Comets and Moons: The For-another in Hegel's *Philosophy of Nature*

Jeffrey Reid

University of Ottawa

Abstract:

This paper examines the Hegelian moment of the for-another in its negative relation to the other moment of particularity: the for-itself. I identify the dissolving, fluidifying action of the for-another by examining figures within the *Philosophy of Nature*, particularly comets and moons but also Hegel's physics of light and sound. The dissolution of the lunar for-itself at the hands of the cometary for-another illustrates how the dynamic relation between the two moments of particularity participates in the presentation of essence, within the Hegelian syllogism, i.e. as mediating between the universal and the singular. The dynamic action of cometary negativity occurs throughout the *Philosophy of Nature* and therefore should be pivotal to how the work is read.

Comets and Moons: The For-another in Hegel's *Philosophy of Nature*

In this paper, I examine Hegel's presentation of the solar system, in his *Philosophy of Nature*. The dialectical interplay between the earth, the sun, comets and moons is pivotal to how that still enigmatic work should be read, representing a helpful heuristic device that Hegel offers us in order that we may come to grips with the natural side of his philosophy. As he pronounced to his own students: "We shall pursue the solar, planetary, lunar and cometary [*Kometarisch*] natures through all further stages of Nature", whose philosophy is "nothing but the progressive transformation of these four [moments]" (Enc. 270Z) [1]. Readers of Hegel might find surprising his reference here to four dialectical moments rather than to the more familiar Trinitarian model that he is usually associated with. Similarly, the inclusion of comets in a standard presentation of the solar system may strike us as odd. By examining comets as they appear in the *Philosophy of Nature*, I want to show how this fourth astronomical element is dialectically fundamental, certainly within that work itself, and perhaps beyond.

Within today's frighteningly chaotic universe of the big bang, exponential expansion, black holes and exploding stars, our solar system still strikes us as reassuringly stable. It is generally seen as comprised of three types of celestial bodies: planets (including earth), moons and the sun, all locked into thoroughly legislated orbital movements. On the other hand, comets come from outside the system. Although they may orbit the sun, their paths are so elliptical that their appearance often remains unpredictable, almost miraculous. New ones suddenly appear; old ones sometimes disappear. Their scientific inclusion in the orbital necessity of the solar

system therefore seems to require justification, something Hegel himself acknowledged to his students: "It might seem strange to want to fit comets into this system but what exists must necessarily be embraced by the Concept"[2]. The question of how such an idiosyncratic celestial feature is incorporated into the logic of the Concept is what interests me here. As we will see, in the *Philosophy of Nature*, the cometary event is grasped in terms of the evanescent, somewhat ghostly dialectical moment of the for-another, which occurs within the better known Hegelian waltz-step of the in-itself, the for-itself, and the in-and-for-itself. Examining Hegel's comets consequently sheds light on the action of the for-another, and principally, on the fluidiflying action that it carries out on the recalcitrant "lunar" oppositions inherent in the for-itself, its partner in particularity within the Concept's realized, syllogistic form.

Associating the cometary moment with the dialectical negativity of the for-another fundamentally determines how the *Philosophy of Nature* should be read, not only because it allows us to concentrate on an often ignored feature of the Concept (the for-another) but, above all, because, as I will show, the dynamic action of the for-another upon the for-itself is what allows essence, the truth of what things mean, to first shine forth or appear. To the extent that we may understand such essential shining-forth as the presentation of meaning, we might further surmise that, within the context of Hegel's *Philosophy of Nature*, it is when the extraordinary (cometary) confronts and confounds the predictable (lunar) that nature reveals itself *to us*.

Using the *Philosophy of Nature* as a way to gain access to the dialectical content of the *Logics* may seem a topsy-turvy way to proceed. Indeed, it is often the *Logics* that provide us with the hermeneutical tools used to explore the "petrified intelligence" of nature[3]. Although lately Hegel's *Philosophy of Nature* has undergone a positive re-evaluation, its "science" still often strikes us as strange or unlikely, and thus hardly deserving of providing a key to the logical

realm of thought thinking itself. In fact, one might argue that the entire history of Western philosophy is based on the idea that it is thought that explains nature and not the contrary.

