WHERE IS MORIN’S ROAD TO COMPLEXITY GOING?

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Edgar Morin took an early lead within the French intellectual community, but also in comparison with parallel reflections in the English-speaking world, as far as critical discussion of the epistemology of the new sciences of complexity is concerned. His “complex thought” raises many intriguing questions and offers a dazzling synthesis of a wide range of fields, from physics to biology to psychology and the social sciences. However, Morin’s road to complexity bypasses some crucial issues in philosophy and political economy. Therefore, although Morin’s insights remain invaluable, one has reasons to be a little skeptical about the exact nature of the reform of thought he has sketched out.

KEYWORDS: Complexity, Edgar Morin, epistemology, ontology, planetary politics, spontaneous order.

INTRODUCTION

Edgar Morin is a trail-blazer. Saying so, however, implies that intellectual work is a linear process of discovery about some sort of pre-existing world “out there.” Morin, a nonlinear thinker par excellence, challenges us to think in quite different terms. Nevertheless, I intend to use the metaphor of the progression along a path because Morin’s work, like all intellectual creations, does begin and end at certain crossroads, as it were. These loci are of particular interest to critics and they need to be carefully examined.

The question that must be asked is: Where is Morin taking us, that is, his readers or those who might have been exposed to his ideas indirectly? And for what reasons would some of them wish to follow him all the way, whereas others might prefer to get off the trail at some critical juncture? I intend to argue that the trail must be explored but that at some point it precludes perspectives that are equally intriguing. Besides, to continue with this imperfect metaphor, it looks very inviting at the beginning but does not go quite as far as one would have hoped. To put it in Morinian terms, complex thought may be too complex for any one to grapple with. If that is true, should we heed his insistent call for a reform of thought along the lines that he traces? As the signs of increasingly threatening
complexity seem to multiply around us, from climate change to economic and cultural globalization, the answer might seem obvious. Yet I urge some degree of caution. Complexity defies simplistic solutions but is Morin’s “complex thought” up to the task?

The problem, as I see it, is that it is practically impossible to speak about anything, including complexity and nonlinear dynamics, in a perfectly nonlinear manner! Morin has attempted to very valiantly do so. This, in itself, is one of the most endearing aspects of his work but the extent of his success is a matter of contention. In the next section, I offer a brief sketch of the development of Morin’s thought and, in particular, of the way in which he came to articulate an original and very ambitious program of research on complexity in all its dimensions. Then I take a more critical look at it, singling out what I regard as its most original aspects—and there are many such insights—but also underlining a perhaps unavoidable but still regrettable degree of vagueness about its ontological and epistemological orientations. Finally, I discuss some of the more questionable applications of the paradigm of complexity, before concluding on a more optimistic note.

AN EARLY START

Morin was expelled from the French Communist Party in 1951. Soon thereafter, in the pages of the journal Arguments, he began to challenge the Left by addressing issues that went to the heart of Marxist philosophy. In essence, Morin was saying that the emperor was naked decades before the progressive intelligentsia in France came to the same conclusion. He went even further than that by choosing to confront an anthropological and philosophical problem that Marxism has always tried to side step: human anguish before death (Morin, 1977a).2

In the 1950s and 1960s, Morin also contributed with much flair to a kind of qualitative, experiential sociology that pays far more attention to the way in which people construct ideas, identities, and myths than to the “objective” conditions of their production (Morin, 1967, 1969). (“Objective” here refers both to the empiricist study of social phenomena in the manner of Anglo-American sociology and to the Marxist belief that class conflicts constitute the foundational reality from which belief systems are derived; Morin rejects both approaches—and for a French sociologist at that time to pay so little attention to the conceptual apparatus of Marxist analysis was rather unique.) Like Marshall McLuhan, Morin had also brought the modern media—in his case, the cinema especially—to the direct attention of social theorists. He saw in the cinema more than the expression of a somewhat marginal “pop culture”; he invited his readers to regard it as the expression of a rich modern mythology (Morin, 1957, 1975).

Thus Morin in the early 1970s had already positioned himself ahead of his contemporaries on a number of fronts. But his thinking was to take a decisive turn with the publication of Le paradigme perdu: la nature humaine, and it was at this juncture that my own intellectual path (I was merely a graduate student) crossed his. As Morin himself recounted in his Journal de Californie (Morin, 1970), his new departure came as a result of a chain of events that included his discovery of a whole range of scientific and philosophical ideas that tackled intriguing problems
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at the margin of physics, biology, and sociology from a non-reductionist standpoint. He realized then that his own intuitions could be strengthened and made more coherent by undertaking a detour through the natural sciences and biology in particular. But the life sciences also led him to other fields, like systems theory or cybernetics, that existed at the periphery of the scientific establishment; Morin immediately recognized their significance. Thus personally or through their writings he came in contact with authors such as Heinz von Foerster, whom Morin credits as having opened the door for him into the domain of recursiveness and self-organization, as well as having confirmed his intuitions about the impossibility of separating the observer from his or her observation; Magoroh Maruyama whose distinction between two kinds of cybernetic theory helped Morin to realize that positive feedback does not always take the form of a run-away destructive process but can lead to the creation of new structures; Erich Jantsch whose notion of “self-transcendence” influenced Morin’s definition of the subject; Karl Pribram to whom Morin is indebted for having articulated the hologrammatic theory of memory; and, of course, Ilya Prigogine whose theory of dissipative structures revealed how organization emerges spontaneously under certain circumstances.3

Le paradigme perdu is an anthropological tour de force. In this short text, Morin shows how new ideas in physics and cybernetics about the paradoxical relationship between order and disorder cast a revealing light on the creative tensions inherent in biological and social evolution. For example, he suggests that the disorder caused by the invention of (some embryonic form of) language contributed to the selection of a larger brain and not the other way around, as is commonly thought, even if, in a recursive interaction, it is difficult to isolate only one direction of causation (Morin, 1973, pp. 94–95; 1974, p. 740). Human nature is not a static constraint but a field of potentialities. It is shaped by, and has in turn shaped, cooperative and conflictual relationships that remain ambiguous, unstable and pregnant with opportunities for creative disorder.

