

AUTOPOIESIS AND LIFE IN HEGEL'S *SCIENCE OF LOGIC*

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Résumé de l'article

Dans cet article, je présente une interprétation de la *Science de la logique* de Hegel comme un système autopoïétique de la pensée se développant elle-même par un processus d'autocontradiction et de réconciliation. Un tel processus peut se comprendre d'une certaine manière comme une anticipation du concept d'autopoïèse développé par les biologistes Humberto Maturana et Francisco Varela. La processualité et l'auto-déploiement du concept au travers la détermination de plus en plus précise des catégories logiques depuis les plus abstraites (ou indéterminées) que sont l'Être et le Néant jusqu'aux figures les plus concrètes du concept comme Idée devraient ainsi être lus comme le narratif du développement de soi de la pensée comme forme de vie. En analysant la logique hégélienne au travers le prisme de l'autopoïèse, nous permet ainsi de saisir l'importance centrale du chapitre portant sur la « Vie » au sein de la *Science de la logique*, chapitre qui agit ici comme un outil herméneutique primordial pour comprendre la processualité logique du concept au sein de la logique hégélienne.

AUTOPOIESIS AND LIFE IN HEGEL'S SCIENCE OF LOGIC

EMMANUEL CHAPUT

In the recent years, the topic of life within Hegel's *Logic* has become more and more prominent in the literature¹ and the relation between Hegel and the notion of autopoiesis has been highlighted by a number of commentators.² My aim here is to show how framing the *Science of Logic* as an autopoietic narrative can help us highlight the central importance of the 'Life' chapter of the Hegel's *Logic* not only for Hegel's theory of biology, but as a hermeneutical and methodological device for the understanding of the *Logic's* structure and articulation itself.

As a narrative, the *Science of Logic* is accordingly a *graphê*, a written account of the progressive and autonomous determination of thought which takes, for Hegel, the form of a *bio-graphy*, or rather, of an *auto-bio-graphy of thought*. Indeed, in as far as the self-development of thought within the *Logic* is conceived as an autopoietic process which, following Hegel, could be called the "logical life" of thought itself, and as far as this process appears as entirely immanent to the self-configuration of thought within itself – following the autopoietic notion of operational closure – one could, as a matter of fact, consider the *Science of Logic* as Hegel's conception of an autobiography of thought³, i.e., as the narrative of thought's autopoietic life.

Such a hypothesis, however, raises the question: In what sense can we refer to Hegel's book *Science of Logic* as an *auto-biography* of thought, since Hegel nevertheless remains its author? To resolve the question, we must, in my view, first determine what is meant by this "logical life" that constitutes in a way the "soul"⁴ of the concept and by extension of Hegelian logic itself as the narration of the concept's own development. Secondly, we must consider the self-motion and auto-referential aspects of this logical development which distinguishes

1. DALUZ ALCARIA 2010; EBETURK 2017; GENTRY 2019; KISNER, 2014; NG, 2020; SELL 2013.

2. CHAPUT 2020; CORTI 2022; FURLOTTE 2018; GAMBORATTO and ILLETERATI 2020; KISNER 2014; MICHELINI 2008; MUNDA 2015; ŽIŽEK 2012.

3. CHAPUT 2020.

4. HEGEL 1986, p. 472; HEGEL 2010, p. 678; NG 2020, p. 259.

life within the *Logic* from Hegel's account of life within the spheres of nature (i.e., the animal organism) or spirit (i.e., the human and/or the socio-political organisms). To do so, I shall discuss whether or not Hegel's account of logic as a dialectically self-producing living system could indeed be seen as an anticipation of the notion of autopoiesis later developed by the biologists Humberto Maturana and Francisco Varela and in what sense, on the contrary, Hegel's conception of logical thought as a self-producing, autopoietic narrative differs from the positions held by Maturana and Varela.

Hegel's *Science of Logic* as an Auto-bio-graphy of Thought

In what sense can we or should we understand Hegel's *Wissenschaft der Logik* generally speaking as an 'autobiography' of thought? This is no meager task. And I have already implicitly laid out some of the presuppositions that entail such queries. We must first of all consider the *Science of Logic* as a narrative or a *graphê*, a claim which seems in itself indisputable. But one must also consider this narrative as the expression of a living process, of something alive. Already, this is far less obvious and it raises furthermore the question of whether or not the treatment of the logic as something living is merely metaphorical or not. Thirdly, one must consider that if indeed Hegel's logic is somewhat alive, it is so, as far as it is a self-producing system of thought determinations or "*pure essentialities*."⁵ That is, it is not only an autopoietic system of thought, but also a self-creating narrative.

In other words, if one takes seriously the idea of Hegel's *Science of Logic* as an autobiography of thought, thought in its purely logical form should not only be understood as a living process, but also as a living being capable of writing its own life story. Now, if G.W.F. Hegel is precisely the author of the *Science of Logic*, how can we seriously talk about an *autobiography* of thought? Are we not thereby reducing thought in general to Hegel's own particular way of thinking as would suspect a number of his critics who see in Hegel's system a "megalomaniac"⁶ attempt to integrate in itself the whole history of thought?

