

# Interstitial Life:

## Novelty and Double Causality in Kant, Whitehead, and Deleuze

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Alfred North Whitehead and Gilles Deleuze both place creativity, novelty, innovation, and the New at the center of metaphysical speculation. These concepts (or at least these words) are so familiar to us today – familiar, perhaps, to the point of nausea – that it is difficult to grasp how radical a rupture they mark in the history of Western thought. In fact, the valorization of change and novelty, which we so take for granted today, is itself a novelty of relatively recent origin. Philosophy from Plato to Heidegger is largely oriented towards *anamnesis* (reminiscence) and *aletheia* (unforgetting), towards origins and foundations, towards the past rather than the future. Whitehead breaks with this tradition, when he designates the “production of novelty” as an “ultimate notion,” or “ultimate metaphysical principle” (1929/1978, 21). This means that the New is one of those fundamental concepts that “are incapable of analysis in terms of factors more far-reaching than themselves” (1938/1968, 1). Deleuze similarly insists that the New is a value in itself: “the new, with its power of beginning and beginning again, remains forever new.” There is “a difference. . . both formal and in kind” between the genuinely new, and that which is customary and established (1994, 136). Deleuze and Guattari therefore say that “the object of philosophy is to create concepts that are always new” (1994, 5). Philosophical concepts are not for all time; they are not given in advance, and they “are not waiting for us ready-made, like heavenly bodies.” Instead, they must always be “invented, fabricated, or rather created” afresh; “philosophers must distrust. . . those concepts they did not create themselves” (5-6). For both Whitehead and Deleuze, novelty is the highest criterion for thought; even truth depends upon novelty and creativity, rather than the reverse. As for creativity itself, it appears “that Whitehead actually coined the term – *our* term, still the preferred currency of exchange among literature, science, and the arts. . .

a term that quickly became so popular, so omnipresent, that its invention within living memory, and by Alfred North Whitehead of all people, quickly became occluded” (Meyer 2005, 2-3).

What is the meaning, and what is the import, of our belief in creativity today? How does the New enter into the world? And how does the valuation of the New enter into thought? Deleuze explicitly invokes Nietzsche’s call for a “revaluation of all values,” and for the continual “creation of new values” (1994, 136). And Whitehead and Deleuze alike are inspired by Bergson’s insistence that “life... is invention, is unceasing creation” (2005, 27). But the real turning-point comes a century before Bergson and Nietzsche, in Kant’s “Copernican revolution” in philosophy. Kant himself does not explicitly value the New, but he makes such a valuation (or revaluation) thinkable for the first time. He does this by shifting the focus of philosophy from questions of essence (“what is it?”) to questions of manner (“how is it possible?”).<sup>1</sup> Kant rejects the quest for an absolute determination of being: this is an unfulfillable, and indeed a meaningless, task. Instead, he seeks to define the necessary conditions – or what today we would call the structural presuppositions – for the existence of whatever is, in all its variety and mutability. That is to say, Kant warns us that we cannot think beyond the conditions, or limits of thought, that he establishes. But he also tells us that, once these conditions are given, the contents of appearance cannot be any further prescribed. The *ways* in which things appear are limited, but appearances themselves are not.

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<sup>1</sup>Whitehead disparagingly remarks that, in philosophy since the eighteenth century, “the question, What *do* we know?, has been transformed into the question, What *can* we know? This latter question has been dogmatically solved by the presupposition that all knowledge starts from the consciousness of spatio-temporal patterns of such sense percepta” (1938/1968, 74). This is evidently a direct criticism of Kant, and of nearly all post-Kantian philosophy. Whitehead deplores the way that Kant shifts the focus of philosophy from ontological questions to epistemological ones. But his greatest objection is to what he sees as the “dogmatic” way that Kant resolves the question of what we can know, by retaining his predecessors’ restriction of experience to the realm of “presentational immediacy.”

I want to suggest, however, that Kant’s epochal shift of focus – from “do” to “can” – should *also* be read as a widening and enabling move. Since it does not pre-empt the empirical, but meets it half-way, it opens a place for potentiality, and thereby for a Bergsonian open future, one that is not already predetermined by the past. To ask “how is it possible?” is to focus on *manner* instead of on *essence*. Kant implicitly does what Leibniz before him and Whitehead after him do explicitly: he invents a *mannerism* in philosophy, a way of thinking “that is opposed to the essentialism first of Aristotle and then of Descartes” (Deleuze 1993, 53). Both Whitehead and Deleuze may be seen as reviving Leibniz’s mannerist project, in a world where Kantian critique has disallowed what Whitehead calls the “audacious fudge” of Leibniz’s theodicy (1929/1978, 47).

They cannot be known in advance, but must be encountered in the course of experience. This means that experience is always able to surprise us. Our categories are never definitive or all-inclusive. Kant's argument against metaphysical dogmatism, which both Whitehead and Deleuze endorse, means that being always remains open. "The whole is neither given nor giveable. . . because it is the Open, and because its nature is to change constantly, or to give rise to something new, in short, to endure" (Deleuze 1986, 9). "Creative advance into novelty" (Whitehead 1929/1978, 222) is always possible, always about to happen.

This also means that the *diversity* of the given (or of what Kant calls "sensible intuition") is irreducible. Diversity is always preserved as such in Kant's critical philosophy, even though it is *also* gathered into One under the rubric of what Kant calls the "transcendental unity of apperception." When Kant says that "the *I think* must be *capable* of accompanying all my presentations" (1996, 177), he is arguing against both Descartes and Hume. Hume mocks the Cartesian *cogito*, remarking that, "when I enter most intimately into what I call *myself*, I always stumble on some particular perception or other," but never find an underlying "self" in addition to these particular perceptions (1978, 252). Kant follows Hume in rejecting the Cartesian ego as a substantial entity; but he insists, against Hume, that unity must be retained as a form, or as an organizing principle. If our perceptions were really as chaotic and unrelated to one another as Hume claims, then we would not be able to have anything like *experience* at all. It is only when every element of a multiplicity of perceptions is accompanied by an *I think* – or, more precisely, only when every element of this multiplicity is at least *capable* of being so accompanied – that it is even possible to think these perceptions *as* a multiplicity, or as what Kant calls the "manifold" of intuition.

Whitehead radicalizes Kant's argument about the manifold. Just as Kant insists upon the formal unification of the sensible manifold in the transcendental unity of apperception, so Whitehead – with his "Categoreal Obligations" of Subjective Unity, Subjective Harmony, Subjective Intensity, and Freedom and Determination – insists upon the formal unification of diverse data, and multiple prehensions, in every entity's concrescence or final satisfaction (1929/1978, 26-27). During a process of becoming, the prehended data are "unintegrated," or not yet integrated; but they are at least "compatible for integration" (26: Category of Subjective Unity). The integration finally happens when the process is done. Multiple prehensions are combined or coordinated by their "adaptation" to a particular "subjective aim" – even though this "aim" does not pre-exist, but itself only emerges in the course

of the “adaptation.” The process is circular and autotelic. It is not guided by any external criteria. Rather, we may say that the “subjective aim” that defines an entity’s manner of being is, first of all, a principle of selection, and an act of self-selection. Each actual occasion selects among the data that it encounters, and thereby creates itself, establishing its own immanent criteria for a “pre-established harmony” of experience (27: Category of Subjective Harmony). These criteria are aesthetic, rather than logical; what is *aimed at* in the “subjective aim” is not mere compatibility, or non-contradiction, but a positive “intensity of feeling” (27: Category of Subjective Intensity). In this way, “the concrescence of each individual actual entity is internally determined and is externally free” (27: Category of Freedom and Determination); it is both unified and open to contingency.