Moving further away from the Marxist dogmas he had begun to repudiate two decades earlier, as I mentioned earlier, Morin used the vast anthropological materials he had gathered around that time to buttress his assertion that “the economy is a base of culture, and not the ‘other’ base upon which culture rests and develops” (Morin, 1974, p. 743).4 Not only is there no “base,” but there is no fixed telos either. The unfolding dynamics of order within disorder and disorder within order precludes the existence of any clear finality in social evolution.

Both Morin and Jürgen Habermas took an interest in social evolution in the 1970s (Habermas, 1979). Habermas’s foray into anthropology is more systematic and academic in style but yields less interesting results than Morin’s own exploration of the origins of culture. Habermas gained some valuable insights about the importance of contingency in social evolution. He concluded that contingent events bring about opportunities for learning new skills and fashioning norms that, over time, develop into more and more complex social structures and moral values. In other words, Habermas offers an interpretation of sociocultural change that underlines the interplay between a developmental logic and the contingent nature of historical events in clear contrast with more dogmatic versions of historical materialism. Disorder and uncertainty as well as structural determinacy must be
taken into account. Morin would not disagree, although he puts more emphasis on the former than Habermas, and provides a livelier picture of the richness of the past of *Homo sapiens sapiens* whom he typically prefers to call *Homo sapiens demens*. However, because Morin had broken loose from the shackles of Marxism by the time he wrote *Le paradigme perdu*, his observations appear in comparison to be less contrived and do, in fact, open more doors. The vision and the epistemological innovations first outlined in *Le paradigme perdu* were fleshed out a few years later in the first volume of the monumental and very successful work entitled *La Méthode*. (Success being defined here in terms of sales and media exposure.) But before I go on discussing the strengths and weaknesses of that work as a whole, it is necessary to examine briefly the sources from which Morin drew his inspiration. As I argue in more detail below, the same sources were available to Anglo-American researchers in the social science and in the philosophy of science because these sources consisted, for the most part, of materials written in English by North American and British scientists. And yet these ideas remained largely ignored by social theorists, philosophers of science, and the general public in the English-speaking world until about a decade later than Morin’s first attempt at popularizing them.

*La Méthode* combines all kinds of scientific, philosophical, and sociological sources into an “encyclopedic” loop running through the natural and human spheres of experience. (Morin’s readers will be familiar with the peculiar connotation he gives to that term: an articulation of separate and disjointed forms of knowledge into a unified organizing principle [Morin, 1977b, pp. 19–20]). It is not easy to state in a single phrase what the goals or precise subject matter of this remarkable intellectual achievement are. The title itself suggests that it constitutes an open-ended project: it is a study of how to think rather than a definitive statement on any particular subject. His encyclopedic perspective embraces the interdependence between science and myths, nature and societal systems, individuals and their culture. There is no real beginning and whatever end is reached will seen somewhat arbitrary—in fact, Morin writes in the opening page of the volume 4: “on second thought, it appears that the fourth volume of *La Méthode* could also be its first” (Morin, 1991a, p. 9). But in the fifth volume published in 2001, Morin announced that the very final volume will be devoted to ethics.

The first step in this cycle takes us back to the original chaos from which, according to Morin, there remain traces all around us (Morin, 1977b, pp. 57–59). It then extends through the physical universe, biological evolution (Morin, 1980), consciousness (Morin, 1986), and the world of ideas whose autonomous existence is defended in terms very similar to those used by Karl Popper (whom Morin cites approvingly [Morin, 1991a, p. 108]) and, finally, the human condition or, in Morin’s terms, “human identity” (see Morin, 2001). Along the way, Morin constructs a myriad of diagrams connecting concepts that are usually considered to be unrelated or antagonistic and re-locating these concepts within relations of mutual interaction. Thus we are presented with loops running through openness and closure; production and producer; order, organization, and disorder; command and communication; life and death; brain and mind; dependence and autonomy; individual and subject; subject as observer and the observed subject; I, me, and self;
abstract and concrete; knowledge and action; possibilities and limits; culture and knowledge; reason and unreason; and so on. And he coins a number of catchy neologisms that are themselves linked through similar loops (e.g., the pheno-geno-eco relationship). The most innovative of these neologisms is his concept of “computo” (Morin, 1986, pp. 43–47; 1990) by which he means to capture the uniqueness of living machines that, on the one hand, act like programmed machines, and thus “compute” like a computer, but, on the other hand, are capable of acting on the information they receive, of making quasi-decisions in cases where the program is ambiguous or incomplete. All this for no other purpose than to serve the needs of the computing, living machine itself, in contrast with artificial machines that compute only according to the program set by their designers. Thus “computo” extends the meaning of the Cartesian “cogito” far beyond human consciousness. In this way Morin accomplishes his twin goals of re-establishing the subject as the starting point for both the life sciences and the social sciences, and of providing a naturalistic definition of it. Would La Méthode have stopped there, it would already constitute a major achievement. As Myron Kofman explains:

The meaning of computo as a decision-taker requires the context of Autos [another Morinian neologism meaning an active self, as in self-organization and comparable terms] which gives life autonomy and so prohibits any determinist reductionism of life. This autonomy [has] deep roots since all beings in their re-organization have qualities comparable to Heidegger’s Being There (Dasein), rather than to the objects of Cartesian determinism. (Kofman, 1996, p. 72)

If one takes a few steps back from this whirlwind of ideas and occasionally cryptic pronouncements, two aspects or qualities of the work come in focus. The first is of an epistemological nature; the second has a more substantive character.

