The Kantian Legacy of Late Modernity

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An Essay in Aesthetics and Epistemology

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List of Abbreviations

Anthropologie	*Anthropologie in pragmatischer Hinsicht* (1798)
Anthropology	*Anthropology from a Pragmatic Point of View* (1798)
CJ	*The Critique of Judgment* (1790)
CPR	*The Critique of Pure Reason*
CPR I	*The Critique of Pure Reason, First Edition* (1781)
CPRII	*The Critique of Pure Reason, Second Edition* (1787)
KU	*Kritik der Urteilskraft* (1790)
LF	*Thoughts on the True Estimation of Living Forces* (1746)
LK	*Gedanken von der wahren Schätzung der lebendigen Kräfte* (1746)
KRV	*Kritik der reinen Vernunft* (I. 1781, II. 1787)
MF	*Metaphysical Foundations of Natural Science* (1786)
Prolegomena	*Prolegomena to Any Future Metaphysics* (1783)

AUTHOR'S ARGUMENT

Although "Copernican Turn" is the phrase commonly employed to assess the importance of Immanuel Kant's contribution to the history of philosophy, its meaning is hardly a matter of consensus among commentators. Hendrix (2005) ranks among the few historians of aesthetic ideas emerging around 1800 who leaves Kant out of the lineage descending from Plato, through Plotinus, to Hegel and Schelling, whose systems fuse Philosophy of Spirit with Identity Philosophy and Transcendental Idealism. In light of Identity Philosophy, "forces in nature (potencies) are identical to forces in human intellect" (Hendrix, 2), perceiver and perceived being equally important to a definition of consciousness. This assumption served as the basic epistemological ground for the construction of modernity's grand design of conquering the universe, of man assuming control, through will and intellect, of the world out there, to the extent that knowledge was equated with immortality. What greater triumph could one prophesy to man's intellect than its victory over the world's apocalyptic end? Having predicted the final outcome of entropy, James Clerk Maxwell in his ode 'To Hermann Stoffkraft, Ph.D.' (in Campbell & Garnett 1882) could well gloat over the imaginary show of the solar catastrophe, simply because the discovery of the electromagnetic field had rendered the two scientists synchronous with the manifest object of their minds:

> But when thy Science lifts her pinions
> In Speculation's wild dominions,
> I treasure every dictum thou emittest;
> While down the stream of Evolution
> We drift, and look for no solution
> But that of survival of the fittest.
> Till in that twilight of the gods
> When earth and sun are frozen clods,
> When, all its energy degraded,
> Matter in aether shall have faded,
> We, that is, all the work we've done,
> As waves in aether, shall for ever run
> In swift-expanding spheres, through heavens beyond the sun.

In the mid-nineteenth century the crazy self-confidence which Nietzsche would call "will to power" was already looming behind modernity's grand projects of control: the best of all societies (Marxism), the healthiest body and mind (evolutionism and experimental psychology), the civilizing mission (colonialism), etc., all of them relating the mind to the world from a privileged position.

Despite late attempts of reading Kant in the context of New Physics theories (string theory, chaos theory, the centrality of the observer in scientific measurements, etc.), various canons of modernity still assign Immanuel Kant a well-established reputation among the rationalist and transcendental ego-centred luminaries. According to Peter Osborne's (1992) typology, Kantianism qualifies for classical modernity, ranging from 1789 to 1900.

Our essay brings up arguments supportive of the seminal influence of Kantian epistemology on a number of literary works published since 1900, a period which Osborne classifies as "late modernity".

Setting out from the ambitious project to show the world a new way ("der Welt einen neuen Weg anzuweisen" *LK*, §51), Immanuel Kant replaces metaphysics with epistemology, devising a new mode of reflection, not on some other object but on itself: a self-reflexive way of interrogating the possibilities of cognition and the validity of its results. Deluded by superficial similarities of language between Kant and his contemporaries, such as the holistic concept of entities being teleologically structured, meaning that all parts are interrelated and serve some common purpose, commentators smooth over essential differences among their philosophical systems. Kant may well speak about the necessity of identifying an intelligible order underlying the empirical manifold, but he locates that order solely in the observer and limits it to the range of observed phenomena, drawing between the thing in itself (with its intelligible design, causes, teleology, possibilities of realization in time/space) and observed phenomena (psychological facts) a line as firm as that which blocks inferences from micro- to macrophysics. Kant allows physical beauty to enter a plea of aesthetic inclusion on a phenomenological basis (nature's appearances assessed by the observer as pleasing), but only the art object is structured according to will and conscious purpose. This enemy of the old metaphysical school engages in an epistemological query and comes up with a phenomenological solution. The poetic of mimesis is dismissed as nonsense. Reality cannot be known as it really is, because the way it appears before the observing mind differs from one context to another. Besides, it would be illogical to claim that nature's intelligible underlying design could be accessed by the mind