Whitehead differs from Kant in seeing subjective unity as an ongoing process, rather than as a fixed form, and in describing this process as a matter of feeling, rather than as one of thinking. Also, Whitehead posits unity as an “obligation,” a demand that always needs to be fulfilled, rather than as an already-existing condition. For Kant, the formal unity of the subject is given once and for all; for Whitehead, this unity has to be produced afresh at every moment – since the subject itself must be produced afresh at every moment. This means that subjective unity is not the framework of experience (as it is for Kant), but rather a necessary *consequence* of experience. And that is what opens the door to novelty. Every achievement of unity is something that has never existed before: something different, something radically New. “An actual occasion is a novel entity diverse from any entity in the ‘many’ which it unifies. . . . The ultimate metaphysical principle is the advance from disjunction to conjunction, creating a novel entity other than the entities given in disjunction. . . . The many become one, and are increased by one” (21). There is no permanent unity, but only a continual transition to unity. Whitehead thus *temporalizes* Kant’s transcendental unity of apperception. The genesis of subjective unity in time is the continual production of novelty.

Whitehead – like Nietzsche and Bergson before him – denounces the way that, in traditional European philosophy, “changeless order is conceived as the final perfection, with the result that the historic universe is degraded to a status of partial reality, issuing into the notion of mere appearance” (1938/1968, 80). Kant would seem to be included within the scope of this criticism, insofar as he divides “things in themselves” from things as they appear to us. But although Kant does not quite abandon the old dualism of reality and appearance, at the very least he radically revalues it. For in the *Critique of Pure Reason*, the changeless real is dismissed as

unattainable and unknowable, and therefore not a proper object of metaphysical speculation. In removing the noumenal realm from any possibility of cognition, Kant in effect endorses a version of Whitehead's "ontological principle," which asserts that "there is nothing that floats into the world from nowhere. Everything in the actual world is referable to some actual entity" (1929/1978, 244). In Kantian terms, this means that phenomena can only be referred to other phenomena – and not to noumena as (supposed) underlying causes. Everything that affects us, everything that *matters* to us, falls within the realm of mutable appearances.<sup>2</sup> In this way, even if he does not fully realize it, Kant makes it possible to think change, becoming, and the emergence of the New, rather than subordinating them to "changeless order" or "static forms."<sup>3</sup>

Kant undermines the privilege of "changeless order" by introducing a new notion of time, one that reverses philosophical tradition. Before Kant, time was regarded as merely an external measurement of the relations among objects that did not fundamentally depend upon it. But with Kant, as Deleuze (1984) puts it, instead of time being the measure of movement, and thereby being "subordinate to movement... it is now movement which is subordinate to time" (vii). It is only when time is not a mere measurement, but an inner principle of existence, that becoming is liberated from static being, and the New can be privileged over the Eternal. It is only when time is no longer a mere quantitative measurement that it can take on the intensive form of what Bergson calls *duration*. Bergson tends to be highly critical of Kant; but Deleuze points out that, in fact, "Bergson is much closer to Kant than he himself thinks: Kant defined time as the form of interiority, in the

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<sup>2</sup>What *matters*, or what makes a difference, is the important thing here. "Our enjoyment of actuality is a realization of worth, good or bad. It is a value experience. Its basic expression is – Have a care, here is something that matters! Yes – that is the best phrase – the primary glimmering of consciousness reveals something that matters" (Whitehead 1938/1968, 116). This may be compared to Gregory Bateson's famous definition of *information* as "a difference which makes a difference" (2000, 459).

<sup>3</sup>Nietzsche, in his little chapter "How the 'Real World' Finally Became a Fable: History of an Error," from *Twilight of the Idols* (1968, 20), distinguishes between the "Königsbergian" (Kantian) moment, with "the real world unattainable, unprovable, unpromisable, but the mere thought of it a consolation, an obligation, an imperative," and the subsequent "cock-crow of positivism" in which, because the "real world" is "unknowable," it is also no longer a source of "consolation, redemption, obligation." I am choosing instead to conflate these moments, both because it helps to show how Nietzsche, Whitehead, and Deleuze alike are drawing upon Kant to a greater extent than any of them are usually willing to admit, and because – as I discuss below – Kant's theory of morality, with its sense of "obligation," and its account of a double causality, has more force to it (even in Nietzschean terms) than Nietzsche acknowledges.

sense that we are internal to time” (1989, 82). That is to say, when Kant defines time as the inner form of sensible intuition, he is not really saying that time is within us, or that time is something that we impose upon the world. He is saying, rather, that we are within time, and that our subjectivity can only be articulated in and through time. Once interiority has been temporalized, it cannot retain the static form of the Cartesian *cogito*.

Kant thus unhinges time, or pulls it out of joint (Deleuze 1984, vii). For a time that actively articulates movement, rather than merely measuring it, cannot be divided into “durationless instants” (Whitehead 1938/1968, 146) or “instantaneous immobile sections” (Deleuze 1986, 3). It is no longer possible, after Kant, to maintain the Newtonian fiction of “the full reality of nature *at an instant*, in abstraction from any temporal duration and characterized as to its interrelations solely by the instantaneous distribution of matter in space” (Whitehead 1938/1968, 145). With his Copernican revolution, therefore, Kant starts down the path that culminates in the post-Newtonian physics of the twentieth century, for which, as Whitehead puts it, “process, activity, and change are the matter of fact. At an instant there is nothing. . . Thus since there are no instants, conceived as simple primary entities, there is no nature at an instant. Thus all the interrelations of matters of fact must involve transition in their essence” (146).

Of course, Kant’s radical reconceptualization of time is compromised, to the extent that he still privileges human subjectivity. His account of temporality only concerns the human or rational “I”: the self that encounters, but keeps itself apart from, the phenomenal world. As Whitehead points out, Kant’s “subjectivist position” is that “the temporal world [i]s merely experienced” (190). This is in fact the basis for Whitehead’s own “rational scheme of cosmology in which a final reality is identified with acts of experience” (143). But Kant resists this universalization of experience. As Whitehead puts it, the problem is that, “according to [Kant’s] form of the subjectivist doctrine, in the *Critique of Pure Reason*, no element in the temporal world [can] itself be an experient” – only the transcendental subject can be one (190). This means that Kant fails, by not pushing his Copernican revolution far enough. For if the phenomenal world is entirely temporal, and entirely a world of experience, then we should no longer say that it is “*merely* experienced.” And if “transition” is indeed universal, then duration, or primordial temporality, is the inner dimension of all entities in the universe – and not just of human subjects.