The most important contribution that Morin has made to contemporary epistemology is to have been one of the first authors to point out that complexity, as such, is a problem; a problem that is central to contemporary science but also to the whole human experience. Few authors before him, and certainly very few in the Anglo-American world, with the notable exception of F. A. Hayek, had addressed it in comparable terms. At least in the French-speaking world, complexity is now in some significant measure understood differently thanks to Morin’s work. The organizers of a major colloquium on self-organization stated that “If people in France, even the public at large, know the theories of self-organization it is indubitably to Edgar Morin that they owe it” (Dumouchel and Dupuy, 1983, p. 305). That is and will remain one of his greatest achievements. Indeed it might even be the case, given that his work has been translated rather extensively in several languages (not including English, however) that the Morinian notion of complexity has become a sort of cultural archetype in continental European culture. At any rate, Morin cleared the underbrush, so to speak, thereby allowing others to venture in the same direction even if these authors are sometimes reluctant to admit any intellectual debt to Morin.

Of course, it is trivial to comment on the complexities inherent in any given field, but to pose the problem of complexity itself is something for which, I think,
Morin can take credit. Typically, complexity is a complex idea for Morin, that is, it has more than one dimension. In an article on the subject, he identified eight avenues that lead to the “challenge of complexity”:

a. the irreducible character of randomness or disorder;
b. the extraordinary complicatedness of biological and social phenomena;
c. the complementary, and yet logically antagonistic, relationship between order, disorder, and organization;
d. the transgression by the contemporary natural sciences of the limits of universalistic abstraction that used to eliminate any kind of singularity;
e. most importantly, the deeper understanding of the notion of organization evidenced in a number of disciplines in terms of relationships that are both “hologrammatic” (i.e., each component of the organization itself contains the image of the whole) and recursive;
f. the realization that clear distinctions (e.g., between an object and its environment, or between an observed phenomenon and the observer) are no longer a criterion of sound reasoning and methodological appropriateness;
g. the reappearance of the observer in his or her own observation;
h. the acceptance of contradiction and the realization of the limits of conventional logic. (Morin, 1991b)

Besides complexity, what stands out most clearly in Morin’s recent epistemological writings is his insistence on the need to make room for autonomous subjects throughout the natural world. The goal here is to ground this notion in a naturalistic setting that makes it indispensable: there is no escape into a realm of pure objectivity from which computo, and thus autonomous organization, would be banned. “Computo [is] everywhere” proclaims Morin (Morin, 1980, p. 275). Typically, however, he adds that any computing being needs objective information about its surroundings, and all the more so because it is self-centered and interested in preserving its identity in a world that remains indifferent to it (p. 276)! Computo, however, does not exhaust the capabilities of the human mind. Indeed, true to what Kofman sees as the Hegelian underpinnings of Morin’s thought, the whole of the fourth volume of La Méthode is devoted to the life of ideas, culminating in a vision of humankind coming to a realization of its complex unity cemented by the notion of fraternity. In the fifth volume, however, Morin appears to be more pessimistic about the likelihood of sustained progress, and opines that human destiny remains a mystery.

With some exceptions, including the contributors to this issue, scholars in philosophy or the natural sciences have been rather circumspect about, if not hostile to, Morin’s bold excursions into their domains. However, in the educated public and among many social scientists he received an often enthusiastic reception. This could be explained by a conjunction of intellectual trends and cultural influences in France and in some other European countries (Italy, Spain, Portugal). The first has to do with a taste for the subject matter of Morin’s Méthode in the French public. Although Morin’s reformulation of complexity is uniquely his own, he was not the only author to write about a new paradigm at a high level of generality. The scientific community’s encounter with complexity and self-organizing processes
quickly became a matter of fashionable intellectual discussion in France. Biologists like Jacques Monod, François Jacob, and Henri Atlan had either preceded Morin or were addressing parallel themes more or less at the same time as he was (Monod, 1972; Jacob, 1974; Atlan, 1979, 1974). The French literate public showed an unexpected appetite for the books written by these leading scientists. Although less well known by the general public in France, sociologists like Yves Barel and others around him were investigating similar avenues (Barel, 1973, 1979). Barel went perhaps further than Morin in articulating the relationship between biological and social evolutionary processes. Although Barel’s overall paradigm is less daring and remains too close to Marxist analysis to qualify as a theoretical breakthrough, his analysis of the concrete implications of concepts like the dialectic of invariance and change, self-regulation, reproduction, living systems, and so on, is more detailed than what can be found in Morin’s Méthode.

In the same vein, one can also mention the very thorough and erudite treatment of political self-organization offered by Jean-Louis Vullierme in his Le concept de système politique (Vullierme, 1985). Vullierme was quite familiar with La Méthode, but he also had close contacts with another group of scholars centred around the Centre de recherche en épistémologie appliquée (CREA), beginning with its director, Jean-Pierre Dupuy. Morin and Dupuy are on record as having disagreed radically on the epistemological implications of the new scientific thinking and the methodology of the social sciences (Dupuy, 1981). But what matters here is that Dupuy’s own writing and the energy he devoted to organizing conferences and edited volumes on self-organization are further proof of the existence of a certain climate of ideas within which Morin appears as a central figure.

If one were to look for a close parallel with Morin’s paradigmatic innovation outside of France, Niklas Luhmann’s analysis of the self-production of society would be an apt example (Luhmann, 1995). This German sociologist embraced the concept of “autopoiesis,” or self-production, as it had been proposed originally by the Chilean biologists Humberto Maturana and Francisco Varela—sources that Morin also used extensively. But he added to it layers of meaning that they had scarcely anticipated, and may not have intended. (Varela has always objected to the extension of the theory of autopoiesis from the biological to the social domain; Maturana has been far more conciliatory in that regard.) The outcome bears some interesting parallels with Morin’s work, both in terms of the scope of Luhmann’s project and in terms of its goals. In fact Luhmann often cites or alludes to Morin’s work. But while there is no single source of theoretical inspiration behind Morin’s intellectual effort, Luhmann is more focused on the theory of autopoiesis. And whereas for Morin there is no key substantial, as opposed to epistemological or methodological, concept, Luhmann’s whole theoretical construction rests on the idea that societies are constituted and reproduced through processes of self-referential communication.