directly, as perception, the only way into nature, is sensuous and relativistic. Even mathematical bodies are objects of intuition and relativistic observation (in the *Prolegomena* he mentions two equal triangles drawn on either side of a sphere's equator, which are not exchangeable, or the left–right inversion of one's image in the mirror). Thirdly, the mind can only infer causes of observed phenomena; in no way can it dig up the final cause, *die bildende Kraft* (*KU*, 322), or the *intelligibles Substrat* (*KU*, 343) which informs its matters (*mitteilt die Materien*) (*KU*, 322), while its kinetic movement (unlike that caused by the living force within, a sort of structure of information) is merely a matter of dead machinery. Breaking out of the confines of the logic of identity, rooted in Plato's *eidos* (the metaphysically full image of the thing in the Godhead), or in Aristotle's unity of subject and object in the Godhead (*noesis noeseos*, self-reflexive intellect), Kant joined Leibniz in the use of polyvalent logics (logic of identity, <A=A>) versus existential or relativistic logic, according to which A may be partly B, in that it shares something if not everything with B. In the phenomenal world, there are no discrete entities, but only what we call today semiotic transfers (sliding of signifiers under signifieds). By placing the observing mind at the centre of his philosophical system, Kant effected a "Copernican turn" to anthropology, which Coleridge glossed in an entry of his 1818 *Notebooks*: not according to the ontological "it is", as in Spinoza, but according to man. Kant created implicitly a new paradigm out of the combination of associationist psychology, focusing on *die Innenwelt*, and physics, whose object is the external phenomena. In this way, he opened new vistas for Johann Friedrich Herbart (the cross-paradigmatic fusion of psychology and mathematics – computation of mental associations) or Wilhelm Wundt (physiological psychology placing in relation the physical and the psychological *Bild*, the thing in the world and its inner representation).

> Since, however, if representations reproduced one another without distinction, just as they fell together, there would in turn be no determinate connection but merely unruly heaps of them, and no cognition at all would arise; their reproduction must thus have a rule in accordance with which a representation enters into combination in the imagination with one representation rather than with any others. This subjective and empirical ground of reproduction in accordance with rules is called the association of representations. (Kant 1998, 239)

The mind can go from the outward picture to the cause that has made it possible, but it cannot exhaust a thing's entire "Intension" – the intension or number of possible states/ Eigenstates which together define its identity.

No object can be assigned only one and exhaustive description, because, on the one hand, it appears to us under various phenomenal aspects, and, on the other, because it changes in time through interferences with new environments. The thing in itself unfolds in the world as a paradigm of states only partially revealed. This chapter in Kant is looking forward to Husserl (the ideation process of deriving apodictic knowledge through phenomenological variation, or the embodied form under which alone things can be known), and to Bergson (the concept of intuition – forms of pure intuition filled up with matter – and duration).

Leaving aside the passage from absolute to relativist philosophy, the most radical departure from tradition is again something Kant shared with Leibniz but which originated in his reading of Daniel Bernoulli's probabilistic assessment of the object of cognition (Kant 1746, 152): *die lebendige Kräfte* (living forces) should not be taken as *notwendige Eigenschaft* (necessary property) but as something hypothetical and accidental: *etwas Hypothetisches und Zufälliges*. As reality does not conform to our concepts, what is true in mathematics being often invalidated in the empirical world, the mind can only work with disjunctive paradigms. Kant was ahead of J. S. Mill and Alfred Binet in his critique of classical logic and plead for ratiocination through images (*Vorstellungen*). He allowed *Einbildungskraft* – not in its common acceptation as imagination, but as capacity for world building or probabilistic display of *Vermögen* – possible rather than realized states of things in the world – to inform man's rational powers (Reason and Understanding):

> But the figurative synthesis, when it has relation only to the originally synthetical unity of apperception, that is to the transcendental unity cogitated in the categories, must, to be distinguished from the purely intellectual conjunction, be entitled the transcendental synthesis of imagination. Imagination is the faculty of representing an object even without its presence in intuition. Now, as all our intuition is sensuous, imagination, by reason of the subjective condition under which alone it can give a corresponding intuition to the conceptions of the understanding, belongs to sensibility. But in so far as the synthesis of the imagination is an act of spontaneity, which is determinative, and not, like sense, merely determinable, and which is consequently able to determine sense a priori, according to its form, conformably to the unity of apperception, in so far is the imagination a faculty of determining sensibility a priori, and its synthesis of intuitions according to the categories must be the transcendental synthesis of the imagination. It is an operation of the understanding on sensibility, and the first application of the understanding

> to objects of possible intuition, and at the same time the basis for the exercise of the other functions of that faculty. (Kant [1787] 2003)

"Transgressing the modern", the title picked up by John Jervis for his book (Jervis 1999) on the original phenomenon of late modernity (modernism and postmodernism) only covers the latter half of the nineteenth century. We are taking a backward look to the later eighteenth in order to dig up the epistemological roots of much modernist and postmodernist aesthetics.

The figure looming behind narratives spanning the earlier twentieth century might be called "Cousin Immanuel" by their originators, as the Kantian legacy can only be identified at two removes, being mediated by Bergson's intuitionism, Husserl's phenomenology, Dessoir's psychological aesthetics, Vaihinger's *Als ob* fictionalism, Popper's logical positivism, semiotic poetics or the New Physics' complexity and wave function. Even the existentialists' aesthetic self, breaking free from the shackles of outward authority in order to shape the personality according to personal will and values, had been prefigured by "der schöne Mann" of Kant's *Power of Judgement*.