Whitehead, like Kant, rejects “the Newtonian ‘absolute’ theory of space-time” (70), according to which time would be “self-subsistent. . . something that with-

out there being an actual object would yet be actual” (Kant 1996, 87). Time is never *given*; it needs to be effectively produced, or constructed. Whitehead thus accepts Kant’s assertion that time is a function of the subject, and that it is subjectivity that finds itself in time. But he radicalizes Kant’s doctrine, by saying that *every entity is a subject* in this sense – and not just human beings or rational minds. Whitehead thereby replaces Kant’s “excess of subjectivity” (15) with what he calls the *reformed subjectivist principle*: “the way in which one actual entity is qualified by other actual entities is the ‘experience’ of the actual world enjoyed by that actual entity, as subject. . . [T]he whole universe consists of elements disclosed in the analysis of the experiences of subjects” (166). Time is produced in and through experience; and experience, in turn, is embedded within time. But this circularity does not only apply to *us*. Taken in this expanded sense, Kant’s Copernican revolution no longer puts human subjectivity at the center of everything. Rather – in better accord with the actual achievement of Copernicus – it decenters that subject. For subjectivity, in the first place, is not an exclusively human privilege. In the second place, it is a manner or formal principle, rather than anything substantial. And finally, subjectivity is decentered because it is itself subject to the very phenomenon that it produces: the inner passage of time.<sup>4</sup>

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<sup>4</sup>Kant’s “Copernican revolution” is usually read as an assertion of what Quentin Meillassoux calls “correlationalism”: the theory that “affirms the indissoluble primacy of the relation between thought and its correlate over the metaphysical hypostatization or representalist reification of either term of the relation” (Brassier 2007, 18). Kant’s thought would thus be anthropocentric; it would leave us with what Graham Harman (2007) calls “a single lonely rift between people and everything else.” Even “the distinction between phenomena and noumena” is then “something endured by humans alone”(172). Meillassoux, Brassier, and Harman urge us to reject “this equation of being and thought,” which “leaves us stranded in a human–world coupling” that is sterile and untenable (Harman 2007, 173).

My point is not to dispute this fairly evident reading of Kant. I merely wish to suggest that there are also other directions, other potentialities, to be found in Kant’s *Critiques*. Kant’s emphasis upon conditions rather than essences can be separated from his anthropomorphism and subjectivism. Indeed, this is precisely what Whitehead does. Where Husserl and other phenomenologists continue to take correlationalism for granted (Brassier 2007, 19; Harman 2007, 173), Whitehead rejects correlationalism and anthropocentrism precisely by extending Kant’s analyses of conditions of possibility, and of the generative role of time, to all entities in the universe, rather than confining them to the privileged realm of human beings, or of rational minds.

We might say much the same for Bergson. As Deleuze (1986) puts it, where Husserl seeks to overcome the “duality...of consciousness and thing” by asserting that “all consciousness is consciousness *of* something” – a move that leaves correlationalism intact – Bergson more radically asserts that “all consciousness *is* something” – thus placing thought entirely within the phenomenal world, or within William James’ single stream of experience, and thereby averting correlationalist dualism altogether (56).

Kantian temporality, therefore, divides the self from itself. As Deleuze (1984) puts it, we must distinguish the I [*je*] “as an act which continually carries out a synthesis of time,” from the Ego [*moi*] as a “constantly changing” entity within time. These two dimensions of the subject are “separated by the line of time which relates them to each other, but under the condition of a fundamental difference” (viii). In the First Critique, subjectivity therefore has a double aspect. On the one hand, there is the “I” as an active process of determination; on the other hand, there is the “Ego” as something that is determined, from moment to moment, by this process. On one side, time is generated in the activity of the subject; on the other side, subjectivity is generated in and through the passage of time. The gap between these two sides is what makes novelty possible; or, to put the point more strongly, this gap *necessitates* creativity, by making it impossible for things to remain the same.

The doubling of the *je* and the *moi* is recapitulated, in the *Critique of Practical Reason* (2002), in the form of a doubling between the subject as a rational being, whose will takes on the determining form of universal law, and the empirical subject, whose will is determined extrinsically and contingently.<sup>5</sup> The “*autonomy* of the will” is opposed to the “*heteronomy* of the power of choice” (48).<sup>6</sup> This opposition leads directly to the determination of moral laws as “principles that contain the determining basis of the will not by their matter but merely by their form” (40). If the moral law had any positive content, if it were anything more than “the pure form of universality,” then it would be contingent rather than categorical, determined by its object rather than actively determining. Deleuze (1984) therefore says that “the law as empty form in the *Critique of Practical Reason* corresponds to time as pure form in the *Critique of Pure Reason*” (x). In both Critiques, the

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<sup>5</sup>I do not mean to conflate the “I” of the First Critique, the transcendental principle of temporal synthesis, with the “I” of the Second Critique, the noumenal self, or rational, legislating subject. These are, of course, entirely different entities. Rather, I am noting the *structural parallelism* between the two Critiques, in the way that they both posit a subject split between active (productive, conditioning) and passive (receptive, conditioned) roles – even if these are not the “same” subject.

<sup>6</sup>Kant’s association of “choice” with the heteronomy of a will that has been extrinsically determined, and in opposition to an act of freedom, especially needs to be recalled today, given the current hegemony (in both theory and practice) of neoliberal economics and “rational-choice” political science. For these approaches, everything is, and ought to be, determined, by individuals making choices among various possibilities in a world of scarcity or limited resources. From a Kantian point of view, this sort of market-driven “choice” is absolutely incompatible with any genuine notion of freedom or autonomy. To put it a bit crudely, but not inaccurately, you can have consumerism and the “free market,” or you can have democracy and self-determination, but you can’t have both.



determinate, empirical subject is separated from, and yet subjected to, a higher principle (a pure or empty form) that determines it. Kant attributes spontaneity or autonomy to this principle, thereby characterizing it as a (non-empirical) subject. But in both Critiques this principle corresponds to what, today, we would more likely regard as an impersonal, asubjective process of subjectification.

This replacement of the form of the subject with the process of subjectification is a crucial move in post-Kantian thought. Deleuze often denounces the way that Kant “traces the so-called transcendental structures from the empirical acts of a psychological consciousness” (1994, 135). Such a “tracing of the transcendental from the empirical” (143) traps thought in a vicious circularity. The active force that is supposed to condition all possible experience is itself passively modeled upon, and therefore in its own turn conditioned by, that experience. Subjectivity is preformed or prefigured, because it is generated by something that has the form of the subject already. The problem with the Kantian transcendental subject is that it “retains the form of the person, of personal consciousness, and of subjective identity” (1990, 98). If this circularity were actually the case, nothing new could ever emerge. This is why Deleuze accuses Kant of misapprehending the “prodigious realm of the transcendental,” even though this realm is Kant’s own discovery (1994, 135). Kant describes the transcendental as something like a set of templates, pre-existing conditions of possibility to which everything empirical must conform.