In the French context, a proper account of all the trends that have produced the cultural icon that Morin has become must extend far beyond the theory of complex systems and new scientific frontiers. Two such trends deserve special attention. First, there was the almost complete domination of Marxism over fields such as history and sociology followed by the catastrophic collapse of that
paradigm sometime in the early 1970s. Among the reasons that contributed to this intellectual revolution, one can count:

1. The severe discrepancy that had developed between the intellectuals’ romantic and utopian vision of history and politics, on the one hand, and the reality of a rapidly modernizing society, on the other: in the late 1940s much of rural France was still stuck in the 19th century and many cities had changed little since World War I—then, in the space of thirty years, this picture was radically transformed, as Morin himself has described with remarkable acuity (Morin, 1967);
2. the sudden realization by progressive intellectuals in the early 1970s that Soviet-style totalitarianism was indeed a frightening reality;
3. and the liberating effects of the anarchistic and spontaneist spirit of “the events” of May 1968.

But the end of the intellectual hegemony of Marxism, symbolized tragically by the suicide of Nicos Poulantzas and the murderous madness of Louis Althusser, created a vacuum that Morin’s more reassuring, less dogmatic and more postmodern grand vision served to fill. Morin’s plea for the development of a complex thought came at the right moment—at the moment when the dogmas of the past ceased to hold any promise for the future, while the emergence of new social movements, the revolutionizing impact of technology, and the new threats (e.g., ecological crises) resulted in what could be called a deficit of meaning. Thus there is a retroactive loop between Morin’s choice of themes and the expectations of his public. (In the same vein, Morin’s later pronouncement about fraternity and the need for a new religious élan [Morin and Kern, 1998] are both paradoxically profound and trendy—profound because Morin excels at digging under the surface of apparently trivial words to find unexpected layers of complexity, and trendy because it has become plainly obvious that although traditional churches see more and more of their members leave, new forms of religious practice, from fundamentalist churches to millenarian sects, are flourishing throughout the world.)

The second and somewhat related trend had a more limited impact because it was largely confined to the world of intellectual journals and literary criticism. Nevertheless, it also prepared the way for Morin’s ideas like recursiveness, paradoxical interdependencies, and generally, his critique of conventional scientific and technological thinking. I am alluding here to the emergence of what is usually called in North America French “post-structuralism” or postmodernism. This current, whose philosophical origins can be traced back to Nietzsche and Heidegger, is represented by writers like Michel Foucault, Jacques Derrida, Jean-François Lyotard, or Gilles Deleuze. Of course, the works of these individuals differ in a number of crucial ways. However, they contributed to the acceptance of key concepts and principles among a sizable fraction of the intellectual class more or less at the same time as Morin’s epistemological work was beginning to gain recognition. (Intellectual fashions are very transient in France, however, and by the time this school of thought became well known in North America it had more or less faded away in France!) The best way to sum up these key concepts is to invoke
the notion of anti-foundationalism, that is, the claim that there is no firm basis on which philosophy, and perhaps even science, can be based that does not itself turn out to be dependent on language or some other aspect of the human experience. Neither objectivity nor the notion of a unified subject survive the relentless move toward the deconstruction of all "grand narratives" of modernity. Morin, in whose work one can find passing references to hermeneutics (e.g., H. Gadamer), or phenomenology (e.g., M. Merleau-Ponty, P. Ricoeur), not to mention Heidegger, also deconstructs epistemology. However, Morin's critique of the conventional scientific method and of the ways in which we make sense of the world in general does not sound nearly as radical because of its naturalistic assumptions. It offers a more optimistic outlook and, as I pointed out earlier, it brings back the notion of subject at the center of the new way of thinking he urges us to adopt. Although I think Morin is on the right track here, a cynic might be tempted to say that he came up with a kinder, gentler postmodernism at the right time. (I come back to the subject of Morin's eclectic epistemology in the next section.)

If Morin was not the only thinker in Europe to embark on an exploration of complex, self-organizing systems, he certainly started on this road sooner and in a much more visible way than any North American social theorist of renown ever did, with the exception of Hayek but that exception, as I explain later, actually strengthens my argument. Of course, coming back to a point I made earlier, technical discussions of specific aspects of complexity have been available in English since the 1940s. The pioneering work of profoundly original thinkers like Norbert Wiener, Julian Bigelow, Arthuro Rosenblueth, and a few others who participated in the famous Macy Conferences in the early 1950s, laid the groundwork for much of what today passes for the cutting edge of science and epistemology. However, as Jean-Pierre Dupuy explains, these precursors never fully conceptualized the proper object of their investigations and missed several opportunities to explore the many avenues they had opened (Dupuy, 1995).

Throughout the 1950s, 1960s, and 1970s, often working at the periphery of the scientific community and academic establishment, researchers like W. R. Ashby, Ludwig von Bertalanffy, and the authors mentioned earlier kept this tradition going. Their impact on mainstream science, however, was extremely limited. Organization theorists and management consultants provided a somewhat more receptive audience, but often at the cost of more or less abusive simplifications—"systems analysis," the management fad of the 1960s, for example, was a very faint echo of the considerably more subtle models proposed by advocates of General Systems Theory and comparable approaches. (Perhaps the most noticeable exception in that respect has been Stafford Beer who can be said to have remained more faithful to the spirit of these theories [e.g., Beer, 1981].) As for attempts to find meaningful parallels between these new scientific theories and the social sciences or philosophy, they floundered. In the Anglo-American world, the author who perhaps resembles Morin the most is Erich Jantsch, both in terms of the scope of his vision and the nature of his arguments (Jantsch, 1975, 1980). However, Jantsch never enjoyed the status that Morin has achieved; his tendency to veer off into mysticism accounts in large measure for his limited impact on scholarly research, and the general public has ignored his work.
Of course, F. A. Hayek has been another trail-blazer. His remarkable book, *The Sensory Order* (1952)—remarkable because it was not written by a professional scientist—anticipated many of the current theoretical advances in the cognitive sciences. And his reflections on complexity pre-date Morin’s own writing on the subject (e.g., Hayek, 1967, 1973). The important difference, however, is that it is only relatively recently that this part of Hayek’s prolific work has received the attention it deserves (e.g., Rizzello, 1999). By the time Morin, Luhmann, and a few others were already household names among the *cognoscenti* in many European universities and in the media, Hayek was still considered primarily as an economist and a philosopher of law, not as the pioneer of a new scientific paradigm.