Whether or not the sometimes puzzling figurations in Hegel's *Philosophy of Nature* strike us as scientifically likely does not matter to my argument, nor does the fundamental question regarding the ontological "otherness of nature" within the system[4]. If we take Hegel's systematic project at its word and recognize the *Philosophy of Nature* as an integral part of that system, then there is no reason why we cannot begin and even remain in its figurations, particularly if our goal is to examine a feature of dialectical movement itself. This is because, in its philosophy, nature is presented to us neither immediately nor empirically but rather as already *having been* thought[5]. Since thought is dialectical, so must be its articulations within the *Philosophy of Nature*. Nonetheless, in their natural settings, the dialectical articulations maintain something of their bright, colorful hues, rather than appearing in the logical tones of "grey on grey". Thus, rather than simply being phenomena that are only brought to light in order to be explained, the figures of nature may actually do the explaining; like pre-Socratic *archai*, they are natural elements that also act as fundamental principles.

In the lengthy *Zusatz* to *Encyclopedia* section 270 (Enc. 270Z), Hegel provides a reading of the solar system that is based on the dialectical architecture of the syllogism, which, as he writes in the *Encyclopedia Logic*, is generally understood as "the form of what is rational" (Enc. 181). However, far from constituting a purely formal entity, the Hegelian syllogism is meant to actually embody "posited [i.e. determined] reality". In its fully carried out expression, it is consequently "*everything* that is rational" and "the essential ground of everything true" (Enc. 181). As is the case with the classic form of logic[6], the Hegelian syllogism incorporates three terms: the universal, the particular and the singular. Although in Hegel the syllogism may move

from singular cases to generalized universality, the predominant form of systematic thought moves from a universal moment to one of reconciling Singularity (the one that is all). In this case, it is the middle *particular* term that provides the "external reality" or "actuality" (Enc. 181) of the whole[7]. In more familiar dialectical terms, the universal moment corresponds to the Hegelian Concept (*Begriff*) as immediately *in-itself*; the particular moment is usually presented as the externalized, mediating *for-itself*, and the moment towards which the whole Concept tends is the *in-and-for-itself*, where thought, having experienced otherness, is reconciled, we might say, in a singular, concluding narrative[8]. Thus, the syllogism "is nothing but the posited… real Concept" (Enc. 181 Remark). Hegel's presentation of comets and moons, shows how particularity, within the syllogistic whole[9], actually involves two separate sub-moments and how these are complicit in the presentation of essence.

In the *Philosophy of Nature*, the sun is presented as the in-itself or the first, universal moment of the solar system. The sun is its own center of gravity and rotates around itself. The earth, on the other hand, is the syllogistically reconciled in-and-for-itself of the solar system; it is the totalized or universal singular that expresses systemic oneness. This does not imply actual geocentrism. It means that as an actual and rational *system*, the solar system "comes home" (is *bei sich*) *for us*. It is meaningful for us as earth-bound scientists. Significantly, however, Hegel remarks that if there were only the sun and the earth, they would only exist in abstract difference, making it *in*different which one is seen to revolve around the other (Enc. 270Z). In order for the solar system to exist as such, to *be* a system and not just an abstraction, there must be *particular* bodies between the universal (sun) and singular (earth). The particular bodies are moons and comets. Syllogistically, the actual existence of the solar system qua system depends on the real

differentiation of content that particularity introduces into the relative indifference between the universal and the singular[10].

Moons and comets exist in the particularity of dynamic difference and opposition. Their particular natures destine them to be "dependent bodies". As opposed to the free individual celestial bodies of earth (planets) and sun, Hegel's moons and comets do not have their centers of gravity in themselves. This means that rather than rotating on their own axes (as do the sun and the earth) comets and moons revolve around other bodies – around planets (for moons) and around the sun (for comets)[11]. The *Philosophy of Nature*'s presentation of the solar system shows us that the two elements within the mediating moment of particularity, the lunar and the cometary, are not mutually indifferent. Rather, their Hegelian celestial embodiment shows them to be essentially "Bodies of Opposition", as they are presented several paragraphs later, in Enc. 279.