Deleuze “corrects” Kant, or converts him, by redefining the transcendental as the virtual, rather than as the merely possible. This means that the process of subjectification, or the force that impels this process, does not itself have the form of a subject. Rather, the virtual is what Deleuze calls “an impersonal and pre-individual transcendental field, which does not resemble the corresponding empirical fields. . . . This field can not be determined as that of a consciousness” (1990, 102). Deleuze, following Gilbert Simondon (2005), describes the transcendental as a field of potential energies in metastable equilibrium. These potentials can energize or “inform” a subject, but they do not determine its nature ahead of time. There is no resemblance, and hence no preformation. The subject cannot be given in advance; it must always emerge anew, in an unforeseeable way, as it is precipitated out of the metastable transcendental field. What’s basic, for Simondon and Deleuze, is not the individual, but the always-ongoing, and never complete or definitive, process of individuation.<sup>7</sup>

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<sup>7</sup>In chemistry and physics, “metastability” refers to a physical state that is stable, but just

Evidently, there is no such theory of individuation in Kant. He accepts the figure of the subject as an already-given form. Nonetheless, there are hints of a productive potentiality – going beyond mere conditions of possibility – in Kant’s repeated doubling of this subject. For such doubling points to a *double causality* as well. In the Second Critique (2002), the gap between the rational subject and the empirical subject corresponds to the distinction between “causality as freedom” and “causality as natural mechanism” (9). This distinction takes the form of an Antinomy: “The determination of the causality of beings. . . can never be unconditioned, and yet for every series of conditions there must necessarily be something unconditioned, and hence there must be a causality that determines itself entirely on its own” (69). The solution to the Antinomy is that physical, efficient causality always obtains in the phenomenal world, but “a freely acting cause” can be conceived as operating *at the same time*, to the extent that the phenomenal being who wills and acts is “also regarded as a noumenon” (67).

Kant poses a similar Antinomy in the “Critique of Teleological Judgment,” the second half of the Third Critique (1987). On the one hand, we *must* assume that the complex organization of living beings is “produced through the mere mechanism of nature”; indeed, no other explanation if possible. And yet, on the other hand, mechanistic determinism “cannot provide our cognitive power with a basis on which we could explain the production of organized beings.” When we try to establish such a basis, we are *compelled* “to think a causality distinct from mechanism – viz., the causality of an (intelligent) world cause that acts according to purposes” (269). For “we cannot even think [living things] as organized beings without also thinking that they were produced intentionally” (281). We are unable to avoid the idea of purposive design, even though “we make no claim that this idea has reality” (269).<sup>8</sup>

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barely. Even a small disturbance will be enough to destabilize it. For instance, a supersaturated solution is metastable. Left to itself, it can persist indefinitely; but any perturbation will cause the dissolved substance to precipitate out of the solution. More generally, a metastable state is a state of tension, or “contradiction,” full of potential energy that, given the right sort of push, will be discharged, causing a transformation. For Simondon, this is how the process of individuation takes place: the unleashing of potential energy, in a “preindividual” metastable state, leads to a process of emergence, as the formerly preindividual substance is divided into a more-or-less structured individual, on the one hand, and the milieu that supports it and from which it distinguishes itself, on the other. But this process is never completed once and for all. Every individual is still metastable, rather than entirely stable, which is to say that it still contains undischarged potential energy, still contains a degree of the preindividual, which is available for new transformations.

<sup>8</sup>Kant, of course, was writing long before Darwin. It is sometimes argued that Darwin’s discovery of a naturalistic basis for the organized complexity of life – something that Kant considered

In both the Second and the Third Critiques, then, Kant insists that linear, mechanistic causality is universally valid for all phenomena. But at the same time, he *also* proposes a second kind of causality, one that is purposive and freely willed. This second causality does not negate the first, and does not offer any exceptions to it. Rather, “freedom” and “purpose” exist *alongside* “natural mechanism”: they are what Derrida would call *supplements* to it. According to the Second Critique, “nothing corresponding to [the morally good] can be found in any sensible intuition” (90); this is precisely why the moral law, or “causality as freedom,” can only be a pure, empty form. The *content* of an action is *always* “pathological” or empirically determined, “dependen[t] on the natural law of following some impulse or inclination” (49). The second sort of causality, a free determination that operates according to moral law rather than natural law, may coexist with this “pathological” determination, but cannot suspend it. This is why Kant incessantly qualifies his affirmations of freedom, reminding us that “there is no intuition and hence no schema that can be laid at its basis for the sake of an application *in concreto*” (91), and that it is an “empty” concept theoretically speaking, that can be justified “for the sake not of the theoretical but merely of the practical use of reason” (75).

In the Third Critique, purposive (teleological) causality has a similarly ghostly, supplemental status. Kant says that “we do not actually *observe* purposes in nature as intentional ones, but merely add this concept [to nature’s products] in our *thought*, as a guide for judgment in reflecting on these products” (282). Purpose, like freedom, is “a universal *regulative* principle” for coping with the universe (287); but we cannot apply it constitutively. The idea of “natural purpose” is only “a principle of reason for the power of judgment, not for the understanding” (289). That is to say, when we regard a given being as something that is alive, as an *organism*, we are rightly judging it to be an effectively purposive unity; but we do not thereby actually understand what impels it, or how it came to be. The understanding has to do with a one-way, “descending series” of “efficient causes,”

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impossible in principle (282-283) – entirely obviates the arguments of the “Critique of Teleological Reason.” Yet the dichotomy Kant describes still exists in contemporary biology, even though its location has been displaced. Evolutionary biologists today are only able to explain an organism by speaking *as if* its features (eyes, or reproductive behaviors, or whatever) were purposive, even though they *know* that this purposiveness was never intended by any agency, but arose through the workings of natural selection. Kant is still correct in asserting that biologists must accept “the maxim that nothing in such a creature is *gratuitous*. . . Indeed, they can no more give up that teleological principle than they can this universal physical principle” (256). Hardcore adaptationists are especially insistent that no features of an organism are gratuitous; their opponents (Gould, Goodwin, Kauffman, etc.) invoke teleology through their interest in emergent properties.

or “real causes.” But judgment in terms of purposes invokes a nonlinear (both ascending and descending) series of “final causes,” or “ideal causes” (251-252). The idea of purpose, or of final cause, involves a circular relation between parts and whole. The whole precedes the parts, in the sense that “the possibility of [a thing’s] parts (as concerns both their existence and their form) must depend on their relation to the whole.” But the parts also precede and produce the whole, insofar as they mutually determine, and adapt to, one another: “the parts of the thing combine into the unity of a whole because they are reciprocally cause and effect of their form” (252). An organism must therefore be regarded as “both an *organized* and a *self-organizing* being.” It is both the passive effect of preceding, external causes, *and* something that is actively, immanently self-caused and self-generating. Only in this way can “the connection of *efficient causes*. . . at the same time be judged to be a *causation through final causes*” (253).