The very category of biography itself may, applied to the *Logic*, the most universal part of Hegel's system, appear dubious, if we think of Hegel's ambivalence toward the notion of biography at §549 of his Berlin *Encyclopedia*. For Hegel, the biography indeed appears primarily as devoid of philosophical interest, since it seems entirely dedicated to the particular by surveying the life of a singular individual.⁷ The biographical form nevertheless finds credit to Hegel's view as far as this individual life course finds its full and true meaning only in relation to its historical background which reasserts the presence of

5. HEGEL 1986₃, p. 17; HEGEL 2010, p. 10.

6. MATTHEWS 2011, p. xii.

7. HEGEL 1986₁₀, p. 351; HEGEL 1971, p. 280; HEGEL 2001, p. 113.

the universal within the particular.⁸ It seems however that Hegel relates the biographical narrative to a *particular* figure of world history. Accordingly, how can we talk in terms of biography when one considers logic which deals with the *universality* of thought and its “*pure essentialities*”⁹?

If, nevertheless, one wishes to take seriously the idea of the *Wissenschaft der Logik* as an “autobiography” of thought, one must at first explore in what sense, according to Hegel, the pure thought of logic should itself be understood as a living form that we will call, following both Hegel and his commentator the late Bernard Mabile, “the logical life” or the “life of logic.”¹⁰ In a second step, one must show how the whole of the *Science of the logic* constitutes the self-production or the autopoietic motion of such a logical life from its most abstract and general form for which the only determination is its own indetermination itself, to its most concrete and determinate form.¹¹

Hegel's work is thus not merely organized in a certain order from the outside. On the contrary, the transition from a form or a determination to the other is rather the result of a process-making that is immanent to these figures which constitutes the whole of the logic. In this sense, we can in a way talk in terms of “autopoiesis” using the concept developed in the early 70's by the Chilean biologists Humberto Maturana and Francisco Varela.¹² Hegel's “phenomenological ‘Logic’” – to use a Feuerbachian expression¹³ – anticipates the conception of the living being as an autopoietic figure that “generates and specifies its own organization through its operation as a system of production of its own components, and does this in an endless turnover of components under conditions of continuous perturbations and compensation of perturbations.”¹⁴

8. HEGEL 1986₁₀, p. 351; HEGEL 1971, p. 280.

9. HEGEL 1986₃, p. 17; HEGEL 2010, p. 10.

10. MABILLE 2004.

11. FLEISCHHACKER 2002; HOULGATE 2006; MABILLE 2012; ROSEN 2014; STEKELER 2019.

12. MATURANA and VARELA 1980; RAZETO-BARRY 2012; VARELA 1991; VARELA 2011.

13. FEUERBACH 1970, p. 45. I make Feuerbach's expression my own, without making his original intention my own. Feuerbach's use of the expression is critically motivated by his attempt to show that Hegel's *Phenomenology* is already molded by Hegel's theory of the concept and that the science of consciousness experience is in a way already logicized *a priori*. As such, it is thus the *Phenomenology* that ends up being a disguised logic under the mere appearance of a phenomenology. My use of the expression, on the opposite, is in no way dismissive and simply aims to state that the *Logic*, as the *Phenomenology*, is structured around a succession of figures that emerge from and goes beyond the contradiction of the preceding figures. I thus aim to show the dynamical, processual and phenomenological aspect of the *Logic* rather than the underlying logical dimension of the *Phenomenology* as Feuerbach did. The *Logic*'s phenomenological dimension should also be understood as the requisite of letting the Thing itself unfold itself by itself. In this case, the Thing itself is the logic itself in its own determinations themselves which the reader must observe in its own movement without interfering with the understanding's presuppositions of a strict demarcation between A and B for instance, in order to see how A, B, C and D, etc. can derive from each other in a process of self-explicitation.

14. MATURANA and VARELA 1980, p. 79. We voluntarily consider here the *living being* as an autopoietic figure, even though, in the context, Maturana and Varela are rather referring to

Hegel and the Concept of Autopoiesis

Of course, there are limits to such a parallel. Maturana and Varela's concept of autopoiesis as a minimal definition of life initially implied that an autopoietic system had to take place as a unity in a "physical place."¹⁵ This would suggest that the realm of logic, which for Hegel is (logically) prior to the (natural) category of space, could not qualify as an autopoietic system. But as Razeto-Barry notes, this aspect of the initial definition of autopoiesis is modified in the English translation of 1980. In *Autopoiesis and Cognition*, the authors write that the autopoietic system constitutes "*a concrete unity in the space in which they (the components [of the system]) exist by specifying the topological domain of its realization.*"¹⁶ This would allow for non-physical or meta-physical topographies such as the conceptual space of reasons or the logical realm of pure thought.¹⁷

Nevertheless, it is not my claim that Hegel's dialectical logic would be in any way a direct yet somewhat distant inspiration for Maturana and Varela. On the contrary, Varela seemed to have held rather negative (and I should add inaccurate) views on Hegelian dialectics as his paper "Not One, not Two" (1976) shows plainly.¹⁸ The philosophical background of Varela is largely estranged to Hegel, and he may have felt his influence only indirectly, that is surreptitiously and unconsciously, if at all, through the mediation of French existential phenomenology (Merleau-Ponty, Sartre) and/or dialectical biology (Lewontin). Moreover, Maturana and Varela's notion of autopoiesis is largely conceptualized within a mechanistic and antiteleological framework,¹⁹ whereas Hegel is usually and correctly considered as an advocate of teleology and a fierce opponent to mechanistic reductionism.