Our revisionary readings are concomitantly trying to refute the indiscriminate treatment of human and non-human phenomena in history, working with epistemic operators such as Deleuzean territorializations or Kuhnian "revolutions". The models of disconnected geological strata discovered by Charles Lyell and extended by William Whewell (*History of the Inductive Sciences*, 1847) to include the diachronic study of humanities possess less explanatory potential than the genealogical archaeology of texts towards which Michel Foucault tended in his late works. In his *Prolegomena to Any Future Metaphysics,* Kant tempers his boast over the invention of an absolutely new science through a diplomatic admission that godlike originality is not within human reach: "Unfortunately, nothing can be said, which in their opinion has not been said before, and truly the same prophecy applies to all future time; for since the human reason has for many centuries speculated upon innumerable objects in various ways, it is hardly to be expected that we should not be able to discover analogies for every new idea among the old sayings of past ages" (Kant [1783] 2004). The key texts we have selected for our plea for Kantian epistemic paternity display, however, considerably more traces of his genius than what is designated by the word "analogy".

Kantian revolutions are actually more numerous than the one mentioned by Coleridge in his 1810 *Notebook*: from *onta* to mind, from ontology to anthropology. The shift from the logic of identity to the logic of the associations of perceptions in the mind (the "synthesis of the

manifold") opened a line of influence which began with Alfred Binet's (1886) syllogistic reasoning through imagistic association and ended with the rise of "the fourth post-formal paradigm" of polyvalent logic (Commons, Richards & Armon 1984). Semiotic interconnections subsumed under concepts then linked Hume's empiricist psychology and Leibniz's existentialist logic. It opened a long vista to physiological psychology (Herbart's anthropology, Wundt's psycho-physical parallelism and William James's pragmatism) underpinning the modernist fiction of inner–outer polarity (physical versus psychological, perceptual versus experiential judgement, subjective perceptualism versus communality of experience in the authority structures of intersubjective narratives). Moreover, Kantian criticism removed philosophy from the firm ground of ontology replacing it in the open field of probabilistic speculation, opening the door to free, imaginary world building. The common epistemological ground we can identify in Coleridge's poetics of the imagination and in the symbolist synaesthetic poetics that can be traced back to Kant, as well as the progress from perceptual subjectivism to discursive cognition (in novels as far distanced in time as James Hogg's *The Private Memoirs and Confessions of a Justified Sinner* and André Gide's *The Counterfeiters*) invites a revision of modernity's canon along genealogical lines.

The turn to epistemology identified by Julian Wolfreys among the schools of critical theory emerging in our century (2002, 4) is the natural outcome of decades of interdisciplinarity in literary studies, which immediately after the war sought simulation models in extra-literary disciplines (philosophy, psychoanalysis, sociology, physics), despite declarative opposition to interpretation. The interpretation that has transgressed all disciplinary boundaries of late is symptomatic of a renewed desire for a unified culture: "Consider what it is to share a culture. It is to share schemata which are at one and the same time constitutive of and normative for intelligible action by myself and are also means for my interpretations of the actions of others' ability to understand what you are doing and my ability to act intelligibly" (MacIntyre 1977, 453–454).

The continuity or the parallelism we can identify between the history of ideas and the chronotopic mapping of fictional worlds is not just a prop of the legitimacy of interdisciplinarity but also a vantage point of explanatory rather than just descriptive criticism.

CHAPTER ONE

"EIN DING, WELCHES VON DEM KÖRPER DER NATUR GANZ UNTERSCHIEDEN IST":[1] THE HYPOTHETICAL/REAL DIFFERENTIAL

William James: The Return of the Prodigal

In retrospect, it seems strange that the philosopher who, in several respects, came closest to the early Immanuel Kant in the late nineteenth century should have dismissed his predecessor on a charge of idealism and monism. William James considered himself an adept of empiricist pluralism, rising from parts to wholes, in contradistinction to the Königsberg philosopher, who, as it seemed to him, had proceeded from wholes to parts. In the first of his Hibbert Lectures on *A Pluralistic Universe*, James derides monism as man's attempt to step over his shadow:

> With this radical discrepancy between the absolute and the relative points of view, it seems to me that almost as great a bar to intimacy between the divine and the human breaks out in pantheism as that which we found in monarchical theism, and hoped that pantheism might not show. We humans are incurably rooted in the temporal point of view. The eternal's ways are utterly unlike our ways. "Let us imitate the All," said the original prospectus of that admirable Chicago quarterly called the "Monist." As if we could, either in thought or conduct! We are invincibly parts, let us talk as we will, and must always apprehend the absolute as if it were a foreign being. (James [1909] 2004)

Having confessed as early as 1783 (Preface to *Prolegomena to Any Future Metaphysics*) his debt to David Hume for having corrected his dogmatic transcendentalism, making him see in the phenomenal world the source and the finality of all knowledge of the world, Immanuel Kant never abandoned the centrality of the mind all through the process of cognition. On the other hand, William James too sinned more than once in

[1] "A thing that is completely different from the bodies of Nature" (Kant 1746).

his penchant for the "all-form" rather than the "each-form" of representing the world, that is, a holistic picture either of selfhood or of experience in the temporal world.

He was, however, quite right in his observation that after 1860 his "generation seemed to feel as if it had fed on the chopped straw of psychology and of associationism long enough" (ibid.). The effects of physiological psychology, as promoted by Wilhelm Wundt in Leipzig, by Alexander Bain in England, or by Alfred Binet in France, still lasted for a while in literature, the impressionistic portraits in end-of-the-century fiction (Dujardin, Pater) recording faithfully the way the mind was impressed by chance sensations and their associations. These atomistic pictures of the minds of characters, each secluded in its "dream of the world", were random assemblages of characters that yielded no meaningful social field of human interrelationships. The change came with the refinements on the Kantian concept of the synthesis of apperception contributed by Bergson, whose *Essai sur les données immédiates de la conscience* (1888) builds on the double-layered self, attuned either to surface sensations experienced in the present of the characters, or to patterns distilled from the sensuous manifold in memory, by the late Wundt (1896), who evolved his own concept of *Apperzeption*, or by Husserl (1901), whose phenomenology progresses through variation and ideatic reduction towards intelligible invariants (noemata) of experience. The doubling of the narrative voice (interior monologues of characters' minds focalized through a third person narrative voice, or Proust's time of action versus time of narration) are rhetorical effects of this change in psychology.