What Kant calls efficient causality is still the norm of reductionist science today. At the same time, Kant’s account of final causes, or of teleological circularity and self-organization, lies at the root of most versions of dialectics, hermeneutics, and systems theory. What’s most crucial to Kant’s account, however, is the necessary coexistence of these two sorts of explanation, together with the irreducible distance between them. Efficient and final causality cannot be reconciled; nor is it possible to reduce one to the other, or to explain one away in terms of the other. Edward O. Wilson’s “consilience” (1999) is as dubious an ideal as any grand Hegelian scheme of unification. And indeed, atomistic reductionism and holistic systems theory alike propose schemas that are infinite in capacity and extent, but nonetheless fundamentally *closed*. No true novelty can emerge from the linear chain of cause and effect, when “all tangible phenomena, from the birth of stars to the workings of social institutions, are based on material processes that are ultimately reducible, however long and tortuous the sequences, to the laws of physics” (Wilson 1999, 291). But novelty is also excluded by what Niklas Luhmann (1996) calls the “operational closure” of any “self-referential system.” For such a system can only be influenced from the outside to the extent that the external perturbation is coded as “information” in the system’s own predefined terms. Luhmann rightly says that “such systems, which procure causality for themselves, can no longer be ‘causally explained’ ” according to the mechanisms of linear, efficient causality (41). But these systems’ autopoietic final causality also works to reproduce sameness, and avert fundamental change. Can we imagine a form of self-organization that is not also self-preservation and self-reproduction? Kant opens up this question when he posits the Antinomy of the two kinds of causality.

Deleuze takes up this problem in *The Logic of Sense* (1990), where he proposes his own version of “double causality” (94-99). Rather than referring directly to Kant, Deleuze reverts to what he describes as the ancient Stoics’ “cleavage of the causal relation” (6). On the one hand, there is real, or physical, causality: causes relate to other causes in the depths of matter. This is the materialist realm of “bodies penetrating other bodies. . . of passions-bodies and of the infernal mixtures which they organize or submit to” (131). On the other hand, there is the idealized, or transcendental, “quasi-causality” of effects relating solely to other effects, on the surfaces of bodies or of things (6). This quasi-causality is “incorporeal. . . ideational or ‘fictive’,” rather than actual and effective; it works, not to constrain things to a predetermined destiny, but to “assur[e] the full autonomy of the effect” (94-95). And this autonomy, this splitting of the causal relation, “preserve[s]” or “grounds freedom,” liberating events from the destiny that weighs down upon them (6). An act is free, even though it is also causally determined, to the extent that the actor is able “to be the mime of what effectively occurs, to double the actualization with a counter-actualization, the identification with a distance” (161). That is to say, Deleuze’s counter-actualizing “dancer,” like the Kantian moral agent – and, as I will discuss shortly, like the Whiteheadian living occasion – makes a *decision* that supplements causal efficacy and remains irreducible to it, without actually violating it. This is what it means to preserve “the truth of the event,” in its inexhaustible potentiality, from the catastrophe of “its inevitable actualization” (161).<sup>9</sup>

It is, however, Whitehead’s treatment of the Antinomy of double causality that most directly addresses the problem of the New. Whitehead, no less than Kant, distinguishes between, and seeks to reconcile, efficient and final causes. These two modes of causality can be correlated, to a certain extent, with the two modes of perception recognized by Whitehead: causal efficacy and presentational immediacy. They can also be aligned with what Whitehead calls the “physical” and

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<sup>9</sup>Strictly speaking, Deleuze differentiates Stoic double causality from what I am describing as a double causality of the Kantian sort. For with the Stoics (and in another way with the Epicureans) “one begins by splitting the causal relation, instead of distinguishing types of causality as Aristotle had done and as Kant would do” (1990, 6). I am arguing, however, for a more generous reading of Kant – one that is warranted by the overall pattern of Deleuze’s borrowings from, and criticisms of, Kant. For one thing, Deleuze’s adaptation of the Stoics can only be understood in terms of his overall post-Kantian framework; for another, Kant’s very distinction between efficient and final causality is not merely a matter of categorization, but involves an Antinomy: the coexistence of two entirely different, and irreconcilable, logics. For, as Deleuze himself puts it, “this opposition between simple formal logic and transcendental logic cuts through the entire theory of sense” (1990, 96).

“mental” poles of any entity (1929/1978, 239). Efficient causality refers to the naturalistic chain of causes and effects, or the way that an entity inherits conditions and orientations from “the immortal past” (210). On this level, the causal dependency of a given entity upon its predecessors – its status as an *effect* – cannot be distinguished from that entity’s prehension (its reception, or non-conscious perception) of those predecessors. “The problems of efficient causation and of knowledge receive a common explanation” (190). An entity *feels* its precursors, and is thereby both *affected* and *caused* by them. “All our physical relationships are made up of such simple physical feelings. . . the subjective form of a physical feeling is re-enaction of the subjective form of the feeling felt. Thus the cause passes on its feeling to be reproduced by the new subject as its own, and yet as inseparable from the cause. . . the cause is objectively in the constitution of the effect” (237). Efficient causality is a passage, a transmission (210), an influence or a contagion. This objective inheritance constitutes the physical pole of the affected entity, its embodiment in a material universe.

However, as this process of causality-as-repetition unfolds, “the re-enaction is not perfect” (237). There’s always a glitch in the course of the “vector transmission” of energy and affect from past to present, or from cause to effect. There are at least two reasons for this. In the first place, nothing can ever purely and simply recur, because of the “cumulative character of time,” its “irreversibility” (237). Every event, once it has taken place, adds itself to the past that weighs upon all subsequent events. No matter how precisely event B mimics event A, B will be different from A simply due to the “stubborn fact” that A has already taken place. The pastness of A – or what Whitehead calls its “objectification,” or “objective immortality” – is a constitutive feature of B’s world, a crucial part of the context in which B occurs. Thus, by the very fact that B repeats A, B’s circumstances must be different from A’s. “Time is cumulative as well as reproductive, and the cumulation of the many is not their reproduction as many” (238). The effect is subtly different from the cause whose impulsion it inherits, precisely to the extent that the effect prehends (or recognizes) the cause as an additional factor in the universe. Whitehead thus extends Leibniz’s Principle of Indiscernibles. Not only can no two occasions ever be identical, but also “no two occasions can have identical actual worlds” (210).

In the second place, the causal reproduction of the past in the present is imperfect, because no inheritance, and no feeling, is entirely neutral. The “subjective form,” as an element in the process of reception, differentially evaluates the data it

receives, and thereby selects among these data.<sup>10</sup> Every prehension, every causal connection, involves a “valuation” on the part of the receiving entity: a valuation that does not just take the transmitted data as given, but “values [them] up or down” (241). As a result, “the actual world [is] selectively appropriated” (233), according to the “qualities of joy and distaste, of aversion and of aversion, which attach integrally” to every experience (234). This affective response, with its selective and gradated “conceptual prehension” of the qualities (eternal objects) implicit in the data, constitutes the mental pole of the affected entity, its potential for change or novelty.

Whitehead insists that every entity is “essentially dipolar, with its physical and mental poles; and even the physical world cannot be properly understood without reference to its other side, which is the complex of mental operations” (239). Every entity’s simple physical feelings are supplemented by its conceptual feelings. Of course, these “mental operations,” or conceptual feelings, “do not necessarily involve consciousness”; indeed, most of the time, consciousness is entirely absent. But in every occasion of experience, both physical and mental poles are present. This means that everything happens according to a double causality. A final (or teleological) cause is always at work, alongside the efficient (mechanistic) cause. If “transition [from the past] is the vehicle of the efficient cause,” then concrecence, or the actual becoming of the entity – its orientation towards the future – “moves toward its final cause” (210). As with Kant, so too for Whitehead: the final cause does not suspend or interrupt the action of the efficient cause, but supervenes upon it, accompanies it, demands to be recognized alongside it. And once again, Whitehead radicalizes Kant by extending the scope of his “subjectivist” arguments: they now apply, not just to human or rational beings, but to all entities in the universe.