Nonetheless, I argue that despite their respective frameworks, we can find clear commonalities – if not elective affinities – between Maturana and Varela's notion of autopoiesis as a minimal definition of life in terms of

autopoietic *machines*. This somewhat *mechanistic* framework is indeed largely estranged to Hegel and shows, as we shall see, one of the possible limits of the parallel drawn between Hegel's *Logic* and Maturana and Varela's notion of autopoiesis.

15. RAZETO-BARRY 2012, p. 547.

16. MATURANA and VARELA 1980, p. 79.

17. RAZETO-BARRY 2012, p. 549-550. There is a disagreement between Maturana and Varela as to the legitimacy of conceptualizing autopoietic system outside of physical space. While Maturana seems sympathetic to such possibilities, Varela sees such uses of the concept of autopoiesis as essentially metaphorical or metonymical (VARELA 2011). Even though Varela acknowledges that there are more or less legitimate (metaphorical) uses of autopoiesis outside the realm of theoretical biology, it seems that Maturana is much more open to the interdisciplinary reappropriation of the concept of autopoiesis.

18. Varela's misunderstanding of Hegelian Logic as essentially dualistic and addressing oppositions in mutually exclusive terms is rehashed by Jean-Pierre Dupuy in his presentation of the French translation of the paper (VARELA 2017, p. 77).

19. MATURANA and VARELA 1980; MATURANA 2011.

dynamical relations rather than a series of components and what Hegel is presenting philosophically. Furthermore, one should note that Hegel's critique of mechanism is not intended as a definitive rejection of mechanism *per se*, but as a critique of mechanism understood as a universal explanatory framework. Mechanism, for Hegel, needs to be recast in a larger framework where it acknowledges its own limits and relevance.²⁰ On the other hand, the mechanistic framework of Maturana and Varela is not the mechanistic vision previously criticized by Hegel, but an amended mechanistic view informed by Cybernetics and System-Theory. In this sense, it is a more encompassing vision that may be closer to what Hegel was advocating for.²¹

Likewise, Maturana's critique of teleology to conceive life is essentially a critique of external teleology: a living being has no other goal, *telos* or *Endzweck* than to be what it is (or as Aristotle would say, to accomplish its form²²):

I found myself thinking differently from Huxley as I reflected about the purpose of life and the meaning of living [...]. My answer then, as it is now, was that life had not meaning outside of itself, no sense besides its actual occurring in living [...] the sense of the life of a fly is to live "fly" – to do the fly things that make a fly a fly; the sense of the life of a dog is to live dogging – to do the dog things that make a dog a "dog" [...]. At difference from Julian Huxley I thought that living beings existed without purpose, without any value reference to anything outside themselves. (MATURANA 2011, p. 585)

In a sense, this critique of teleology remains coherent with a functionalist conception of life²³ that Hegel could share (CORTI 2022). Indeed, the so-called teleology of Hegel's philosophy is essentially a rehabilitation of internal *Zweckmäßigkeit* against external teleology.²⁴

20. KISNER 2014; RENAULT 2001.

21. On the attempt to get beyond mechanistic reductionism, see VARELA 1991.

22. Of course, that is already putting it in a teleological form that Maturana would reject.

23. RAZETO-BARRY 2012, p. 544.

24. EBETURK 2017; KISNER 2014; MANSER 1986; MOYAR 2021; NG 2020; SELL 2013. Maturana's critique of teleology and purposiveness in biology however goes further than the mere critique of external purposiveness. For Maturana, the purposiveness exists merely from the standpoint of the observer, not the living autopoietic system itself (MATURANA and VARELA 1980, p. 85). Biologists should describe how an autopoietic system self-produces itself without assuming that this self-production is a goal or a purpose for the system itself (MATURANA 2011, p. 587). In this sense, Maturana is far closer to Kant and his cautious distinction between reflective and determining judgments than to Hegel. But it also entails an epistemological dualism that Hegel would refuse and which may in the end imply the very representationalist standpoint that Maturana and Varela explicitly tried to overcome. It also entails a strictly descriptive rather than explicative conception of science. As soon as one wants to explain the transformations within an autopoietic system otherwise than from the perspective of material necessity, one has to postulate minimal purposiveness, a *minima* the purpose of self-maintenance through constant transformation.

Despite their very different backgrounds then, there are a number of points where Hegel, Maturana and Varela could agree with each other (as I am sure, there would be plenty of disagreement points). Their common attempt to critique the representationalist framework in science is but an example.²⁵ But even so, the attempt to understand the life of logic as an autopoietic system may imply a considerable rearticulation of the concept and it raises the question as to whether or not the autopoietic character of Hegel's logic should be thought of according to the Maturana and Varela's definition, or whether one should simply go back to the Greek roots of the concept and consider the notions of autonomy and *poiesis* it carries from the standpoint of the history of philosophy where these two terms already belong to a long and meaningful tradition.