Under his brother's influence, Henry James constructed in his late fiction characters that partake of a sort of quantum interaction field, being defined as effects of the others' gaze or through socialization with unpredictable outcomes, and living multiple lives according to the multiplicity of selves that are actually realized at some time or other along the trajectories of their lives.

In *The Principles of Psychology*, William James describes human personality, not only in flux, reduced to a consciousness of the flow of sensations or "stream of thought", as in Pater's impressionist portraits, but also as multi-layered. Selfhood is multiple, both on account of the individual being perceived in different ways by social others, and because different personalities will emerge in time as realized states of a potential manifold. On the one hand, the empirical subject's body expands to include the persons and objects that guarantee his identity for society. On

the other, one is insecure about one's own body which feels like a supplement to genuine selfhood:

> The Empirical Self of each of us is all that he is tempted to call by the name of *me*. But it is clear that between what a man calls *me* and what he simply calls *mine* the line is difficult to draw. We feel and act about certain things that are ours very much as we feel and act about ourselves. Our fame, our children, the work of our hands, may be as dear to us as our bodies are, and arouse the same feelings and the same acts of reprisal if attacked. And our bodies themselves, are they simply ours, or are they *us*? Certainly men have been ready to disown their very bodies and to regard them as mere vestures, or even as prisons of clay from which they should some day be glad to escape. (W. James [1890] 1950, 183)

William James may be said to have reversed Immanuel Kant's progress from an acknowledgement of observables as the only source of cognition (*LF*) towards the transcendentalist stance of the *Anthropology*, where pragmatism is dissociated from the psycho-physiological "egoists" who judge everything according to their limited point of view, hence the necessity for the mind to reach the level of universal understanding or universally validated values. This late James imagines selfhood as a malleable substance which depends for its final shape on contexts of interaction:

> My thesis is that if we start with the supposition that there is only one primal stuff or material in the world, a stuff of which everything is composed, and if we call that stuff 'pure experience,' the knowing can easily be explained as a particular sort of relation towards one another into which portions of pure experience may enter. (W. James [1904] 2008, 2)

Not only is James's picture confined to an individual mind's stream, but it encompasses even more than the biblical God's eye, that is, a multiverse or a sort of vector space, with an unlimited number of realized states:

> Imagine that I first walk through Divinity Avenue, and then imagine that the powers governing the universe annihilate ten minutes of time with all that it contained, and set me back at the door of this hall just as I was before the choice was made. Imagine then that, everything else being the same, I now make a different choice and traverse Oxford Street. You, as passive spectators, look on and see the two alternative universes, – one of them with me walking through Divinity Avenue in it, the other with the same me walking through Oxford Street. Now, if you are determinists you believe one of these universes to have been from eternity impossible: you

> believe it to have been impossible because of the intrinsic irrationality or accidentality somewhere involved in it. But looking outwardly at these universes, can you say which is the impossible and accidental one, and which the rational and necessary one? I doubt if the most ironclad determinist among you could have the slightest glimmer of light on this point. In other words, either universe after the fact and once there would, to our means of observation and understanding, appear just as rational as the other. (W. James [1884] 1948, 44–45)

Could Jorge Luis Borges have derived the model of his "Garden of Forking Paths" from this Jamesian picture of chance as complete freedom of choice after decades of positivist necessitarianism?

James goes beyond the binaries of the logic of identity, proposing non-determined states with virtually alternative forking, as in the mental experiment known as "Schrödinger's cat":

> What is meant by saying that my choice of which way to walk home after the lecture is ambiguous and matter of chance as far as the present moment is concerned? It means that both Divinity Avenue and Oxford Street are called but only one, and that one *either* one, shall be chosen. (ibid., 44)

Contrary to what Harvard-based Bob Doyle contends on his site (http://www.informationphilosopher.com/about/), that "James was the first thinker to enunciate clearly a two-stage decision process, with *chance* in a *present* time of random alternatives, leading to a *choice* which grants consent to one possibility and transforms an equivocal ambiguous *future* into an unalterable and simple *past*", Immanuel Kant had evolved well in advance a formalism that may now be used to describe quantum notions of wave function or even of quantum fields.

Although Kant's philosophy was styled by Coleridge as nothing less than a "Copernican revolution", it was only after the emergence of quantum physics that the novelty of his ideas started to be properly appreciated and defined by analogy with vocabularies invented by the new science. Kant's contemporaries were simply intrigued by some of his concepts which they were trying to interpret against a traditional discursive field.