In very recent years, however, the sciences of complexity have attracted more attention in the English-speaking world. This has come as a result of several factors, the most significant one being that the mathematical theory of deterministic chaos has achieved the status of a legitimate scientific theory. Because that theory goes against some of the most entrenched conventions of scientific thinking (e.g., the predictive power of scientific laws), its main features have been popularized through best-sellers (Gleick, 1987; Lewin, 1992), not to mention a block-buster like *Jurassic Park*. Social scientists in a number of disciplines, including economics (see later), the policy sciences, sociology, and psychology, have begun to use chaos and nonlinear dynamics either as metaphors or as a tool for developing formal quantitative models since the late 1980s.

The tremendous impact of the new communication technologies has also played a part in the acclimatization of the theories of complexity in the English-speaking world. Cybernetics, for example, which seemed to have been relegated to the periphery of science and technology in the 1970s, is now being rediscovered and has even re-surfaced at the level of popular discourse (e.g., “cyberspace,” “cyberpunk”). Such a context should facilitate the diffusion of Morin’s ideas in the English-speaking world. However, for reasons I explain in the next section, they may encounter some resistance from academics and policy analysts.

If Morin has opened up new perspectives to his readers, the question that must be raised is: What new understanding of complex phenomena does his notion of complexity bring to light? Where is Morin going in the complex universe he invites us to discover?

**MORIN’S WAY: NOT SO COMPLEX . . .**

Morin’s “complex thought” encompasses many disciplines and builds bridges among them in the most daring manner. It is a pleasure just to contemplate these bridges. But Morin’s “complex thought” also skips over or bypasses some important dimensions of complexity. His neglect of these dimensions accounts in large measure for the obstacles his work has encountered in the French scholarly community; it could also explain why his work has so far received relatively little attention in the Anglo-American world (although efforts are now under way to rectify this anomaly). I want to look at these lacunae from three different angles.

First, within the context of classical and contemporary continental European philosophy to which Morin belongs, I want to argue that there are a number of
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linkages and implications that remain unexplored or are too briefly visited. Second, I contend that Morin’s epistemological critique is not quite as radical as he claims and its effect is blunted by its vagueness. Finally, turning to the (predominantly Anglo-American) tradition of economic analysis, I intend to suggest that Morin neglects or ignores certain crucial aspects of the complexity of modern economic and social systems. Given the limitations of space inherent in an article of this kind, however, my remarks are meant only to identify a few salient points. I am not claiming that these issues are the most significant in Morin’s opus magnum. But, as I said earlier, these are the junctures at which I decided to veer off the trail. Others may feel that they have good reasons to follow it farther.

Morin’s Elusive Ontology

Within the continental European philosophical tradition, to which Morin clearly belongs and knows well, several thinkers have offered profound insights on questions that are directly relevant to an in-depth exploration of complexity. There are brief, at times almost surreptitious, references to such insights in Morin’s recent writings. And yet these furtive detours seldom go far enough to reveal connections that could, in turn, deepen our appreciation of the complexity of his “complex thought.” Occasionally, this refusal to follow the master thinkers’ footsteps is salutary. Hegel’s influence on Morin’s entire intellectual production is not difficult to discern. La Méthode is no exception: the entire organization of the work, culminating (at the time of writing, for I know that Morin is working on another volume) in an examination of the “habitat, life, mores, and organization” of ideas (volume 4) and eventually in a discussion of the human condition that includes a chapter on “the adventures of the spirit” (in volume 5), strongly evokes the ghost of Hegel. Indeed, Morin’s concept of “dialogic” is obviously of Hegelian inspiration. However, as Kofman suggests somewhat facetiously, the mature Morin is less Hegelian than the “young Morin” (Kofman, 1996, p. 62). Dialogic is a more flexible, more heuristic concept than the dialectics. Thus Morin’s Méthode is precisely that: a method, and not a grand system or a “grand narrative” as the postmoderns would say.

However, one wonders why Morin is equally parsimonious in his comments on the parallels and differences between his own vision and the ideas of the many other philosophers, from the pre-Socratic schools to Kant to the phenomenologists, to whom he is obviously indebted in some measure. Why, for example, so few references to Aristotle, apart from his perceptive critique of the limitations of two-valued logical systems? As Vullierme has shown, Aristotle is a rich mine of ideas about the paradoxical tensions between the autonomy of the political community which, in turn presupposes some measure of equality, a very extensive reliance on open-ended debates, and the disorder that this implies, on the one hand, and the need to introduce organizational differences that become entrenched as hierarchies (Vullierme, 1985, pp. 139–149). Or why did he not leave more room for the Kantian notion of the autonomy of the moral subject in his otherwise original reconstruction of the concept of a thinking, autonomous, creative, complex subject? At times it appears that Morin’s original project of discovering meaningful
connections between the human sciences and physics and biology takes so much of his energy that he is left unable to undertake a symmetrical exploration of the perhaps better known but equally important and, in the end, equally, if not more complex, connections between philosophy and the human sciences. If discovering the former can only be done at the cost of neglecting the latter, the price to pay seems high.

No matter how “encyclopedic” his project is, Morin could not possibly be expected to discuss at length all the strands that enter into the making of his vast canvas. Besides, his epistemological approach is fresh and exciting precisely because it is informed by contemporary science rather than by yesterday’s philosophy. There is no point in criticizing him for not having written more on moral and political philosophy because we know now that he intends to devote the final volume of La Méthode to ethics. That much I concede, together with the fact that Morin has written rather extensively on the ethics of science.10

However, epistemology on a scale as vast as the one Morin has chosen to deal with blends with ontology. Now ontology is a topic that 20th century continental European philosophers, from Heidegger to Merleau-Ponty, have written very extensively about. To revisit the same issues without paying sufficient attention to their reflections is very risky; for one has to be prepared to be sized up against their extraordinary accomplishments. This is a risk that Morin needlessly took.