Hegel presents the lunar element as falling under the logical category of the for-itself; conversely, the opposing cometary aspect falls under the category of the for-another. Thus, by further examining the characteristics of the two particular bodies, and understanding how the cometary element is negatively opposed to the lunar, we can see how one logical category is related to the other. The conceptual significance of the solar system and its oppositional moments of particularity are reinforced in the Enc. 270Z where, as I quoted above, Hegel affirms that the *Philosophy of Nature* in its entirety is "nothing but the progressive transformation of […] the solar, planetary, lunar, and cometary (*Kometarisch*) natures through all the further stages of Nature." My exploration of the two inter-related moments of particularity, the for-itself and the for-another, through their lunar and cometary natures, is thus of determining significance to reading the *Philosophy of Nature*.

The Hegelian moon, as a "material being-for-itself", is characterized by its rigidity, its dryness and its hard crystalline nature, inflexible and recalcitrant to change. Hence, it has neither atmosphere nor transformative meteorological activity on its surface[12]. In Enc. 279Z, Hegel elaborates: as a waterless crystal, the moon expresses a self-relating identity that remains "shut up within" itself in its rigid for-itselfness or selfishness. To put this another way, we might say that as being-for-itself, the moon is defined in purely exclusive terms, i.e. as simply not being anything else. It represents pure hardened difference devoid of any process, which always implies otherness or self-othering. As a hard individuality[13], lunar reality is grounded in the exclusivity of the point, the constituting element of the crystal and generally of all that is brittle and dry. The moon's opacity and darkness are expressed in the fact that its "other" face is always turned away[14].

The comet, contrarily, is pure "otherness [*Anderssein*]", a "body of dissolution" that is the "opposite to the body of rigidity" (Enc. 279 Remark). Comets are gaseous, luminous and fluid, devoid of any real center. They give off light, whereas the moon simply reflects, in both senses of the word. Comets are fleeting, evanescent and transparent, existing in elliptical and ultimately unpredictable movement. Their elliptical orbits reflect the dynamic opposition of attraction and repulsion (to the sun and the other stars). Comets exist "in a sphere of aberration or the effort to get away" (Enc. 270Z); their existence is a "whirl", where they are "always on the point of dispersing and scattering themselves to infinity or into the void of space". While the moon is "rigidly controlled" by the earth, comets express an "intended freedom". They revolve around the sun, which is fitting, given their own luminous nature, and yet, in spite of their solar thralldom, they "push out into the future". Notwithstanding such eccentricity, however, the

comet "remains a necessary moment of the whole" and thus, its insipient freedom or, we might say, its oppositional negativity remains expressed within the conceptual and real solar system[15].

The solar system therefore involves the in-itself (the sun), the for-itself (moons) and the in-and-for-itself (the earth). The syllogistic integrity of the system means that the different figures within it are comprehended in the final earthly figure, a reconciliation of difference that would not be possible without the fleeting, dissolving moment of cometary particularity and its fluidifying overcoming of the dry recalcitrance, the hard opposition and opacity of the lunar for-itself.

The spontaneous luminosity of the comet can also be understood, in the terms of Hegel's logic of essence, as an *Erscheinen*, a phenomenal shining-forth that is for-another essentially. Indeed, whereas the lunar moment expresses opaque, inner reflection and purely recalcitrant difference (in-difference)[16], the comet manifests the dynamic nature of opposition, the fact that any abstract opposition is, in reality, the matter for further reflection outward, beyond lunar self-reflection. Whereas the moon's reflective glow is merely an illusory *Schein* and not the manifestation of its essential side, which remains dark and hidden, the comet expresses the dynamic nature of opposition, a reflection upon inner reflection that brings about the shining-forth of essence, a phenomenal *Erscheinen* that actually *is* for-another[17]. Indeed, the comet is the bright, outwardly manifest reflection of the essential difference between the various entities of the solar system, what would otherwise be a hard difference expressed by the dry opacity of the moon. The relation between cometary action and the logical moment of the for-another is made clearer in the following examples also drawn from the *Philosophy of Nature*.

In direct relation to the dialectic at play in the essential shining-forth of light, the for-another is also instrumental in the production of color, which arises, according to Hegel, through the interplay between light and darkness. The production of color is best observed within the hard, brittle surfaces of the crystal, Hegel's interpretation of what Newton saw with his prism. Just as in geometry (and mechanics), where the line is reproduced ad infinitum to form a surface, the magnetic "line" that is drawn between north and south poles is further determined or reproduced to form the constituent planes of the crystal. To put it another way, the bi-polar opposition of the magnet is expressed in the hard surfaces of the crystal (Enc. 315Z) where we may recognize the angular fixity of the lunar surface discussed above.