Indeed, in order to think the autopoietic character of the life of logic, one must, ironically, differentiate it from the strictly biological or natural life for which Maturana and Varela initially and conjointly came up with the notion of autopoiesis. That is to say, Hegel's conceptualisation of both logical and natural life anticipates, in their own way, the idea of autopoiesis, but these anticipations nevertheless manifest themselves differently according to the part of the system where they take place. In other words, the autonomous and self-organizing character of life within Hegel's system takes a different form whether it takes place within the realm of pure thought (logic), nature or spirit.

But this is again not incompatible with a certain ambiguity within the concept of autopoiesis developed by Maturana and Varela. As Pablo Razeto-Barry notes in his paper "Autopoiesis 40 years Later. A Review and a Reformulation," the initial definition of autopoiesis "defines a type of system constituted by a set of types of components [...] which, by means of concatenated processes, produces a set types of components" remains unclear as to to what extent are the *producing* set is itself the result of its *own* production: "The most common interpretation [...] is that the network of production of components produces *all the components of the network*." However, from the standpoint of biological life, as Razeto-Barry insists, "this interpretation is unacceptable given known basic aspects of living beings."²⁶

25. This point has been missed by Wendell Kisner who (rightly) notes Maturana and Varela's general unfamiliarity of Hegel (KISNER 2014, p. 1), but (wrongly) attributes this neglect "to quasi-Kantian or empiricist assumptions that thought is a formal structure whose content must be independently and externally given – or, in short, an assumed dualism between reason and nature – and in part to the assumption that theoretical inquiry must begin with the givenness of experience and then draw subsequent inferences about the structures that frame that givenness or make it possible" (KISNER 2014, p. 2). On the contrary, Varela explicitly argues against the representationalist tradition which is implied by such assumptions (VARELA 1991, p. 103; VARELA 2011, p. 602; VARELA 2017, p. 105). Nevertheless, it is not impossible, as I mentioned, that an implicit representationalist framework could still survive in Maturana's conception of science.

26. RAZETO-BARRY 2012, p. 547; all the quotations reproduced in this paragraph come from this same page.

The stronger definition of autopoiesis (from a logical, not from an empirical standpoint), where all components of the system are self-produced by the system itself, is thus inadequate to define natural life. Razeto-Barry goes on to defend the notion of autopoiesis in a weaker (or more qualified) sense where the network of production produces only *some* components of the network.²⁷ He thus reasserts the importance of considering the role of the environment within the constitution of an autopoietic system.²⁸ This is an aspect that Varela also underlined in his 'Organism: A Meshwork of Selfless Selves' (1991), where he nevertheless tends to salvage the autonomy of the living organism by asserting its active rather than passive role in the relation: "in this dialogic coupling between the living unity and the physico-chemical environment, the balance is slightly weighted towards the living since it has the active role in this reciprocal coupling."²⁹ This dialectic between a self-reproducing living system and its environment is interestingly close to what Hegel describes in his *Naturphilosophie* as the relation between the living organism and its inorganic nature.³⁰

The stronger definition of autopoiesis may nevertheless remain relevant, as I will argue, to understand the autopoietic and self-referential character proper to Hegel's logic. We have thus to distinguish between (at least) two different types of autopoietic systems and distinguish the life of logic from biological or *merely* biological life.

In this respect, one can revive Arendt's famous distinction – incidentally reiterated by Giorgio Agamben³¹ – between *zoè* and *bios*. If *zoè* identifies life in general, *bios* defines, following Arendt the "specifically human life."³² Yet only "this life, *bios* as distinguished from mere *zoè*" truly belongs to historicity.³³ That is, *bios* is constituted as a series of specific *events* capable of building a narrative. Accordingly, as Arendt explicitly states, the notion of biography itself seems to apply exclusively to a certain form of life (*bios*), but not to life in general (*zoè*).

With Hegel however, this specific notion of life (*bios*) which is opposed to the notion of life in general (*zoè*), broadly understood as natural life, is subject to a further delineation. In Hegel, what Arendt calls *bios* does not only refer to the "specifically human life," which is, for Hegel, but one aspect of what he calls the life of spirit (*Leben des Geistes*). *Bios* also and furthermore charac-

27. RAZETO-BARRY 2012, *ibid.*

28. RAZETO-BARRY 2012, p. 547-549.

29. VARELA 1991, p. 85.

30. HEGEL 1986, p. 464-465; HEGEL 1970, p. 380-381. On the biological organism as an natural autopoietic system in the weaker (or more qualified) sense of the term, see BÜTTNER 2002; FRIGO 2002.