Morin’s ontology is surprisingly implicit and elusive. Vullierme argues that Morin is not only an epistemologist but also a metaphysician. He suggests indeed that Morin’s work being a synthesis does not produce any new empirical, specific, or localized knowledge, but that it produces a knowledge of a different sort: an ontology. However, Morin’s ontology is nowhere explicitly articulated:

One will not find the exposition of a distinct ontology in La Méthode which would be independent from the accumulation of facts and theories borrowed from the physical sciences it would be supposed to either represent in a sensualist approach to essences, or determine in an architectonic approach to essences. (Vullierme, 1987, p. 99)

Vullierme sees advantages to this “non-separation of ontology.” It allows for a maximum degree of flexibility; it precludes access to a mythical order of eternal truths that many contemporary philosophers have recognized as being both illusory and potentially oppressive. I made a similar argument earlier regarding Morin’s playful use of the concept of dialogic. As Morin is fond of repeating, there is a grave risk that reason could become a trap if it is not conceived as an open concept. However, as far as ontological issues are concerned, I would like to argue that there also are costs associated with such a strategy.

Ontology is too complex to be completely encapsulated in a system of eternal truths but not trying to sketch out its contours prevents any progress in grasping its ultimate importance. One tends to lose sight of what one has apprehended—or, at any rate, I believe that this is what happens to Morin. Because he does not attempt to keep track of his steps, he is unable to take a critical distance and to comment on the ontological patterns that emerge as he pursues his apparently
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strictly epistemological investigations. For example, he very perceptively under-
lines the interdependence of observers and observed phenomena; but this leads to
the question that Heidegger argued the moderns have ignored: is there a plane, a
dimension of Being, against which this dialogical dance is performed? Is there a
level of existence that pre-exists the distinction introduced by the observer between
himself or herself and non-self; what is the Being of beings? Maurice Merleau-
Ponty, for his part, tried to articulate the notion of a “wild” or “brute” pre-objective
nature—the unconstituted being of the sensible—in order to think through a similar
problem (Merleau-Ponty, 1968)?1 I am not suggesting that Morin ought to have
approached that problem from a narrowly defined phenomenological perspective
and even less that he should have paid tribute to Heidegger. One could perhaps
arrive at a less hermetic formulation of the problem through something like David
Bohm’s notion of “implicate order” (Bohm, 1983)—although in view of his own
intellectual origins, it is doubtful that Morin could have turned his back on the
whole phenomenological tradition; but Morin does not devote any more attention
to Bohm than he does to Heidegger. What I am saying is that, within the philo-
sophical tradition that is his own, he stumbled across problems that he must have
recognized as problems that could not simply be noted in passing. In omitting to
deal with them directly, he runs the risk that his new paradigm could end up being
rather more rudimentary than expected. I do not believe that in addressing the kind
of issues that Morin raises, one can avoid the need to establish some well thought
out distinctions among different modes of experience and about their implications.
I have alluded earlier to one such distinction that differentiates between being-in-
the-present and a more fundamental form of being, but there are other interesting
distinctions. Time, for example, introduces another series of problems.

Morin has resisted the Hegelian temptation of resolving all contradictions by
appealing to some exalted notion of History and for insisting on the need to live
with paradoxes and ambiguities. But why this preference for openness and flu-
idity? On what sort of ontological plane does the ongoing interplay of order and
disorder unfold, and what experience of it do we develop? It is not an idiosyncratic
preference on Morin’s part, yet the reasoning leading to it is too impressionistic. To
move beyond that intuitive level would have required a more direct confrontation
with the notion of becoming, of potentiality and its relationship to temporality, of
the difference between possibility and potentiality, and so on. (Or, in strictly sci-
entific terms, a thorough analysis of the difference between stochastic models and
nonlinear models derived from chaos theory.) Here again, I am not suggesting that
Morin should have fallen back into the well trodden path of academic philosophy
and revisited all that has been written, often in opaque language, since Husserl, to
mention only one obvious and almost obligatory reference. But the explicit iden-
tification of some third level between the opposites that Morin so loves to play
with would have made his approach more penetrating.12 In that respect, Atlan’s
very accessible and yet sophisticated discussion of three modes of existence in his
Tout, non, peut-être (1991) is exemplar.

In brief, Morin’s implicit approach to ontology leaves too many doors half
opened. He is in a hurry to get somewhere else—somewhere where science and
culture can be reconciled. But I wonder whether some of the answers he is looking
for are not waiting behind these half-opened doors. Indeed, when we turn to the subject of Morin’s epistemology, we find more half-opened doors, as it were.

Morin’s Cryptical Realism

One of the most attractive sides of Morin’s work concerns the manner in which he understood and used for his own purposes the epistemological realism inherent in scientific theories of complexity. Although he draws from these sources paradoxes that strongly evoke certain themes central to postmodernist discourse, they do not lead him into the relativism that plagues this discourse. Both the naturalistic presuppositions that so evidently inspire his comparisons of the physical, biological, and social spheres, on the one hand, and his occasional references to the writings of philosophers like Karl Popper or Hilary Putnam strongly suggest that Morin’s preferred epistemological position is closer to realism than to any other paradigm. However, he is not very explicit about this choice.