In his Letter of October 13, 1770, Johann Heinrich Lambert does not know what to make of Kant's affirmation, in No 27 of *Concerning the Sensible World and the Intelligible World,* that "whatever exists, exists in some place and at some time". He blames Kant for circular thinking (*for things exist in time*), as well as for an erroneous way of wording it, as "whatever has *absolute* duration is not in time [*in tempore*] and the intelligible world is only "located in" the aforementioned counterpart

[*Simulacrum*] of space or in the "place" of intelligible space" (Kant 1999, 117–118). Lambert is here suggesting an existential model with three layers, as the twentieth-century philosopher Karl Popper would display in his *Objective Knowledge* (1972): physics, subjectivity (Lambert's example is pure understanding of what is not empirical, phenomenal), and a mix of both, which is reified subjectivity: "symbolic knowledge". Lambert's example is $\sqrt{-1}$, an imaginary number, corresponding to no empirical reality, used in finding theorems (as well as in converting complex numbers back to real numbers).

Another thinker dissatisfied with Kant's early projects was Moses Mendelssohn, who in his letter of 25 December 1770 shows himself intrigued by precisely the same issue as Lambert:

> On page 23s I don't think the condition "at the same time," *eodem tempore,* is so necessary in the Law of Contradiction. In so far as something is the same subject, it is not possible to predicate A and non-A of it at different times. The concept of impossibility demands no more than that the *same subject* cannot have *two predicates, A and non-A.* Alternatively, one could say: it is impossible that non-A be a predicate of the subject A. (Kant 1999, 124)

Both critics were missing the point. They were talking about classical physics and formal logic. Abelard's distinction between logico-semantic and real contradiction left the respective ontological levels unaffected. Leibniz's distinction between formal non-contradiction (A=A; A ≠ non-A) and existential logic of identity (where A may also be B in certain aspects of B) had asserted as much as young Kant. The reason Kant shocked Lambert and Mendelssohn was his speaking about a new universe, with completely different laws, such as *Streiff der Wirklichkeiten*, which even today is wrongly taken to mean a war of faculties – the title of a later work by Immanuel Kant.

What Kant describes in this passage, which was going to be published in the first edition of *The Critique of Pure Reason* (1781), is similar to a superposition of opposite states, that state of coherence characterizing a quantum wave function before its de-coherence or collapse to one of its possible states. He speaks about the *Vielheit und numerische Verschiedenheit* (plurality and numerical difference) of the states of a thing as conceived by pure reason on account of the observer's acquaintance with their collapse in the empirical world of a certain space and time. It is only experience, not some inner necessity, that induces us to think of the occurrence of an event as being more likely than the other (for

instance, the sky is cloudy, it is more probable that it will rain than that the sun will come out).

If Kant was not James's source, who might it have been?

Made public in 1884, James's picture of a hypothetical action branching into equally possible alternatives could have been inspired by intensive work on probability theory, a historical overview having been published some two decades before by Isaac Todhunter: *History of the Mathematical Theory of Probability from the Time of Pascal to that of Lagrange* (1865). William James was probably well acquainted with Charles Darwin, whom he often quotes, and with his cousin, Francis Galton, who had presented before the Royal Society Rev. Watson's mathematical calculus of increase in population concomitantly with the decrease in the surnames of aristocratic families, fuelling the time's concern with social decay through the growth of population descending from the proletariat in comparison to the blue blood group, a diagrammatic representation being attached to what they called "branching of probability" (distinct curves defining the comparative growth of the two categories involved in the logic calculus). The probability that cannot be linked to necessitarian determinism deducible through pure reasoning goes under Principle VI of Boole's "General Method in Probabilities" ([1854] 2005, Chapter XVII). As well as Kant, Boole sees in this particular case the possibility for a generalized formalism:

> VI. The events whose probabilities are given are to be regarded as independent of any connexion but such as is either expressed, or necessarily implied, in the data; and the mode in which our knowledge of that connexion is to be employed is independent of the nature of the source from which such knowledge has been derived. The practical importance of the above principle consists in the circumstance, that whatever may be the nature of the events whose probabilities are given, – whatever the nature of the event whose probability is sought, we are always able, by an application of the Calculus of Logic, to determine the expression of the latter event as a definite combination of the former events, and definitely to assign the whole of the implied relations connecting the former events with each other. (Boole [1854] 2005, 196)
>
> [...]
>
> Consider [...] any disjunctive combination of the above constituents. The compound event, expressed in ordinary language as the occurrence of "either the event x without the event y, or the event y without the event x" is symbolically expressed in the form $x(1 - y) + y(1 - x)$, and its probability, determined by Principles iv. and v., is $p(1 - q) + q(1 - p)$. The latter of these expressions is the same function of p and q as the former is of x and y. And it is obvious that this is also a particular illustration of a general rule. (ibid., 198)

Although Boole associates probability theory, whose foundation stone had been laid by Pascal two centuries back, with the laws of thought and the axioms of philosophy, he also relates it to an awareness of limited access to knowledge, which Kantianism had engendered in nineteenth-century epistemology: "Probability is expectation founded upon partial knowledge" (ibid., 188).