31. AGAMBEN 1998.

32. ARENDT 1998, p. 97.

33. *Ibid.*

terizes the life of logic which pertains neither to natural life in general (*zoë*), nor simply to human cognition. Indeed, logic is not merely for Hegel a set of conceptual categories used by human understanding to rationally account for the world. It is not merely the toolbox of human cognition, but should rather “be understood as the system of pure reason, as the realm of pure thought. *This realm is truth unveiled, truth as it is in and for itself.*”³⁴ As such, if we revive the Arendtian distinction – which is philologically speaking, far from assured³⁵ – it is only to accentuate the distinction between what are for Hegel *historical* forms of life – which may consequently be subject of a *biographical narrative* – and the forms of life which are not historical *per se*. Indeed, for Hegel, there is apparently, strictly speaking, no history of animal or vegetal life. Natural life is haunted by the endless repetition of its own processes. It culminates with the *Gattungs-Prozess* which faithfully perpetuate the process of life in its specific form despite the individual’s death.³⁶ Historicity, on the contrary, implies for Hegel a certain progression or *Bildung* not only of the individual as an organism, but of the whole to which it is related.³⁷ Such progress however does not seem to occur in Hegel’s somewhat fixist conception of nature.³⁸ It clearly marks however the realms of spirit and (in a way) the realm of logic.

Nevertheless, I would argue that if one can compare and even reconcile Hegel’s conception of life (as *bios*) and autopoiesis in the strong sense, it is first and foremost at the level of the life of logic and not at the level of the life of the spirit.³⁹ To the extent that “spirit defines itself essentially as the *Aufhebung* of nature” as Gilles Marmasse rightly asserts,⁴⁰ it always defines itself through a relation to its Other, a notion that doesn’t necessarily fit with certain aspects of autopoiesis understood in the strong sense. As Robert Cohen and Marx Wartofsky emphasize in their preface of the English translation of Maturana and Varela’s book, autopoietic living systems are “self-contained unities whose only reference is to themselves.”⁴¹ Self-referentiality appears accordingly as inherent to autopoiesis in the strong sense. It also describes adequately Hegel’s

34. HEGEL 1986, p. 44; HEGEL 2010, p. 29.

35. DUBREUIL 2005; DUBREUIL and EAGLE 2006.

36. HEGEL 1986, p. 519-20; HEGEL 1970, p. 414.

37. HEGEL 1953, p. 68.

38. WANDSCHNEIDER 2002.

39. Since I consider here only Hegel’s notion of life as *bios*, that is as something historical and paved with *events*, and not, more broadly, as *zoë* in general, I exclude from the outset the issue of the relation between Hegel’s conception of natural life and the notion of autopoiesis. However, as I have briefly discussed earlier, Hegel’s notion of natural life seems to agree with Razeto-Barry’s weaker (or more qualified) notion of autopoiesis, rather than with the more common and stronger definition of autopoietic system. But the examination of this topic is beyond the scope of the present paper.

40. MARMASSE 2008, p. 373.

41. MATURANA & VARELA 1980, p. v.

characterization of the life of logic whereas spirit is on the contrary defined by its constant relation with an external alterity that is to be superseded.⁴²

Concerning the self-referential dimension of logical life, Hegel writes for example in the first edition of the *Encyclopedia* (1817): “because logics, as *purely speculative* philosophy, is first of all the Idea within the realm of *thought*, or the Absolute still locked in its own eternity, it is, on one hand, a subjective science, and as such, the *first*, but it still lacks the side of the complete *objectivity* of the Idea.”⁴³ The negativity which animates and enlivens the concept is entirely immanent to the concept itself within the logic. It still belongs as such to the *inwardness* of the Idea dividing and superseding itself *within* itself. For this reason, Marmasse is right to write that: “for Hegel [...] pure thought [i.e. the object of logic] proceeds from itself, it *lives* and develops itself from its own resources.”⁴⁴

Yet, we must still clarify in what sense, one can assert that this pure thought is something alive. The issue surrounding the life of logic is indeed subject to controversy within Hegelian studies. I will briefly touch on this controversy before outlining in what sense, in my opinion, one can effectively consider the issue of logical life in Hegel's philosophy.

How can Logic be Alive? On some Use and Abuse of a Controversy

The first way to consider life within Hegelian logic is to see it either as a metaphor having natural life for model⁴⁵ or as a conceptual anticipation of Hegel's characterization of life within his philosophy of nature.⁴⁶ If that were the case, we would rather be dealing with a *logic of life* than the *life of logic*: Hegel would only be laying out the logical categories necessary to a proper conceptualization of the biological life-phenomenon. But such a reading does not fully agree with Hegel's assertion that “Each part of philosophy [i.e., logic, philosophy of nature and philosophy of spirit] is a philosophical whole, a circle that closes upon itself”⁴⁷ since we would need to think the logical idea of life in relation with what comes after and already belongs to nature. Methodologically however, for Hegel, one cannot anticipate and justify the emergence of a concept by its ulterior necessity in the subsequent development of the system.⁴⁸ Furthermore, conceiving the life of logic as a simple analogy or a metaphor doesn't fully agree with Hegel's claim of dealing with *die Sache*

42. CHIEREGHIN 2015.

43. HEGEL 2001₂, p. 26.

44. MARMASSE 2018, p. 53; our emphasis.

45. DALUZ ALCARIA 2010; LÉCRIVAIN et al. 1987, p. 361; SCHLANGER 1995. This perspective has been properly questioned by Mabile (2004) and Sell (2013) among others.