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<sup>10</sup>Or, more precisely, it selects, not among the data themselves, which are simply given and “cannot be evaded” (43), but among the “eternal objects” implicit in these data. By virtue of “a selection of relevant eternal objects. . . what is a datum from without is transformed into a complete determination as a fact within” (154). The principle of this selection is the need for compatibility among the forms selected, as required by the Categories of Subjective Unity and Subjective Harmony. This means that Whitehead’s criterion for selection is, like Kant’s, an entirely *formal* one. The Categorical Imperative in the Second Critique has to do, not with the content of any action, but only with the question of whether the action can be generalized to the form of a universal law. Similarly, in the Third Critique, aesthetic judgment does not depend upon the actual feelings aroused by any object, but only upon the formal possibility for the universal communicability of those feelings. Whitehead’s demand for compatibility or harmony is similarly a purely formal condition, without any particular predetermined contents.

For Whitehead, the final cause is the “decision” (43) by means of which an actual entity becomes what it is. “However far the sphere of efficient causation be pushed in the determination of components of a concrescence. . . beyond the determination of these components there always remains the final reaction of the self-creative unity of the universe” (47). This “final reaction” is the way that “the many become one, and are increased by one” (21) in every new existence. The point is “that ‘decided’ conditions are never such as to banish freedom. They only qualify it. There is always a contingency left open for immediate decision” (284). This contingency, this opening, is the point of every entity’s self-determining activity: its creative self-actualization or “self-production” (224). And this is how novelty enters the universe. The decision is always a singular one, unique to the entity whose “subjective aim” it is. It cannot be categorized or classified: for that would mean returning the decision to the already-decided, to the efficient causes at the point of whose conjunction it arose.<sup>11</sup>

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<sup>11</sup>I think that Whitehead is already pointing here to a logic of singularity and universality, such as the one developed more explicitly by Deleuze. For Deleuze, singularities are acategorical: they cannot be categorized in any terms broader than their own. That is to say, they cannot be fitted into a hierarchy of species and genera, of the particular and the general; just as they cannot be derived as instances of any larger, more overarching and predetermining structure. But in their very uniqueness, singularities are thereby also universal. The singular directly touches the universal, without the mediation of any intervening terms. The extreme concreteness of a singularity is also the mark of an extreme abstraction. The *thisness*, or what Deleuze and Guattari call the *haecceity* (1987, 260ff.), of an event is “universalized” in itself, as it is in all its details, rather than being subordinated to some vaguer or more general category.

An example might be helpful here. When Proust – an extremely important author for Deleuze – writes about jealousy, in his great novel, he is being at once universal and singular. Universal, because he isn’t merely describing the narrator’s feelings about Albertine. The book’s analyses extend far beyond the psychology of particular characters in a particular situation. They make connections that reflect upon other characters and situations in the novel, and upon the reader’s experiences, outside the text, as well. The novel describes, enacts, or creates an abstract, universal portrait of jealousy: what I am tempted to call the transcendental form of this emotion. At the same time, Proust’s description remains highly contingent and limited: that is to say, singular. It is embedded in a thick constellation of concrete details and textures, having to do with the particularities of the book’s characters, of their gender and social class and historical moment in France, and all the other aspects of their social setting. It is this sense of concrete embeddedness that most fully differentiates Proust’s text from an essay in psychology. In short, Proust universalizes his description of the narrator’s jealousy over Albertine, by abstracting it away from the merely anecdotal. But what he universalizes in this manner remains entirely singular and concrete. He doesn’t generalize by leaving out details and anomalies; rather, it is only his exhaustive examination of all the anomalies and minutiae of the situation that makes the universalization possible. Proust plumbs the utmost depths of jealousy, all the more so because he examines it in and for itself, in its special circumstances, rather than placing it in relation to other emotions, or classifying it as an



To be sure, much of the time, this decision or final cause is “negligible” in scope, and can safely be ignored (115). In many inorganic physical processes, the space of “contingency left open for immediate decision” is vanishingly small. Novelty is nearly inexistent, and linear, efficient causality can explain (almost) everything. It is only in cases of higher-order emergence – processes that were mostly ignored by the physics of Whitehead’s own time, but that are intensively studied today by chaos and complexity theory – that anything genuinely new is produced. “Deterministic chaos” is, like all empirical phenomena, entirely determined in principle (or, as Kant would say, “theoretically”) by linear cause and effect. But since its development is sensitive to differences in initial conditions too slight to be measured, it is not actually determinable ahead of time pragmatically (or, as Kant would say, “practically”). In these cases, linear, mechanistic causality is inadequate for the purposes of our understanding, and an explanation in terms of purpose, “subjective aim,” or “decision” becomes necessary.<sup>12</sup>

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instance of some more widespread class of behaviors or feelings. Proust universalizes the singular, while rejecting any sort of generalization.

Whitehead never offers an explicit theory of singularity, in the way that Deleuze does. But I think that a similar logic is at work in his discussion of the decision made by every actual entity. This decision is always singular, because it is unique to the entity that makes it, and that circularly determines what it is by having made it. No general principles or rules can guide this decision, or circumscribe it. And yet the singular decision is also a universal one, because it is affected by everything that precedes it, and in turn affects everything that follows it. Every concrescence is a “conjunctive unity,” gathering together the “disjunctive ‘many’” (21). It is a determination of the entire universe, reducing its potentiality and multiplicity to the actuality of one “stubborn fact.” This actuality has never existed before: it is an absolute novelty. As such, it reverts to being ‘one’ rather than ‘everything’: “it is a novel entity, disjunctively among the many entities which it synthesizes” (21). This is why Whitehead can describe the decision, or final cause, of an entity, both as the unique activity – “the absolute, individual self-enjoyment” (1938/1968, 150) – of that entity itself, and as “the final reaction of the self-creative unity of the universe” as a whole.

<sup>12</sup>Though I have just said that an explanation in terms of final cause is required “for the purposes of our understanding,” this should not be taken as merely the contingent result of our empirical ignorance or uncertainty. The difficulty is ontological, rather than epistemological. It is not just that our particular powers of observation are limited, and that the quantity of information we happen to possess is finite. For any possible observer will be in the same situation. There *cannot* be a Laplacean God, or a supercomputer, that knows everything, and that can trace all the lines of efficient causality for all the particles in the universe. Such a position of omnipotence is simply not possible. In Whitehead’s terms, to posit such a position is to violate both the “ontological principle” (that everything actual must come from somewhere) and the “reformed subjectivist principle” (that everything actual must be disclosed in the experience of some actual subject). Even the actual entity Whitehead calls “God” is not omnipotent. He is also subject to these restrictions, and he cannot transcend them.