With Kant, the observer realizes the changes in a thing according to position in space and succession of representations. Epistemology makes room for phenomenology. It is not knowledge, of universal and timeless validity, but reflection that serves as source of cognition understood as possibility (*Erkenntnisvermögen*) and directed either towards understanding (yielding concepts, *Begriffe*), or towards representations (*Vorstellungen*) of sense (*Sinne*) perceptions. A concept will serve to unify several representations through a process of transcendental reflection, but, within the empirical sphere, there are no such things as perfect copies, or what Leibniz had designated as "indiscernibles of identity" (*Principium identitatis indiscernibilium*). Two triangles, for instance, may overlap exactly in point of properties that constitute each of them, "for itself alone and completed". In actual space, however, two spherical triangles on opposite hemispheres, which have an arc of the equator as their common base, are not interchangeable (*Prolegomena* 122):

> [...] two spherical triangles on opposite hemispheres, which have an arc of the equator as their common base, may be quite equal, both as regards sides and angles, so that nothing is to be found in either, if it be described for itself alone and completed, that would not equally be applicable to both; and yet the one cannot be put in the place of the other (being situated upon the opposite hemisphere). Here then is an internal difference between the two triangles, which difference our understanding cannot describe as internal, and which only manifests itself by external relations in space. (Kant [1783] 2004: 3, §§13, 37)

Repetition is for Kant departure from origin, as it would be for Jacques Derrida (*De la Grammatologie*) two centuries later, which creates a difference. Being two instead of one already introduces a difference that does away with the concept of (self-)identity:

> When an object is presented to us several times, but always with the same internal determinations (qualitas et quantitas), it, if an object of pure understanding, is always the same, not several things, but only one thing (numerica identitas); but if a phenomenon, we do not concern ourselves with comparing the conception of the thing with the conception of some other, but, although they may be in this respect perfectly the same, the

> difference of place at the same time is a sufficient ground for asserting the numerical difference of these objects (of sense). Thus, in the case of two drops of water, we may make complete abstraction of all internal difference (quality and quantity), and, the fact that they are intuited at the same time in different places, is sufficient to justify us in holding them to be numerically different (Kant [1781] 1922).

Positivism, Kantianism, and the Realist/Aesthetic Rhetoric in the Later Nineteenth Century

The typology of realist fiction, working within the representational frame inspired by positivist philosophy, subsumes individual destinies under types embodied in the world, displaying homogeneous social behaviours induced by communality of social life, environmental necessitarianism or family history determinism. Integral calculus will take care of types, differential calculus, of individuals as members of a class. (See Comte 1853; Lewes [1853] 1887.) Positivism, in Lewes's reading of Comte, finds it futile to inquire into the **causes** and **essences** of phenomena, restricting itself to "the observation and classification of phenomena, and the discovery of invariable *relations* of succession and similitude which things bear to each other, in a word, to discover the *laws* of phenomena" (Lewes [1853] 1887, 11).

From individual to type, the **omniscient narrator's** problem is that of finding an Integral. Tess is one of thousands of her class, forced to sell their labour in default of a property of their own, to flee their homes and get hired on capitalist farms. "Birds of passage" is Thomas Hardy's integral (sum of slices) for these deracinated and depersonalized, dehistoricized human beings. Being propertied, being classed, being well-descended may be seen as "constants of integration" with individual cases as derivatives (Fig. 1).

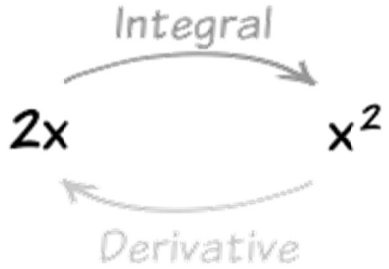

Fig. 1: Integral and Derivative

Refining the church-going Christian integral in Victorian England, George Eliot deploys a cast of derivatives in *Middlemarch* to cover the Low Church and the Anglican, the practically-minded Evangelical and the conservative Catholic. The mind's will to power (in the Nietzschean sense of getting control over the object of cognition) "Newtonizes" the social scene, ambitious to find out its invariants, its universal laws and determinism, its machinery and dynamics.

By contrast, Immanuel Kant's early focus on the living forces in each entity, on its own potential for evolution and manifestation – rather than on the external kinetic forces acting upon it – points to the centrality of the individual in Romantic discourse, as well as to the Baudelairean and generally post-Romantic return to the nonconformist, self-willed individual, even if his rebellion against society or the mob ends up in failure – this time on account of one's own flaws, such as heredity, libidinal impulses, or irrational drives. Probability is the sphere of play versus the iron determinism of necessitarian philosophies and utilitarian calculus.

Furthermore, Kant finds no noetic invariants among the empirical display of entities: there is no law of nature, analytic rules applying only to concepts. The plurality that does not trigger a war among opposite "realities" – realized or collapsed states, as they are called in particle physics – is only possible as *realitas noumenon*, i.e. the manifold of a thing's potential states represented through understanding. The writer who aspires to a microcosmic picture of being will have to produce narrative structures using a sort of calculus of probabilities. In order to represent humanity, characters will be constructed as multiple, as complementary realizations of mutually exclusive variables, as a polity of denizens who complement one another in chronodiegesis.

In noumenal entities, such as myths, texts, or enfolding-unfolding diagrams, opposites can coexist, because wherever one reality is united with another in the same subject, one annihilates the effect of the other: $3 - 3 = 0$. But, as Kant adds in the following passage of *The Appendix* (*On the amphiboly of concepts of reflection*) in the first edition of *The Critique of Pure Reason*, "reality is opposed to mere negation = 0". In the world of phenomena, the war of realities (*Streiff der Wirklichkeiten*) has winners and losers: states no longer peacefully coexist, some of them having to be annihilated for others to be realized:

> When reality is represented by the pure understanding (realitas noumenon), opposition between realities is incogitable – such a relation, that is, that when these realities are connected in one subject, they annihilate the effects of each other and may be represented in the formula $3 - 3 = 0$. On

> the other hand, the real in a phenomenon (realitas phaenomenon) may very well be in mutual opposition, and, when united in the same subject, the one may completely or in part annihilate the effect or consequence of the other; as in the case of two moving forces in the same straight line drawing or impelling a point in opposite directions, or in the case of a pleasure counterbalancing a certain amount of pain. (Kant [1787] 2003)

Kant's prophecy of New Physics includes the concept of non-linearity. The degrees of change from a state A to a state B (for which state A is zero, i.e. B is *not* derived from A, it is not determined, as in linearity, by the initial conditions) share both in A and B, in different proportions, so that the difference between A and B (0 and B) is greater than the sum total of partial differences. The process is characterized as the "growth", or emergence (a kind of self-organization) of a reality deemed to be indefinitely divisible into smaller units, with no ultimate level of particles.