46. DALUZ ALCARIA 2009; DALUZ ALCARIA 2010.

47. HEGEL 1986_o, p. 60; HEGEL 1991, p. 39.

48. KISNER 2014, p. 14.

selbst, the Thing itself, according to its own development trend, in an entirely immanent fashion.⁴⁹ As Marmasse writes in his own review of Christine Daluz Alcária's book *A Logic of Life. Hegel's Concept of Organism*: "Is there really place for analogy within [Hegel's] speculative discourse?"⁵⁰ If not, then one must take seriously the affirmation of a specifically logical life in Hegel. This life of logic is in fact what allows us to think of Hegel's *Science of Logic* as the narrative of the autopoietic system of pure thought. Yet, the best access to this life of the logic is without a doubt to go through Hegel's treatment of the *Idea* of life within the *Logic*.

From the Idea of Life within the Logic to the Life of the Logic

Understanding, within Hegel's *Science of Logic*, the last section of the *Doctrine of the Concept* on the Idea poses a certain challenge to the reader. The Idea being "the unity of *concept* and *reality*,"⁵¹ and more precisely "the unity of *subjective concept* and *objectivity*,"⁵² one seems to overrun the realm of pure logic and be carried over into the realm of *Realphilosophie*. It is even more tangible in regards to the idea of life as Hegel himself notes: "The idea of life, he writes, has to do with a subject matter so concrete, and if you will so real, that dealing with it one may seem according to the common notion of logic to have overstepped its boundaries."⁵³

But this is missing out the fact that life acquires a specific meaning within logic. If Hegel admits to borrowing notions from common language such as life,⁵⁴ it remains nevertheless clear that such notions gain a specific meaning within the structure of philosophy which is not reducible to the common-sense expression. Far from replicating within pure logic the results of everyday experience, Hegel rather implies the converse: The logical categories fundamentally ground the very conditions of possibility of common experience. We are here touching upon Hegel's *onto-logic*: the logical categories and concepts are not merely the instruments of a finite and judicative subjectivity, but the structure of the intelligibility of the world itself. Indeed, for Hegel, "the pure concept" forms "the innermost moment of the objects, their simple life pulse."⁵⁵ This logical realism must nevertheless be distinguished from reality in its natural or even spiritual sense. In the transition from logic to nature, objectivity is in part transformed and perhaps distorted. A logical form has thus no strict equiva-

49. HEGEL 1986₃, p. 52; HEGEL 1977, p. 32; HEGEL 1990, p. 217.

50. MARMASSE 2012, p. 286.

51. HEGEL 1986₆, p. 466; HEGEL 2010, p. 673.

52. *Ibid.*

53. HEGEL 1986₆, p. 469; HEGEL 2010, p. 675.

54. HEGEL 1986₆, p. 406; HEGEL 2010, p. 628.

55. HEGEL 1986₃, p. 27; HEGEL 2010, p. 17.

lent within nature or in the spiritual world, but an equivalent overdetermined and modified by the realm in which it takes place. This is especially clear in regards to organic life which apparently largely exceeds the sphere of logic. Hegel aptly shows that one must absolutely distinguish between the life of logic and life within nature or spirit. He writes:

A comment may be in order here to differentiate the logical view of life from any other scientific view of it, though this is not the place to concern ourselves with how life is treated in non-philosophical sciences but only with how to differentiate logical life as idea from natural life as treated in the *philosophy of nature*, and from life in so far as it is bound to *spirit*.⁵⁶

For Hegel, the life of logic has something that is specific to it which is not reducible to a kind of skeleton which would only truly take shape in its external and natural embodiment as biological life. As Hegel writes: "Life in the idea is without such *presuppositions*, which are in shapes of actuality; its presupposition is the *concept* as we have considered it, on the one hand as subjective, and on the other hand as objective."⁵⁷ Hence, one could assume in a sense that the idea of life presupposes itself the life of the Idea. Or, in other words, the liveliness and vitality of logical thought are what justifies for Hegel the at first puzzling possibility of discussing life within logic: "Needless to say, if logic were to contain nothing but empty, dead forms of thought, then there could be no talk in it at all of such a content as the idea, or life."⁵⁸ But by contrast, if the thought-forms (*Gedankenformen*) are themselves alive – we shall see in what sense Hegel allows himself to speak in such a manner – it becomes clear that the idea of life *must be* an integral part of logic without making logic break apart from its own internal limits.

Of course, as far as for Hegel, any science which apprehends "its subject matter in forms of thought and of concepts"⁵⁹ is constitutive of what he calls, following Kant⁶⁰, applied logic, there is such a thing as a logic of the living whose pure categorical forms are, as Christine Daluz Alcaria argues, developed within the section on life within the Logic, but whose apex is to be found, as Bernard Mabilille notes "in the 'organic physics' which crowns the philosophy of nature."⁶¹ This logic of life however is far from exhausting the meaning of what Hegel calls the 'life of logic.' More fundamentally, it is the

56. HEGEL 1986, p. 470-471; HEGEL 2010, p. 677; see also ONNASCH 1999.

57. HEGEL 1986, p. 471; HEGEL 2010, p. 677.

58. HEGEL 1986, p. 469; HEGEL 2010, p. 676.

59. HEGEL 1986, p. 470; HEGEL 2010, p. 676. Needless to say that such sciences would be qualified as 'philosophical' by Hegel and falls within the realm of speculative reason, whereas empirical (non-philosophical) sciences rather consider their object of enquiry from a representationalist (Kantian) framework.