The role of subjective “decision” becomes especially important – so that it can no longer be dismissed as “negligible” – when we get to those emergent processes of self-organization known as living things. It is precisely in the case of living entities that the recourse to efficient causes is most inadequate, and that “we require explanation by ‘final cause’” instead (104). Indeed, Whitehead defines “life” itself (to the extent that a concept with such fuzzy boundaries can be defined at all) as “the origination of conceptual novelty – novelty of appetite” (102). By “appetition,” Whitehead means “a principle of unrest. . . an appetite towards a difference. . . something with a definite novelty” (32).<sup>13</sup> Most broadly, “appetition” has to do with the fact that “all physical experience is accompanied by an appetite for, or against, its continuance: an example is the appetite of self-preservation” (32). But experience becomes more complex, aesthetically and conceptually, when the appetite pushes beyond itself, and does not merely work towards the preservation and continuation of whatever already exists. This is precisely the case with living beings. When an entity displays “appetite towards a difference” – Whitehead gives the simple example of “thirst” – the initial physical experience is supplemented and expanded by a “novel conceptual prehension,” an envisioning (or “envisagement” – 34) of something that is not already given, not (yet) actual. Even “at a low level,” such a process “shows the germ of a free imagination” (32).

This means that it is insufficient to interpret something like an animal’s thirst, and its consequent behavior of searching for water, as merely a mechanism for maintaining (or returning to) a state of homeostatic equilibrium. “Appetition towards a difference” seeks transformation, not preservation. Life cannot be adequately defined in terms of concepts like Spinoza’s *conatus*, or Maturana and Varela’s *autopoiesis*. Rather, an entity is alive precisely to the extent that it envisions difference, and thereby strives for something other than the mere continuation of what it already is. “‘Life’ means novelty. . . A single occasion is alive when the subjective aim which determines its process of concrescence has introduced a novelty of definiteness not to be found in the inherited data of its primary phase” (104). Appetition is the “conceptual prehension,” and then the making-definite, of something that has no prior existence in the “inherited data” (i.e., something that, prior to the appetite, was merely potential). If life is appetite, then it must be un-

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<sup>13</sup>It is important to note that Whitehead uses “appetition” as a “technical term.” He warns us against the “danger which lurks in technical terms” of taking them according to their common meanings in ordinary language. In the case of “appetition,” this can lead to the improper anthropomorphization of a process that applies to all entities (32-33).

derstood, not as a matter of continuity or endurance (for things like stones endure much longer, and more successfully, than living things do), nor even in terms of response to stimulus (for “the mere response to stimulus is characteristic of all societies whether inorganic or alive” – 104); but only in terms of “*originality* of response to stimulus” (emphasis added). Life is “a bid for freedom,” and a process that “disturbs the inherited ‘responsive’ adjustment of subjective forms” (104). It happens “when there is intense experience without the shackle of reiteration from the past” (105). In sum, Whitehead maintains “the doctrine that an organism is ‘alive’ when in some measure its reactions are inexplicable by *any* tradition of pure physical inheritance” (104).

Of course, contemporary biology is not prone to speak of final causes, or to define life in the way that Whitehead does. According to the mainstream neodarwinian synthesis, “pure physical inheritance,” when combined with occasional random mutation and the force of natural selection, is sufficient to account for biological variation. Innovation and change are not primary processes, but adaptive reactions to environmental pressures. Life is essentially conservative: not oriented towards difference and novelty as Whitehead would have it, but organized for the purposes of self-preservation and self-reproduction. It is not a bid for freedom, but an inescapable compulsion. The image of a ‘life force’ that we have today is not anything like Bergson’s *élan vital*; it is rather the virus, a mindlessly, relentlessly self-replicating bit of DNA or RNA. Even the alternatives to the neodarwinian synthesis that are sometimes proposed today – like Maturana and Varela’s theory of autopoiesis, Stuart Kauffman’s exploration of complexity and self-organizing systems, Lynn Margulis’ work on symbiosis, James Lovelock’s Gaia theory, and Susan Oyama’s Developmental Systems Theory – share mainstream biology’s overriding concern with the ways that organisms maintain homeostatic equilibrium in relation to their environment, and strive to perpetuate themselves through reproduction. It would seem that organic beings only innovate when they are absolutely compelled to, and as it were in spite of themselves.

Nevertheless, when biologists actually look at the concrete behavior of living organisms, they encounter a somewhat different picture. For they continually discover the important role of “decision” in this behavior. And not only in the case of mammals and other “higher” animals. Even “bacteria are sensitive, communicative and decisive organisms. . . bacterial behaviour is highly flexible and involves complicated decision-making” (Devitt 2007). Slime molds can negotiate mazes and choose one path over another (Nakagaki, Yamada, and Toth 2000). Plants do

not have brains or central nervous systems, but “decisions are made continually as plants grow,” concerning such matters as the placement of roots, shoots, and leaves, and orientation with regard to sunlight (Trewavas 2005, 414). In the animal kingdom, even fruit flies exhibit “spontaneous behavior” that is non-deterministic, unpredictable, “nonlinear and unstable.” This behavioral variability cannot be attributed to “residual deviations due to extrinsic random noise.” Rather, it has an “intrinsic” origin: “spontaneity (‘voluntariness’) [is] a biological trait even in flies” (Maye et al. 2007). In sum, it would seem that *all* living organisms make decisions that are not causally programmed or predetermined. We must posit that “cognition is part of basic biological function, like respiration” (Devitt 2007, quoting Pamela Lyon). Indeed, there is good evidence that, in multicellular organisms, not only does the entire organism spontaneously generate novelty, but “each cell has a certain intelligence to make decisions on its own” (Albrecht-Buehler 1998).

Thus, biologists have come to see cognition, or “information processing,” at work everywhere in the living world: “all organisms, including bacteria, the most primitive (fundamental) ones, must be able to sense the environment and perform internal information processing for thriving on latent information embedded in the complexity of their environment” (Ben Jacob, Shapira, and Tauber 2006, 496). Organisms would then make decisions – which are “free,” in the sense that they are not pre-programmed, mechanistically forced, or determined in advance – in accordance with this cognitive processing. This fits quite well with Whitehead’s account of “conceptual prehension” as the “valuation” (240) of possibilities for change (33), the envisioning of “conditioned alternatives” that are then “reduced to coherence” (224). But it is getting things backwards to see this whole process as the *result* of cognition or information processing. For “conceptual prehension” basically means “appetition” (33). It deals in abstract potentialities, and not just concrete actualities; but it is emotional, and desiring, before it is cognitive. Following Whitehead, we should say that it is the very act of *decision* (conceptual prehension, valuation in accordance with subjective aim, selection) that makes cognition possible – rather than cognition providing the grounds for decision. And this applies all the way from bacteria to human beings, for whom, as Whitehead puts it, “the final decision. . . constituting the ultimate modification of subjective aim, is the foundation of our experience of responsibility, of approbation or of disapprobation, of self-approval or of self-reproach, of freedom, of emphasis” (47). We don’t make decisions because we are free and responsible; rather, we are free and responsible because – and precisely to the extent that – we make decisions.