The punctual nature of the crystal, its status as a brittle body of geometrical points, lines and surfaces, betrays its dry, static for-itself nature, just as, reciprocally, the moon was described above as "crystalline". Similarly, the crystal first appears as the expression of immediate, self-related difference. Each individual crystal is distinct simply because it is "not another". While no two crystals are identical, their difference is purely formal, like that of geometric points or numerical digits, an abstract difference that ultimately collapses into indifference. In all such cases, what is missing is any real qualitative, particularized distinction.

However, if we look and reflect again, as Hegel invites us to do, upon the apparently indifferent medium of the crystal, we witness something new and deeper: the inner reflection between the bright and dark facets within. In fact, what we witness here, in the contradictory interplay between these contrasting elements, is the truth of the hard difference (indifference) that first appeared (as *Schein*) in the crystal for-itself but which can now be seen to radiate out (*Erscheinen*) as color. The dissolution of hard, crystalline difference through further reflection has brought about the essential, phenomenal shining-forth of the dynamic opposition between

light and dark, now as colorful light. The flash of color that we observe in the crystal is the manifestation of its fleeting, evanescent cometary moment, an expression of painterly chiaroscuro shining forth for-another, for us[18].

The conceptual nature of these moments means that we may discover other expressions of the dissolvent for-another by searching within articulations of particularity throughout the *Philosophy of Nature*. Such moments always involve the dynamic reflection of difference, and usually precede recapitulating moments of relative concreteness or speculative truth in-and-for-itself. In all these cases, we observe the operation of negativity as the negation of a self-externality (a purely exclusive self-identity: something is what it is because it is *not* something else), and the dissolution of the recalcitrant for-itself, of its hard difference (indifference), through the contradictory reflection for-another. While in the above instances the cometary aspect of the for-another is expressed as light, this can obviously not always be the case throughout the entire *Philosophy of Nature*. The last case that I will discuss presents the for-another phenomenon of cometary action in terms of sound.

In the Physics of Particular Individuality (Enc. 290-303), Hegel introduces specific gravity as the uniform inner essence of individual material bodies, which immediately differentiates bodies through their inner cohesiveness. A body has the specific gravity that it does because its inner cohesiveness is specific to it and not to other bodies. Consequently, specific gravity first appears as typically for-itself, as a particular form of inner hardness that is recalcitrant to otherness, allowing a body to constitute its individuality by not being anything else. However, upon further reflection, we realize that inner cohesiveness is actually only measured or determined (thought of) in its relation to outer pressure or violence. Cohesiveness is, in fact, only meaningful to the extent that a material body's inner hardness makes itself "for-

another" by submitting to pressure while at the same time maintaining its own integrity. In this way, we see how the truth of cohesiveness is not hardness but elasticity, the measured ability to "bounce back", thereby reflecting an oscillatory movement that is both inner and outer.

The relation to otherness, the phenomenal shining-forth of essence, is expressed here in the elasticity of the cohesive body, not as light but rather as sound stemming from the vibrations brought about through receiving and reacting to otherness, as an oscillation between inner and outer that is reflected externally[19]. Such oscillation is the negation of the recalcitrant immediate difference set up as the self-centered specific gravities of individual objects. The being-for-another, the outward dimension of inner elasticity, of objects' essential cohesiveness, is manifest as sound. In Hegel's evocative terms, sound is the "freedom of the object from heavy matter that at the same time is in heavy matter". It is the "plaint of the ideal in the midst of violence", voiced by an object that is subjected to violence. Here, "the ideal" should be taken as that which is distinct from purely material reality; it may thus be associated with Hegelian notions of selfhood and the expressed freedom of thought (*das Denken*). Sound, we might say, is the manifestation of that object's inchoate "subjectivity", its essence or its truth *for us* (Enc. 300Z).