60. KANT 1998, p. 194.

61. MABILILLE 2004, p. 109.

organism as the *logical* structure of the living being that serves to grasp the dialectical dynamism of the concept within the *Science of Logic*, “the life of the Concept itself,”⁶² translation slightly modified). This is how the thought-forms constitute themselves for Hegel as the limbs of a living entity that entirely belongs to pure logic. Henceforth, it is no more necessary to conceive the idea of life as having to make intervene an external dimension, foreign to logic itself. By understanding the life of logic as the organicity of the concept and the idea of life as an element of logic precisely necessary to the self-knowledge of the concept within subjective logic, we preserve the self-referentiality and systematicity of the logic, two aspects quintessential to autopoietic systems in the strong sense.

The Life of Logic as the Autopoietic System of Pure Thought

In his paper ‘The Life of Logic,’ Mabilille describes this form of life as follows:

1) It is not scattered in exteriority but its “moments” are “Included in the form of the concept.” 2) It does not have its condition in anything else than itself, but is unconditioned. More exactly, it has no presupposition in *external existence* (*Dasein*), – it rather goes the other way around – and unfolds only from the concept, i.e., from meaning in its pure form. 3) Lastly, it is not related to *one* particular organism, i.e., attached to a determinate space and time. Its organic character is its own consistency, its systematicity itself.⁶³

The idea of life is, as such, a part of logic, because logic itself is in a certain way alive and can ground itself fully only when it conceptualizes life itself. If “life situates itself at the level of the concept” as Hegel writes,⁶⁴ it is precisely because the concept is itself reciprocally situated at the level of life. But a life that must be speculatively understood as a pure moment that does not belong to the realm of biology: “the concept is the living the determining (*Das Dirimienrende*) and, at the same time, what poses the unity.”⁶⁵ The self-production of the pure Idea in its dialectical logic is only understandable in relation to a conceptualization of life, since the dialectic as the spontaneous motion of “the *pure essentialities* that constitute the content of the logic”⁶⁶ precisely constitutes the life of these essentialities themselves.

To understand Hegel’s degree of commitment to the task of conceiving logic as something alive, one may consider, by contrast, his critique of traditional logic. He writes:

62. HEGEL 1986, p. 51; HEGEL 1977, p. 31.

63. MABILILLE 2004, pp. 114-115.

64. HEGEL 1992, p. 114.

65. HEGEL 1992, p. 157.

66. HEGEL 1986, p. 17; HEGEL 2010, p. 10.

This science [of logic], in the state in which it still finds itself, has admittedly no content of the kind which ordinary consciousness would accept as reality, or as a genuine fact. But it is not for that reason a formal science void of any material truth [...] More to the point is that the emptiness of the logical forms lies rather solely in the manner in which they are considered and dealt with. Scattered in fixed determinations and thus not held together *in organic unity*, they are *dead forms* and the spirit which is their *vital concrete unity* does not reside in them.⁶⁷

As the late Bernard Mabilille wrote, in opposition to these lifeless and inert forms of traditional logic, Hegel asserts the necessity of “a quest for a *living* logic whose concept must still be determined.”⁶⁸ The task of the *Science of Logic* as such is thus to trace back the *self-development* and activity of the Idea, from its less determined categories as pure being and nothingness to its most determinate forms, namely the concept itself in its syllogistic articulation.⁶⁹ The issue is then to “let the inherently living determinations take their own course” (Hegel, 1986,; 85; 1991: 59). This is why, in fact, it is possible to consider the system of logic as an autopoietic system.

Conclusion

Logical thought is as such in itself alive and unfolds itself by itself in a way not dissimilar to the notion of autopoiesis as thematized by Maturana and Varela. Taken as the processualism of the logical determinations transforming themselves and determining themselves progressively while maintaining the unity of the whole, in a relation to itself, the life of the logic seems everywhere within the *Science of Logic* as the performativity of the Idea itself that Hegel seeks to trace back dialectically, in accordance with the very being of this logic. The structure of the Hegelian logic itself as an articulated totality and the dialectical articulation that characterizes it constitutes the performative expression of the logical life of the Idea itself. But it is the hard task of the commentator to make this underlying liveliness and vitality explicit, despite the fact that hints can be found here and there throughout Hegel's logic.