> How a thing can be changed, how it is possible that upon one state existing in one point of time, an opposite state should follow in another point of time – of this we have not the smallest conception a priori. There is requisite for this the knowledge of real powers, which can only be given empirically; for example, knowledge of moving forces, or, in other words, of certain successive phenomena (as movements) which indicate the presence of such forces. But the form of every change, the condition under which alone it can take place as the coming into existence of another state (be the content of the change, that is, the state which is changed, what it may), and consequently the succession of the states themselves can very well be considered a priori, in relation to the law of causality and the conditions of time [...]. Both moments, then, are limitations of the time of a change, consequently of the intermediate state between both, and as such they belong to the total of the change [...]. There is no smallest degree of reality in a phenomenon, just as there is no smallest degree in the quantity of time; and so the new state of reality grows up out of the former state, through all the infinite degrees thereof, the differences of which one from another, taken all together, are less than the difference between o and a. (Kant [1787] 2003)

According to John Jervis's description, the Gothic body is unbounded, exposed to the flux of otherness and hybridity, inhabiting a similarly unstable, metamorphic space (Jervis 1999, 5–7). Robert Louis Stevenson (1886) handles such textual bodies of gradual changes whose final effect is the sliding of the original under a mutant. Hyde and Jekyll haunt different chronodiegetic spaces up to the final scene, which is textual, a letter. Only in this transcendental order of signs may the two of them coexist, the ambiguity of reference and personal pronouns making it impossible for the

reader to decide whether it is Jekyll or Hyde who has annihilated his double and is now writing the confession. In the actual space of the empty room, Utterson comes upon the mirror, one of Michel Foucault's *heterotopoi*, suspected of having witnessed "strange things", such as the co-presence of the two disjunctive identities that cannot be simultaneously present in the three-dimensional, physical, space. The agreement in the plural will convey more meaning than just that of the servant being illiterate: "'This glass have seen some strange things, sir,' whispered Poole" (Stevenson 1886, 60).

In Oscar Wilde's *The Picture of Dorian Gray* (1890), both bodies, the painted one and the biological, which bears every trace of ageing and decay, may be simultaneously present, because they belong to different ontological orders (nature, artefact) and different time schemes (of successive changes marking off the passage of time in reality, or of the artefact which does not exist in time).

Immanuel Kant was as faithfully emulated by post-Romantics and modernists as Comte by realists. He never separated the aesthetic judgement from the rest of his speculative corpus, the subject being treated in connection with *Einbildung*, which, along with *Vorstellung*, are the hinges upon which his whole philosophy of the mind is turning. Although life and art are held in polarity, Kant discusses art's genealogy and constitution by analogy with what he has always regarded as the source and the end (purpose) of experience: the phenomenal world.

Unlike nature's spontaneous beauty, a work of art is an intentional object. The picture cannot change, as Dorian would like it to, because it is already complete, a purpose that has been achieved, a "form which is purposive for observation and for estimating" (Kant [1790] 1911, §52). That does not mean aware of formal conventions, as the artist's free play of the imagination can even produce a "combination of the fine arts in one and the same product". An art object is ontologically distinct, both from empty concepts and from objects of the senses, yet Kant grants it a cognitive privilege denied to things in the world:

> The judgment of taste does depend upon a concept (of a general ground of the subjective purposiveness of nature for the power of judgment), but one from which nothing can be cognized in respect of the object, and nothing proved, because it is in itself indeterminable and useless for knowledge. Yet, by means of this very concept, it acquires at the same time validity for every one (but with each individual, no doubt, as a singular judgment immediately accompanying his intuition): because its determining ground lies, perhaps, in the concept of what may be regarded as the supersensible substrate of humanity. (Kant [1790] 1911, §57)

Unlike empirical objects, which are successive realizations of potencies (possible states) of the thing in itself, determined (of which predicates can be asserted), the art object remains an indeterminate structure, in which contrary states – "*contraries (not as simple contradictories)*" (emphasis mine) – can coexist (§57), as they do in the hypothesized "supersensible substrate" or enfolded thing in itself, whose phenomenal concretization necessitates Boolean resolution of disjunctive cases, or Kantian disjunctive syllogisms. "The play of imagination in its freedom" (§58) refers to an art object's immunity to the constraints of the logic of identity. The fact that Kant associates intelligibility, completeness, with the coherent "substratum" of all predicates, which implies contradictions, opposites, a pluralism, not of number, but of qualities, similarly to the quantum wave function, cannot be sufficiently emphasized.

Unlike objects of the senses, the passage from possibility to actuality – "*a posse ad esse*" (§41) – of the idea of an art work, which will be coupled with an intuition, will reduce it neither to a concept, nor to an incoherent Eigenstate from which all opposites have been removed. Dorian's picture is the wave function Ψ [psi] of innocent young Dorian and depraved old Dorian. Living Dorian can only be either one or the other. If disjunction is to be applied, Dorian, the Prince of Life, will be the "opt out" of the entangled state.