It is clear that Morin shows no interest in positivism. The first volume of La Méthode consists of a demonstration of the obsolete character of positivist conceptions of science. The way in which he insists on the inevitable presence of “the observer” in the discovery process is one of the most obvious illustrations of this anti-positivist stance (Morin 1977b, p. 11; 1984, p. 311). And yet, it is equally clear that the ubiquitous role he assigns to “the observer” is far less exalted than that of the postmodern demiurges who collectively (semantically and socially) “construct” their world. Morin understands very well that though uncertainty allows for a degree of creative interpretation on the part of the observer, the natural sphere imposes strict limits to the vagaries of the scientific logos. One cannot stress enough the ingenuity of the way in which Morin steers clear of both scientism and of the Nietzschean conception of a will that knows no limit. However, Morin is not alone in this respect. I completely agree with the premise that inspires his vision but it would have been more insightful if it had more explicitly been presented as an original but not isolated contribution to a broader epistemological paradigm. Of course, there is always a danger in trying to fit any complex and original work into a single box, as it were. Morin’s perspective cannot be neatly classified, and in itself, this is not a criticism. My point is rather that Morin’s epistemological explorations could have been made even more insightful if he had attempted to situate them explicitly in relation to the two approaches he seems to come closer to, namely, realism (there is an external world) and pragmatism (probably the most relevant criterion for evaluating knowledge claims is their usefulness). He seems to argue in favor of something like a synthetic pragmatist realist position without explicitly calling it such. (Other influences, notably that of the French philosopher of science Gaston Bachelard can be noted but, there again, in a rather incidental manner.) Was Morin’s intention to show that the study of complex phenomena cannot be undertaken within a single epistemic domain? This would have been a debatable assertion but one that would deserve attention. Or was it simply to use various insights in an eclectic manner? I suspect that this is indeed the case. Eclecticism is neither a virtue nor a sin; it can be employed brilliantly or carelessly. Readers may come to their own conclusions in this regard; I suspect that, in Morin’s case,
it is a little bit of both: there are brilliant insights but at times his eclectic approach amounts to not much else than an unreasoned and unacknowledged pragmatism. I am not reproaching here his pragmatic inclination but rather his curiously unreflective use of a pragmatic realist stance, that is, the sciences of complexity must be evaluated in terms of what they make possible for us to discover (and possibly, therefore, apply to some purpose, would it only be the ability to carry out further research) and not in terms of some a priori methodological rules. In other words, even if “emergence”—which Morin often takes to mean the occurrence of some recursive interaction among disparate entities—cannot always be systematically theorized, it “works” somehow and constitutes a valuable shortcut for building a bridge between the conceptual and the natural worlds. (Where Morin innovates, however, is in arguing that there are parallels to our ways of connecting knowledge to the environment in the natural world itself, beginning with the “computo” that takes place at the cellular level.)

But this stance leaves many questions unanswered: Why does it matter to have a workable knowledge of the world? Why does it matter to show that emergence is not merely a metaphor useful for making sense of socially constructed institutions and systems of beliefs but also an evolutionary process observable in nature that precludes the reduction of biology to physics, for example? Why is it not important that we be able to specify each and every causal relation underpinning a phenomenon like emergence? And so on.

The Spontaneous Order of Market Economies

My second criticism concerns the moral, political, and economic dimensions of Morin’s work, and the practical implications of his vision that he has outlined in more recent books (Morin, 1987, 2001, 2002; Morin and Nair, 1997; Morin and Kern, 1998). I want to raise two questions here. First, what is the place of the market economy in Morin’s vision? And second, what are the justifications and possible biases of Morin’s planetary politics?

The market hardly appears in the vast conceptual landscape depicted in Morin’s theoretical writings. This is odd considering that, as Hayek and other authors have noted (Hayek, 1973; Hamowy, 1987), the idea of self-organization, or “spontaneous order,” can easily be traced back to the Scottish Enlightenment, and Adam Smith in particular. Viewed from that historical angle, the modern theory of self-organizing systems is but a refinement and an extension of a conceptual discovery that has belonged to the arsenal of ideas used in political economy and liberal moral philosophy for two centuries. Indeed, it almost looks like reinventing the wheel. As it turns out, the long detour through cosmology and biology was not absolutely necessary: the dialogic of order and disorder was already at work in economics! (This is not to say, however, that this detour was useless—far from it—as Hayek has clearly acknowledged [Hayek, 1973, 1988, p. 9].) Now there are many reasons why this fact did not come to his attention—indeed one could say that until recently, it had been forgotten or ignored even by economists (but see Rothschild, 1990). What I mean is that until relatively recently, economists had paid little attention to the self-organizing qualities of markets, that is, their
ability to create global order out of local disorder. It had been lost from sight due to the conceptual innovations introduced in the late 19th century by the founders of the neo-classical school. Theorists like Alfred Marshall (who disparaged Adam Smith) and Léon Walras had used the tools of linear mathematical analysis to describe the tendency of economic systems to settle around a price equilibrium that was more reminiscent of a clockwork than of a living organism or complex ecosystems. To this day, neo-classical economics is synonymous with mainstream economics. However, it has come under attack from several fronts in recent years.

The school of economic analysis established in Austria by Carl Menger, and further developed through the works of Ludwig von Mises and Hayek, has over a century developed an entirely different approach that, on the contrary, stresses the unpredictable and chaotic character of markets. From that perspective, the subjective choices made by economic agents are coordinated through complex processes that are dynamic and constantly evolving. Although Joseph Schumpeter was not exactly speaking a bona fide member of that school of thought, his well-known pronouncement that competition is a process of “creative destruction” best conveys the spirit of Austrian economics. It also underlines its affinity with the modern self-organization paradigm. Austrian economics has enjoyed a new popularity in recent years and has benefited from the efforts of a younger generation of scholars (Vaughn, 1994).

Austrian economics is not the only current of economic theorizing that coincides with the sciences of complexity and the sort of epistemological principles defended by people like Morin or Atlan who, by contrast, have largely ignored these developments. The relevance of chaos theory to economics has been noted by several economists, partly through the proselytizing efforts of the Santa Fe Institute (e.g., Anderson, 1988). Another, distinct but not unrelated, current has adopted an evolutionary approach that stresses the centrality of innovation in economic life and, consequently, the need to pay more attention to the irreversibility of economic behavior and the nonlinear dynamics underlying economic growth (Nelson and Winter, 1982; Dosi et al., 1988; Boyer, Chavance, and Godard, 1991; Romer, 1994; Le Moigne, 1995; Foster and Metcalfe, 2001). Much of that growing literature uses very sophisticated (nonlinear) mathematical tools, some of which have been only recently developed.