As an example, the category of becoming which is in a sense the first manifestation of the logical processualism of the Idea can be understood as a figure of this life of the logic itself,⁷⁰ even though it is presented as such only incidentally by Hegel who doesn't take the time to make this relation between life, motion, processualism and becoming fully explicit. Nonetheless, Hegel gave some hints on this relation in his 1831 *Lessons on Logic*. He writes:

67. HEGEL 1986, p. 41; HEGEL 2010, p. 27, my emphasis.

68. MABILILLE 2004, p. 111.

69. CHEREGHIN 2015, pp. 72-75.

70. HEGEL 1986, pp. 37-38; HEGEL 1977, p. 20.

The now, as it has disappeared, is the act of self-negation. It is [an] abstract intuition of becoming. The higher intuition [of becoming] is vitality. Life is this process, and this process as such, brought to light for itself is the *blood pulse*. Spirit is this unrest, this pure vitality in itself. In change, there is also becoming, if it weren't that there is already there a more concrete content.⁷¹

Yet, such a processualism which we could, following Hegel, qualify as “self-movement and life” (*Selbstbewegung und Lebendigkeit*)⁷² is inseparable from the notion of negativity which characterizes the organicity of the living being be it natural or logical and constitutes its “inner pulse” (*inwohnende Pulsation*).⁷³ Indeed, both the concept and the animal organism are equally characterized by negativity that constitutes one of the specific determinations of the Hegelian notion of life taken broadly.⁷⁴ Mabilie even goes as far as to say that negativity is “the proper philosophical name for the life that animates the logical [*le logique*] and carries the unfolding of the logic [*la logique*] in its totality.”⁷⁵

But as far as this negativity, the genuine life of logic, precisely marks the distance between Hegelian logic proper and traditional logic, one understands how one can conceive the *Science of Logic* as an autopoietic system of thought. It is not simply the mechanical exposition of thought-forms, but the narrative of its development from a form to another, from a determination to the other by means of a processualism which doesn't pertain to an external action, but comes from the inner dynamics of dialectical thought. In other words, the dialectical nature of Hegelian logic is not the result of a methodological choice on the part of Hegel, but the expression of the very being of rational thought itself, its *modus operandi*. But of course, this is not an *a priori* or dogmatic claim, it is and must be the result of a discovery that starts from a presuppositionless standpoint. Nonetheless this self-expression of rational thought through the dialectical process of the logic allows us to conceive the *Science of Logic* as *lebensform* in as much as Hegel's idealism aims only at tracing back the self-determination of the Idea, the self-production of reason in their various living moments. Accordingly, Hegel writes in his 1817 *Lessons on Logic and Metaphysics*: “idealism is nothing else than the philosophical understanding that there is a life and an idea, and no determination exists as a really being or immediate quality, but [rather exists] as a moment”⁷⁶. The transition from a moment to the other or the changeover of a determination to another

71. HEGEL 2001₃, p. 104-105.

72. HEGEL 1986₆, p. 78; HEGEL 2010, p. 384.

73. *Ibid.*

74. HEGEL 1986₃, p. 23; HEGEL 1986₅, p. 146; HEGEL 1986₆, pp. 71-72, 75, 78, 563; HEGEL 1986₁₃, pp. 163-164; HEGEL 1992, p. 37.

75. MABILIE 2004, p. 139.

76. HEGEL 1992, p. 86.

are so many *events*⁷⁷ that punctuate the life of the logic in its specificity and constitute as such the biographical narrative of its own self-development and self-production up to its climax, that is, up to what Hegel calls the Absolute Idea, the *Science of Logic's* peak and endpoint.

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77. On the forms of judgment and forms of thoughts as events, see PIPPIN 2015, p. 168.

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SUMMARY

In this paper, I address the issue of Hegel's *Science of Logic* as a self-producing system of thought developing itself through a process of self-contradiction and reconciliation. Such a process can be understood in a certain way as an anticipation of the notion of autopoiesis later developed by the biologists Humberto Maturana and Francisco Varela. The processualism and self-development of the concept through the progressive determination of logical categories, from the most abstract (or indeterminate) determinations of Being and Nothingness to the most concrete form of the concept should thus be read as the narrative of thought's self-development as a form of life. Looking at Hegel's logic through the lens of autopoiesis allows us to grasp the central importance of the 'Life' chapter of the *Science of Logic* as a hermeneutical device for the understanding of the logical process within the *Logic*.

SOMMAIRE

Dans cet article, je présente une interprétation de la *Science de la logique* de Hegel comme un système autopoïétique de la pensée se développant elle-même par un processus d'autocontradiction et de réconciliation. Un tel processus peut se comprendre d'une certaine manière comme une anticipation du concept d'autopoïèse développé par les biologistes Humberto Maturana et Francisco Varela. La processualité et l'auto-déploiement du concept au travers la détermination de plus en plus précise des catégories logiques depuis les plus abs-

traites (ou indéterminées) que sont l'Être et le Néant jusqu'aux figures les plus concrètes du concept comme Idée devraient ainsi être lus comme le narratif du développement de soi de la pensée comme forme de vie. En analysant la logique hégélienne au travers le prisme de l'autopoïèse, nous permet ainsi de saisir l'importance centrale du chapitre portant sur la « Vie » au sein de la *Science de la logique*, chapitre qui agit ici comme un outil herméneutique primordial pour comprendre la processualité logique du concept au sein de la logique hégélienne.