Sound reflects outwardly the inner essence of a body in a way that is akin to light and color, and to the nature of the comet. Sound, like the comet's movement, is oscillatory and free while remaining determined by material otherness, just as a musical instrument produces sound because it is strummed, struck or bowed, and color is tied to the crystalline opposition between light and dark. Again, like the comet and like color, sound can only tend toward freedom while remaining in the sway of the material. In the same way that the comet's light partakes of the sun's ideality without actually being it, color and sound are only "the plaint" of the ideal embodied in matter.

Here are some conclusions that we may draw from our brief review of some *particular* figures within the *Philosophy of Nature*.

1) There are not one but rather two moments of particularity within the Hegelian syllogism (the realized Concept): the for-itself and the for-another; together they mediate between moments of universality (in-itself) and singularity (in-and-for-itself).

2) The for-another's fluidification of the hard, exclusive nature of the for-itself is an essential feature of dialectical movement, presupposed by the systematic in-and-for-itself, the reconciled identity of identity and difference.

3) Hegel explicitly remarks that the solar, terrestrial, lunar and cometary moments occur throughout the *Philosophy of Nature*, determining its progress. The interplay between the cometary and lunar elements of particularity should therefore be seen as fundamental to our reading of that work.

4) The action of the for-another is related to the shining-forth of essence; i.e. the things of nature are only really what they are to the extent that they are not merely for-themselves but meaningful for-another.

Further still, if we take Hegel's *Philosophy of Nature* as indeed philosophical, and therefore as having something significant to say about our own relation to nature itself, then the cometary aspect can be seen as the element through which natural otherness becomes meaningful for us[20]. Hegel's comets express the living movement of the cosmos, where it strains against mechanical, orbital obedience. Within crystallized reality, the play of light on dark and luminous surfaces dissolves into the vibrant chiaroscuro of color. The string tightly wound between two fixed poles responds to the violinist's bow, drawing forth musical notes. If the cometary event

calls out to us, it is because in it we hear the plaint of nature's incipient, never absolute, always "intended" freedom. In other words, in knowing nature, we recognize ourselves[21].

NOTES:

[1] *Encyclopedia* 270 Zusatz.

[2] The solar system is thus, "the developed disjunction of the Concept". *Werke in 20 Bänden vol.* 9, [*Werke* 9] E. Moldenhaur and K.M. Michel (eds.) (Frankfurt am Main: Suhrkamp, 1970) pp. 103-4.

[3] See Alison Stone's work in this sense. *Petrified Intelligence: Nature in Hegel's Philosophy* (Albany: State University of New York, 2005).

[4] On the relation between thought and nature in Hegel, see my "The Fiery Crucible, Yorick's Skull and Leprosy in the Sky: Hegel and the Otherness of Nature", *Idealistic Studies*, 34, 1 (2004) pp. 99-115. The article outlines a palette of opinions on the matter, ranging from the "processional" view (Alison Stone and Stephen Houlgate) where nature is already shot through with logic, to the oppositional view (William Maker, me), which stress nature's otherness. Besides her monograph cited above, see Alison Stone, "Hegel's Philosophy of Nature: Overcoming the Division Between Thouoght and Matter", *Dialogue* 29, 4 (2000) pp. 725-43; Stephen Houlgate, "Logic and Nature in Hegel's Philosophy: A Response to John W. Burbidge", *Owl of Minerva* 34, 1 (2003) pp. 107-25; cf. William Maker, "Idealism and Autonomy", *Owl of Minerva* 34, 1 (2003) pp. 59-76.

[5] In my above-cited article, "The Fiery Crucible", I examine how the *Philosophy of Nature* is a discourse reflecting speculatively on the discourses of the positive natural sciences.

[6] The classic, "Aristotelian" example of the formal syllogism, mentioned disparagingly by Hegel is: All men are mortal (universal statement); Caius is a man (statement of particularity, through the middle term "man"); therefore Caius is mortal (statement of singularity pertaining to the singular individual Caius). Regarding this strictly formal use of the syllogism, Hegel writes in a Wastebook Fragment headed "On Historical Logic": "For my part, I have never thought anything so boring. [Such thinking] must arise in our depths without our being conscious of it. Indeed, many things are produced in our depths, for example urine or worse still, but when that comes out we plug our noses. The same for such syllogizing." *Werke* 2, p. 541.