It is in *The Critique of Pure Reason*, Section II: *Of the Transcendental Ideal* (*Prototypon Transcendentale*) that Kant defines the thing in itself (its numinous stance) as coherence of enfolded states, as "sum total of all possible predicates" (all potentially observable states of a system):

> It is self-evident that reason, in cogitating the necessary complete determination of things, does not presuppose the existence of a being corresponding to its ideal, but merely the idea of the ideal – for the purpose of deducing from the unconditional totality of complete determination, The ideal is therefore the prototype of all things, which, as defective copies (ectypa), receive from it the material of their possibility, and approximate to it more or less, though it is impossible that they can ever attain to its perfection. (Kant [1787] 2003)

The Prototypon stands in the same relation to wave function as the Ectypa to its realized states. Cognition never comes to know all the possible states of a system – because the ideal is a set of dynamic relationships with unpredictable outcomes of interferences as long as everything is part of a holistic system, the "sum total of all possibility":

> The logical determination of a conception is based upon a disjunctive syllogism, the major of which contains the logical division of the extent of a general conception, the minor limits this extent to a certain part, while the conclusion determines the conception by this part. The general conception of a reality cannot be divided a priori, because, without the aid of experience, we cannot know any determinate kinds of reality, standing under the former as the genus. The transcendental principle of the complete determination of all things is therefore merely the representation of the sum-total of all reality; it is not a conception which is the genus of all predicates under itself, but one which comprehends them all within itself. (Kant [1787] 2003)

A thing is generated through the limitation of the All, which appears as its counterpart in the mirror. The *aut […] aut* disjunctive syllogism (for instance: either the sun moves round the earth or the earth moves round the sun) is not a forking which splits a world into parallel ones but rather a sort of Derridean *trace*: the alternatives remain in relation like two complementary states (similarly to the principle of complementarity: light is both corpuscle and wave, but not at the same time). The thing phenomenalized through limitation of the All has it as negated counterpart, while the negation of the All is Non-Being. We may compare the process to the generation of mass through "God's particle" (a Bozon) as other particles cross its field, and, concomitantly, of antimatter. Non-Being could be analogous to dark matter. Immanuel Kant does not place the sensuous and the noumenal in different ontological orders. The two appear to be entangled, *Verwechslung* (exchange, confusion) reinforcing the ambiguity of "Amphiboly" in the subtitle of the *Appendix*: *Of the Equivocal Nature or Amphiboly of the Conceptions of Reflection from the Confusion of the Transcendental with the Empirical Use of the Understanding.* It suggests mix-up, confusion, mistaken identity. There is no transcendental operator, but a sort of entanglement with disjunctive interpretations: phenomenal/conceptual.

Unlike Schelling's notion of the individuation process (only between different things can there be a relationship of determinism), Kant's determinism is placed within things, phenomena being a partial realization of an inner intelligible structure, which, however, unless manifested in the phenomenal world, cannot be accessed by the understanding. For Kant, the thing is the unfolding in time of inner possibilities. In itself, the thing is an enfolding/entanglement of virtual states (what quantum physicists would call the wave function). In Schelling, a thing is a unity through the *Wechselwirkung* (interaction) of parts. It is not just that Kant refrains from diving into hypotheses about what cannot be directly observed, which would justify an impeachment for agnosticism, but he is launching here a

completely new theory: the intelligible substratum of the universe is characterized by **non-locality**. It is not Nature that is organized, but Nature filtered through our a priori ordering frames of time and space. What we do not perceive may be of the same order or may be something different. Our knowledge of the world does not allow us to infer from the known (perceived phenomena) to the unknown (suprasensory). The same could be said of the passage from the unobservable quantum world to macrophysics in the early twentieth century.

"Art has a soul, man has none" is what Dorian will finally have to accept, losing all illusions about his own. In an aesthetic sense, "Soul (*Geist*) signifies the animating principle in the mind" writes Kant in §49 of *CJ.* What an aesthetic idea sets in motion is the mental powers of infinite associations, the phrase "a play which is self-maintaining" suggesting a system with no correspondence in reality, which knows of no *perpetuum mobile*. This play is similar to the calculus of the wave function, with the difference that the mind can only go through possibilities, without being able to arrest the play or to reduce the manifold to some state or other (as Dorian wishes on stabbing the canvas):

> The cognitive powers brought into play by this representation are here engaged in a free play, since no definite concept restricts them to a particular rule of cognition. Hence the mental state in this representation must be one of a feeling of the free play of the powers of representation in a given representation for a cognition in general. Now a representation, whereby an object is given, involves, in order that it may become a source of cognition at all, imagination for bringing together the manifold of intuition, and understanding for the unity of the concept uniting the representations. (Kant [1790] 1911, §9)

The only processes of interferences with unpredictable results go on in quantum systems. The "freedom from the law of association" (not having to limit connections to those made available by experience) means that the material borrowed from nature can be "worked up by us into something else – namely, what surpasses nature" (Kant [1790] 1911, §49).

Even when he looked up to the stars, Kant did not see systems but obscure movements quickening chaotic matters into cosmic order. When he looked into the heart of things, he saw metamorphic processes of irregular, free formations yielding beautiful forms like today's computer-generated fractals. The processes he describes are analogous to Lorenz's attractors, Deleuze's territorializations of the flux of matter and energy, or Philip Anderson's localizations: