation for a philosophy of embryonic development. The endnotes (183–197) are helpful in guiding the reader through many elements of the history of a philosophy of

cybernetics and information. They contain many editor's notes, adding to Ruyer's initial footnotes, and attempt to bring precision at times to the references since Ruyer's way of referencing was, as is correctly pointed out, somewhat impressionistic.

Ruyer's writing is quintessentially French and contains some expressions of his own that are not straightforwardly translated. For instance, an expression—encountered more often in *Neofinalism*—such as “*survol*” can be made into “flying over,” but when one does, one keeps the impression that misunderstandings could still occur. Should one turn “*sens*” into “sense” or into “meaning”? And then again, is “*liaison*” going to be a “bond” or a “connection”? We must be grateful to the translators for providing us at least some clarifications on their choices.<sup>1</sup>

Ruyer was among the first to realize the sort of model inversion that early mechanistic cybernetics conveyed within itself. In his reaction to “Behavior, Purpose, and Teleology,” by Rosenblueth, Wiener and Bigelow, Warren Weaver had also voiced objections to Wiener's project.<sup>2</sup> We indeed have “the brain is thinking,” from which one sought to get “thought is brain.” Not unlike Whitehead, Ruyer will submit the problem to a process-view and ask what is really going on in cognition. To answer such a question, he will suggest a whole parabola, from the conception of any intelligent activity, all the way to its completion. Concerning the central notion of information, Ruyer deemed it unbelievable that information could be wholly analyzed in reference to spatio-temporal models alone. One has to remember that this was written at a time when the mystifications around that term of “information” were still very much in favor, and it was perhaps less evident that the logarithmic and mathematical definition of what information is, indeed has little to do with human attributions of a form or a finality to anything; information is produced by shuffling, it accompanies the expansion of complexity, but then it also tends to restrict itself to moving bits, or other measures, from one concatenation to another as it conserves a compressed and highly abstractly-defined order.

Ruyer makes information creation a prerogative of a framing consciousness, and, as the subtitle of the present book has it, this only appears when one problematizes the “origin” of information. As the introduction correctly points out, perpetual motion cannot be envisioned anymore in the realm of information machines than it could in thermal energy transforming machines, or in kinematic and mechanical transforming ones.

---

1 See Raymond Ruyer, *Cybernetics and the Origin of Information*, trans. Amélie Berger-Soraruff, Andrew Iliadis, Daniel W. Smith, and Ashley Woodward, with an introduction by Ashley Woodward (Lanham and London: Rowman & Littlefield, 2024), XXVI–XXVII.

2 See Lily Kay, *Who Wrote the Book of Life? A History of the Genetic Code* (Stanford: Stanford University Press, 2000), 83.

Ruyer deems it evident that there is a new viewpoint stemming from a truly “atomic” and quantal understanding of the problem, and he attempts to show, in the dialogue added to the 1967 edition<sup>3</sup>, that mechanistic cybernetics treats living organization as accounted for when a purported stochastic assembly mechanism can be called to do the work, and thus in a “molar” way. By taking such an option, the complexity of the structuring of the “*ébauche*” (another slippery concept to translate) is left unaccounted for.<sup>4</sup>

The “axiological cogito” makes it impossible not to assert, but to inscribe meaninglessness in the deployment of action; whoever pursues action has it finalized, such that the pursuit of life destroys any position that would affirm the void of a value-driven realm of finality. This is Ruyer’s answer to any “proof” pointing to a necessity of a “beyond” in explanation, that one finds in *Neofinalism* but which plays fully here as well. The desire to answer a metaphysics of the oceanic sentiment operates at all times in the thought of Ruyer, and it is strongly present in Ruyer’s swan-song book, *L’embryogénèse du monde et le Dieu silencieux*, made available to researchers only in 2013.

Ruyer is drawn to the vision of an agent always and everywhere inserted between a realm of ideal possibilities and their actual realization and implementation, that is, between an actual domain and ideal possibilities.<sup>5</sup> This in turn contains an epistemological option of a rationalist kind, in that he deems unfruitful to expect from mere otherness and novelty the creation of any enduring structure. Indeed, only by having a pattern to sort things into can we really invent. Theories of emergence, of the coming about through chance encounters, and of unknown and unrecognizable configurations, are treated by him as incoherent.

In a 1958 text, Ruyer summarized nicely what is at the heart of the present book’s message: in a reproduction and performance of cognitive-like tasks, there is an ideal beyond the “ideals” of the regulators. The diagram for the “voluntary act” is analogous to the diagram for the functioning of automatic machines. But we do come, in the case involving human agents, to a form of absolute presentation of all trajectories immediately readable on the visual field. Consciousness is the very fact that all trajectories be presented together in a sort of virtual equipotentiality, such that a “good” one, in relation to what is valued, can be chosen without having been produced from equilibrium. For the criticism of any vision as unified as predicated of machines, one is invited to read *Neofinalism*.<sup>6</sup>

---

3 See Ruyer, *Cybernetics*, 180–182, the presently-reviewed translated work to which I will keep referring thus.

4 See *Cybernetics*, XXVII.

5 See Raymond Ruyer, *Neofinalism*, trans. Alyosha Edlebi (Minneapolis: University of Minnesota Press, 2016), 121 and Ruyer, *Cybernetics*, 138.

6 See Ruyer, *Neofinalism*, 90–97 for the “autoflight” vision argument.

If all neuronal phenomena obeyed classical physics, a description of the field of consciousness, then its absolute presentation would become “false existence.” The isomorphism of nervous phenomena and consciousness is an isomorphism by complementarity, and not one by parallelism.

When we look for machine acquiring independence, we are asking two different questions: (1) can they initiate a quest for knowledge, and aim at acquiring new knowledge? (2) can they help us probe and mine a multiplication of data so enormous that all intuitive inspection is impossible? In the realm of that second question, a lot can be said in favour of automation, but in what the machine can accomplish *qua* machine, one will always have to factor in that its language is specialized, and that it treats symbols that have no intentional value for themselves. The “aboutness” of natural language, more supple, if it makes “errors” or equivocations possible, also by the same token can bring about invalid yet fruitful associations, e.g., from a mostly unhelpful four-term syllogism, one can also get an affirmation of the consequent that is still a heuristic for science.

Standard philosophy of science, in the tradition of logical atomism, has favoured a vision of verification of statements that required for them an empirical correspondent to a term; whenever the mind would come into this picture, it would have to be detected in the same way. Ruyer sought a better positioning, in that for him, mind was experienced in the first person, it always had virtual possibilities presented to it as equivalent. If we were to analyse human action, and the action of an automaton, we would find need to organize the response-seeking and answering through effectors implementing a program; the human action would still keep programs in check, realizing a final integration.

Many tasks of a cognitive nature can be performed by automata, that is not in question, indeed the introduction bears on a programmed device navigating better than we do some typical and routine situations, e.g., being far better than any human agent at avoiding a post placed directly on one’s way.<sup>7</sup> But what cognition there is here, is going to be a selection among given possibles, and not their invention.

The translators have chosen to re-insert the deleted portions of the first edition of the book between bold square brackets. This choice is certainly debatable. It is not convincing to draw an analogy with the two editions of Kant’s *Critique*.<sup>8</sup> Ruyer’s whole philosophy is a philosophy of consciousness, but in a qualified sense, where he distinguishes between “primary” and “secondary” consciousness. Indeed, sometimes Ruyer chose to drop some developments about which he probably came to realize that they were unfortunate or misguided. For instance, his first redaction had a mention of the information content

---

7 Ruyer, *Cybernetics*, 3.

8 Ruyer, *Cybernetics*, XXV.

of the early universe's organization as being devoid of any significance for the future of the universe's organization; I have argued that this has strange and perhaps inconsistent implications within a philosophy that is built around the primacy of a body-sustaining and a somatic rule of primary consciousness, as it seems to have the implication that the world is not able to sustain order without a human imparter, all the while building everything on "fibrous lines" at a fundamental cosmological level; when thus understood, one can only agree—even if the agreement be partial—with the criticism of this human exclusive origination of information, as done by, e.g., François Bonsack in the 1965 Royaumont symposium on information theory and its uses.<sup>9</sup>

The introduction attempts to steer the reader in the direction of a philosophy that could lend further elements to an ongoing reflection on the limits of a world governed by automata and "smart" devices. As one can readily understand, it would have been perhaps too bold to put undue emphasis on a theological dimension structuring the thought of Ruyer. Yet this dimension is very real and informs the whole of this vision since its immediate pre-war inception. Ruyer's own summary of his thought, written for Deledalle and Huismans, leaves no doubt: "Maybe it is the philosophical analysis of automata and the criticism of information theory which can give the most lasting hope of reaching something like a new theology."<sup>10</sup> The semantic reservoir that ultimately fuels the intrinsic meaningfulness of any action, encapsulated in the axiological cogito<sup>11</sup> posits a reference to a realm of meaningfulness offered to any existent, and for which Ruyer will refuse to re-posit a divinity "elsewhere" (alluded to in the introduction, see note 27). The first synthetic work of his post-mechanistic philosophy, *Éléments de psycho-biologie*, was reviewed by Stéphane Lupasco who correctly pointed out that it contained a theological reference that was strangely optimistic maybe because it aimed at exorcising the post-war existentialist flirting with death. Then, we find the equally programmatic sayings during the captivity era on the aesthetic appeal of studying the world even *within* the sciences,<sup>12</sup> and again, in Ruyer's mature works, after his retirement, such as *Dieu des religions*, *Dieu de la science* (1970), we still see him constantly arching back to this human participation in an *imago Dei* quality by one's very engineering of this world that one must first obey in order to understand, which in this book clusters around Francis Bacon's axiom "*natura non nisi parendo vincitur*".<sup>13</sup> The implications are to be seen as a *leitmotiv* even in the present work, that Ruyer will seek to ground firmly later (but only three years after the second

---

9 See Philippe Gagnon, *La réalité du champ axiologique: Cybernétique et pensée de l'information chez Raymond Ruyer* (Louvain-la-Neuve: Éd. Chromatika, 2018), 241–248.

10 Raymond Ruyer, "Raymond Ruyer par lui-même," *Revue philosophique* 80, no. 1 (2007), 10–11.

11 See Ruyer, *Neofinalism*, 1–7.

12 "The metaphysician, for one, considers nature has having a face, as a portrait author would look onto his model, paying attention to the conveyance of its expression and not only to a sum of details." Ruyer, "L'esprit philosophique," 16 (a reprint of a 1941 lecture).

13 See Ruyer, *Cybernetics*, 136.

edition of the present work): “The automaton functions in a brutal exteriority, which is but an ‘extract’ of the authentic exterior world of the engineer. This human technical world is necessarily framed—whatever philosophers say who pretend to distrust the pure domination of technique, by the world—in the religious sense of the word—which it is of the essence of man to conceive, and by which conception the religious man identifies himself to God.”<sup>14</sup> Such a theological assumption is not derived from the teachings of any particular religion, it is a claim that a metaphysics of information and its origination is all that one would need in order to frame a divine piloting function for the cosmos as a theatre of action’s deployment; as the back cover summary of the 1970 book has it: “One can always offer a definition of God that is such that it makes the believer in God look ridiculous. But one can also, following the themes of contemporary science—in cybernetics, in information theory, in microphysics, in cosmology—define a X, a Principle, a Unity of the world, a Support or a framer of all beings, a ‘Tao beyond all names.’”

A judgment on the whole contribution of Ruyer in this monograph is not easy to come by. In a recent article, that is indeed referenced in the present translation, Alix Veilhan suggested that when discussing cybernetics Ruyer was not in dialogue with Wiener, Shannon, or the other early theorists of information, as much as he was interested in his own project’s development.<sup>15</sup> There is potential for such a steering in one’s own direction on the part of Ruyer; for instance, this reviewer remembers his astonishment when he discovered that the system developed in *La gnose de Princeton* in 1974, where Ruyer claims that he is distilling the thought of a group of neo-gnostic astrophysicists from the United States was in fact his way of by-passing the Parisian intelligentsia’s exclusion of ideas such as his own to get himself readers. But this line of reasoning might not be entirely appropriate here. It seems that some of the endnotes of this English translation have the potential of establishing many of the real points of convergence of some of Ruyer’s arguments and unanswered as of now questions concerning the metaphysics of information.

---

14 Raymond Ruyer, *Dieu des religions, Dieu de la science* (Paris: Flammarion, 1970) 115–116, and see Ruyer, *Cybernetics*, 49.

15 See Ruyer, *Cybernetics*, 184 and Alix Veilhan, “Raymond Ruyer et la cybernétique,” *Philosophie* 149, no. 2 (2021), 55-57.

## Bibliography

- Gagnon, Philippe. *La réalité du champ axiologique: Cybernétique et pensée de l'information chez Raymond Ruyer*. Louvain-la-Neuve: Éd. Chromatika, 2018.
- Kay, Lily. *Who Wrote the Book of Life? A History of the Genetic Code*. Stanford: Stanford University Press, 2000.
- Lupasco, Stéphane. Review of *Éléments de psycho-biologie*, by Raymond Ruyer. *Revue philosophique* 138 (1948): 105–110.
- Ruyer, Raymond. *Neofinalism*. Translated by Alyosha Edlebi. Minneapolis: University of Minnesota Press, 2016.
- Ruyer, Raymond. “L'esprit philosophique.” *Revue philosophique* 138, no. 1 (2013): 7–19.
- Ruyer, Raymond. “Raymond Ruyer par lui-même.” *Revue philosophique* 80, no. 1 (2007): 3–14. (Corrected reprint of a 1963 book entry for Deledalle & Huismans in *Les philosophes français par eux-mêmes*).
- Ruyer, Raymond. *Dieu des religions, Dieu de la science*. Paris: Flammarion, 1970.
- Ruyer, Raymond. “Structure des automates et liberté.” In *Structures et liberté*, 100–112. Paris: Desclée, 1958. “Études carmélitaines,” no. 25.
- Ruyer, Raymond. *Éléments de psycho-biologie*. Paris: Presses universitaires de France, 1946.
- Veilhan, Alix. “Raymond Ruyer et la cybernétique.” *Philosophie* 149, no. 2 (2021): 41–57.