[7] For example, in the positive (empirical) sciences, singular cases form particular species that are generalized into laws. Conversely, the *History of Religion* can be seen as beginning with God as universal Being, passing through the particular gods of Greece/Rome, arriving at the singularity of Spirit in revealed religion.

[8] Recall that the German "Schluss" means both syllogism and conclusion.

[9] In Enc. 181, Hegel also presents the ultimate syllogism as "the Absolute", which is the U-P-S syllogism of the *Encyclopedia*: Logic (Universal), Nature (Particular), and Spirit (Singular).

[10] In Hegel, singularity and universality are unstable if not mediated by particularity. This is because that which is presented as the Universal can be seen as (absolutely) singular and so appears ontologically indistinguishable from other singular ones. Conversely, each singular one, taken (absolutely) on its own, tends collapse into universal oneness. It is this relative indifference, where qualitative particularity is absent, that characterizes the purely numerical "difference" Hegel associates with strictly quantitative reality.

[11] *Werke* 9, pp. 102-3. For a readily available English translation, *Hegel's Philosophy of Nature*, translated from Nicolin and Pöggeler's edition (1959) and from the *Zusätze* in Michelet's text

(1847) by A.V. Miller, with a forward by J.N. Findlay (Oxford: Clarendon Press, 2004 [1970]) p. 78-80. Hegel seems to assume that all moons are like the earth's, turning only one face to its planet and thus not rotating freely on its axis. Of course, the translation of reference remains: *Philosophy of Nature,* 3 vols., edited and translated by M. J. Petry (London: Allen and Unwin, 1970).

[12] Ibid. p.126.

[13] At a recent meeting of the Ontario Hegel Organization (McGill University, Montreal, March, 2014), Martin Donougho presented an insightful paper examining the features of *Individualität*, in Hegel, as distinct from moments of singularity (*Einzelheit*, sometimes also translated as "individuality"). Many of the presented features of individuality were recognizable as expressions of the for-itself, thus allowing us, I believe, to also consider *Individualität* in the "lunar" terms of particularity that I am putting forward.

[14] *Werke* 9, p.128. Miller, p. 100. In the *Greater Logic*'s Doctrine of Being, being-for-itself is described as "an infinite return into self" and "the polemical, negative relating against the limiting Other". *Werke* 5, pp. 174, 175. A more "spiritual" example of this might be observed in the *Phenomenology of Spirit*, where self-consciousness first appears as for-itself "against the limiting Other," before this hard recalcitrance is dissolved in the reciprocal relation where one self-consciousness becomes for-another.

[15] *Werke* 9, pp. 102-3. On Hegel's reading, the comets' place within the syllogistic universe means they do not strike the earth. Their fluidity also means that comet years are good years for wine production. The fact that today we believe comets have struck the earth or that Hale-Bopp oversaw the production of the indifferent 1997 Bordeaux vintage merely illustrates that nature sometimes gets it wrong. *In veritate vinum*. Enc. 279Z. As well, regarding cometary fluidity, it

is interesting that the contemporary discovery of water on comets has led astronomers to theorize that water was first brought to earth through comet strikes.

[16] Such recalcitrant difference can be seen as an entirely exclusive form of negativity: something is what it is because it is not anything else. For example, one might say that "a man is a man because he is not a woman." Cometary negativity, in this example, might be used to show that "not being a woman" already incorporates the other, namely *woman*, into the definition of being a man.

[17] This is why, as Hegel writes in Enc. 275Z, the true nature of light is only the "manifestation of itself, not for-itself but for-another" [*Werke* 9 p. 113], and later, in Enc. 278Z, "as visible, objects are for-another [*für Anderes*], and therefore are in relation to another" *Werke* 9, p. 124.

[18] The ultimate carrying out of the process of fluidification for the crystal takes place through the other properties of the particular individual body and specifically, taste, where the salt crystal dissolves on the tongue, presaging the chemical process.

[19] Hegel describes sound as "a kind of mechanical light", *Werke* 9, pp. 172-5. Miller, pp. 138-40.

[20] Perhaps the central question that the *Philosophy of Nature* seeks to address is this: given the otherness of nature, why should we care about it at all?

[21] Self-knowledge in otherness is the story behind Hegel's *Philosophy of Spirit* and further research might involve the possible interplay between lunar and cometary elements in that context.