Life itself is characterized by indeterminacy, non-closure, and what Whitehead calls “spontaneity of conceptual reaction” (105). It necessarily involves “a certain absoluteness of self-enjoyment,” together with “self-creation,” defined as “the transformation of the potential into the actual” (1938/1968, 150-151). All this does not imply any sort of mysticism or vitalism, however; it can be accounted for in wholly Darwinian terms. In fruit fly brains no less than in human ones, “the nonlinear processes underlying spontaneous behavior initiation have evolved to generate behavioral indeterminacy” (Maye et al. 2007, 6). That is to say, strict determinism no longer applies to living things, or applies to them only to a limited extent, because “freedom,” or the ability to generate indeterminacy, has itself been developed and elaborated in the course of evolution. The power of making an unguided, and unforeseeable, decision has proven to be evolutionarily adaptive. It has therefore been forwarded by natural selection. Some simple life processes can be regulated through preprogrammed behavior; but “more complex interactions require behavioral indeterminism” in order to be effective (Maye et al. 2007, 8). Organisms that remain inflexible tend to perish; the flexible ones survive, by transforming themselves instead of merely perpetuating themselves. In this way, the “appetition of self-preservation” itself creates a counter-appetition for transformation and difference. Life has evolved so as to crave, and to generate, novelty.<sup>14</sup>

Such is Whitehead’s version of double causality. We might summarize it by expanding Marx’s famous maxim to apply to all organisms, and not just human beings: all organisms “make their own history, but they do not make it just as they

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<sup>14</sup>The implicit Whiteheadian reading of Darwin that I am proposing here can be compared with Nietzsche’s explicit critique of Darwin. Under the heading *Anti-Darwin*, Nietzsche writes: “As regards the celebrated ‘struggle for life,’ it seems to me, in the meantime, to be more asserted than proved. It occurs, but only as an exception; the general aspect of life is *not* a state of want or hunger; it is a state of opulence, luxuriance, and even absurd prodigality, – where there is struggle, it is a struggle for *power*. – We must not confound Malthus with nature” (1968, 46). Whitehead concurs with Nietzsche in asserting both that survival (or mere self-preservation) is secondary in relation to power (or what Whitehead calls “self-creation” – 1929/1978, 85), and also that struggle or competition in general (whether for power, or for mere survival), is secondary in relation to the *aesthetic* concerns of generosity, opulence, and prodigality (or what Whitehead calls “the evocation of intensities” – 105). Neither Nietzsche nor Whitehead denies the “causal efficacy” of natural selection; but they both argue for a supplemental, self-determining intensity of life, that arises in the very course of this selection.

Note that Whitehead explicitly defines “power” as a matter of “how each individual actual entity contributes to the datum *from which* its successors arise and *to which* they must conform” (56). This definition is drawn from Locke, rather than Nietzsche; but I think that it is largely compatible with the Spinozian/Nietzschean sense of “power” as a capacity to affect and to be affected.

please: they do not make it under circumstances chosen by themselves, but under circumstances directly encountered, given and transmitted from the past” (1968, 97). Whitehead reminds us again and again that we never simply transcend efficient causality. Every experience “is concerned with the givenness of the actual world, considered as the stubborn fact which at once limits and provides opportunity for the actual occasion. . . We are governed by stubborn fact” (1929/1978, 129). We are impelled by the accumulation of the past, and by the deterministic processes arising out of that past. But at the same time, these deterministic processes themselves open up an ever-widening zone of indetermination. In this way, “efficient causation expresses the transition from actual entity to actual entity; and final causation expresses the internal process whereby the actual entity becomes itself. There is the becoming of the datum, which is to be found in the past of the world; and there is the becoming of the immediate self from the datum. . . An actual entity is at once the product of the efficient past, and is also, in Spinoza’s phrase, *causa sui*” (150).

Whitehead thus repeats Kant’s assertion that a final cause (“causality as freedom”) subsists alongside (or supplements) the efficient cause (“causality as natural mechanism”). But Whitehead attempts to naturalize Kant’s distinction, to make it entirely immanent and phenomenal, without thereby effacing it. This is a tricky move, and one that “the popular positivistic philosophy” (1938/1968, 148) will not accept. For once the subject has been absorbed back into the phenomenal realm, there is no longer any Archimedean point for the exercise of freedom. How can a subject that is entirely determined by material causes also be said to freely determine itself? Whitehead’s answer is to replace Kant’s noumenal subject with a “subject-superject” that is both a producer and a bearer of novelty, and that expires in the very movement by which it comes into being. Creativity, or the Category of the Ultimate (1929/1978, 21), replaces the categorical imperative as the inner principle of freedom.<sup>15</sup> It remains the case, under this principle, that “whatever is determinable is determined” according to efficient causality; but at the same time “there is always a remainder for the decision of the subject-superject” (27-28). But rather than being noumenal or eternal, this decision, or final cause, is evanescent,

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<sup>15</sup>Whitehead says that “creativity is without a character of its own. . . It cannot be characterized, because all characters are more special than itself.” It is “always found under conditions, and described as conditioned”; but it does not intrinsically possess any of these conditions (31). In this way, creativity is neutral, and entirely formal, just like Kant’s categorical imperative. Whitehead also equates creativity with appetite (32); in this way, too, it is parallel to Kant’s determination of the categorical imperative as the highest form of the faculty of desire.

“perpetually perishing.” It fades away before it can be caught within the chains of deterministic causality. Or more precisely, its so being caught *is* precisely the event of its “satisfaction” and passing-away. Thus “actual entities ‘perpetually perish’ subjectively, but are immortal objectively. Actuality in perishing acquires objectivity, while it loses subjective immediacy. It loses the final causation which is its internal principle of unrest, and it acquires efficient causation whereby it is a ground of obligation characterizing the creativity” (29). Freedom, or the “internal principle of unrest,” is superceded by causal necessity, or the external conformity of the present to the past. The initiative that created something new in the moment of decision subsists afterwards as an “obligation” of “stubborn fact,” conditioning and limiting the next exercise of freedom.

Whitehead’s conversion, or phenomenalization, of Kant cannot be described as a form of vitalism. For the ghost, or the trace, that the noumenal leaves in the phenomenal world is more an absence than a presence, more a vacuum than a force. If life is a locus of appetite and decision, this can only be because “life is a characteristic of ‘empty space’ . . . Life lurks in the interstices of each living cell, and in the interstices of the brain” (105-106). Life involves a kind of subtraction, a rupturing or emptying-out of the chains of physical causality. As a result of this de-linking, “the transmission of physical influence, through the empty space within [the animal body], has not been entirely in conformity with the physical laws holding for inorganic societies” (106). These empty spaces or interstices are the realm of the potential, of a futurity that already haunts the present – or of what Deleuze will call the virtual. For, just as the past remains active within the present by means of the “vector transmission” of efficient causality, so the future is already latent within the present, thanks to the “multiplicity of pure potentiality” (164) that can be taken up by the living actual occasion. “The past is a nexus of actualities” (214); it is still actual, still a force in the present, because it is reproduced as a “datum,” physically prehended by each new actual occasion. On the other hand, the future is *available*, without having yet been actually determined: it takes the form of eternal objects, or “pure potentials,” that may be conceptually prehended (or not) by each new actual occasion. Whitehead says, therefore, that “the future is merely real, without being actual” (214). Strikingly, this is the same formula that Deleuze (borrowing from Proust) uses to describe the virtual. Where Deleuze describes novelty or invention as the actualization of the virtual, Whitehead says that “reality becomes actual” (214) in the present, or in the decision of each living occasion. The process of actualization is the hinge, or the interstice, not only between past and future, but also between the two forms of causality.

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