The point of all this is that there exists now new pathways toward complexity that veer off rather abruptly from the Morinian vision in at least two ways. First, Morin clearly failed to zero in on the self-organizing nature of markets. Given his own intellectual development in the context of the French Left, and the statist biases inherent in modern French culture, little could have predisposed him to think of the market economy as a complex system worthy of admiration. But it is puzzling to read Morin (2001, p. 223; my translation) arguing that “what is missing is the power to regulate and control [globalizing trends at the crossroads of science, technology, and markets]” (actually, Morin uses here a questionable metaphor to describe these global trends, namely, that of a four-engine aircraft propelled by science, technology, industry, and capitalism). It is puzzling because if there is one lesson that we can draw from Morin’s “complex thought” it is that
uncertainty prevails all around us; the idea that any planetary institution or system of institutions yet to come could “regulate and control” the world economy is literally fantastic. . . and simplistic. I am not recommending passivity or resignation in the face of societal transformations, but surely the solutions to these problems requires at the very least that one poses the problem adequately, and the idea that the problem is that we are the passengers of a pilot-less plane is defective because it implies that there could exist such a pilot.15 I must hasten to add that Morin himself quickly abandons that oddly technocratic metaphor when he calls for the emergence of a non-technocratic and democratic planetary consciousness. But the least one can say is that Morin needs to analyze that exemplarily complex tension.

Second, I tend to believe that this new direction is evolutionary economics (and, to a much more limited extent, in other social sciences, see Kiel and Elliot, 1996) is very promising because it can go beyond the metaphorical conceptual innovations proposed by Morin. Such innovations are crucially important and it may even be true that metaphors can never be entirely expunged from science (see Lakoff and Johnson, 1999). Nevertheless, scientific knowledge cannot be confined within strictly metaphorical and qualitative forms of discourse; there is a dialectical movement between metaphorical complexity and the development of formal models that tend toward simplification but reveal the finer texture of the world. (I have alluded earlier to the divergence between Morin and Dupuy on methodological issues; this is precisely what it was about.) At some point, the philosopher of science must modestly step aside. No matter how encyclopedic Morin’s vision is, one will never get very far in learning about complexity if one does not see that the usefulness of Morin’s work is that of a spring board for jumping to more sophisticated investigations. I am not saying that Morin claims that his metaphorical style can accomplish more than actual scientific research but I am saying that he may already have reached the limits of what that style can accomplish; I would even suggest that the La Methode encyclopedic program begins to bring diminishing returns, as it were, after the second volume even though the subsequent volumes all have their merits.

The lessons one can draw from this literature on complexity and economic life also raise questions about the theoretical and practical significance of Morin’s plea for a move toward planetary politics (Morin and Na¨ir, 1997, 1998). I have no quarrel with his call for an injection of fraternity into human affairs. Indeed the French republican trilogy (Liberty, Equality, Fraternity) that Morin discusses at some length in Homeland-Earth re-introduces into conventional debates about the trade-offs between liberty and equality a complexifying third dimension that is welcome. However, when approaching this question, one should heed Hayek’s warning about the temptation to re-create forms of solidarity that can only be meaningful in pre-modern societies (Hayek, 1988). While Hayek was biased in thinking that modernity rules out any kind of fraternity, the least one can say is that fraternity on a planetary scale can become possible only if it is completely re-invented. Morin is aware of these difficulties, as his numerous discussions of the ambiguous value of the idea of nation shows, but does not convincingly explain why, to put it bluntly, we need more of the same on a different scale. With a difference of scale also come qualitative differences. Fraternity may well turn out
to be a notion that is too rudimentary to be meaningful on the scale that Morin contemplates.

He is right also to insist on the need to reflect on the ever-present possibility of seeing barbarism re-emerge from within the contradictions of advanced, “civilized” societies. It is time indeed to begin a new reflection on the meaning of civilization in the midst of so many challenges and crises (the gap between poor and rich countries, present and impending ecological disasters, and so on), although Morin succumbs perhaps too readily to current millenarian fashions about the imminence of some of these crises. But what kind of reflection should take place? It cannot simply consist of a debate among scholars in philosophical journals. There is clearly, as Morin senses, a political dimension to this problem. Politics, however, entails several meanings that Morin distinguishes very finely and yet ends up meshing into a call for an under-defined planetary politics. Could Morin be simplifying a complex problem?

If by politics we mean the mobilization of the energies of the people in the public arena to confront problems that go beyond the limitations of private action—politics as rhetoric, without attributing any negative connotation to this term—then indeed Morin’s call for a new departure is salutary. There is already something of a democratic deficit at the national scale; and at the international scale that deficit is immense. What are needed are ideas about how to design new (possibly rather informal or even “virtual”) institutions within which broad-based debates could take place among citizens and groups concerned about global issues across borders. (But such debates can also take place in smaller, regional settings that may, nevertheless, involve international elements insofar as, for example, “bioregions” do not coincide with national or administrative borders.) Their goals and structures, however, will remain open-ended and unpredictable, precisely for the reasons that Morin has so well explained in his theoretical analyses of the essential characteristics of complex systems.

Politics in the contemporary sense often means something very different from engaging in democratic debates. Contemporary politics too often boils down to the formulation by experts of policies and programs directly affecting the lives of the citizens of liberal democracies but of which they have little understanding. Typically, such programs are implemented by large bureaucracies. Morin and Kern (1998, pp. 110–113) offers a perceptive account of the modern political paradox. On the one hand, the scope of politics—the range of issues that are thought to justify state intervention—has broadened considerably to the point where “politics relates to all aspects of human life” (Morin and Kern, 1998, p. 111). On the other hand, however, politics has lost its autonomy: “politics is conducted, not to say swallowed, by the economy” (Morin and Kern, 1998, p. 112). Morin hopes to rescue politics from this morass. But while his diagnosis is insightful, his solution is disappointing and unconvincing.

For one thing, an historical dimension is missing in Morin’s pithy account of the predicament of the welfare state. Its rise occurred during the earlier decades of the 20th century. The displacement of the administrative state by market forces, which in itself would not necessarily be a cause for lament, but which has indeed resulted in a potentially dangerous hollowing out of the political sphere more broadly
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defined (e.g., the decline of political parties and, more ominously, the triumph of
cynicism in almost all liberal democracies), is a much more recent phenomenon.
But it is most probably the case that even if we may want to remedy the epidemic
of political disaffection that is spreading throughout the Western world, some of
the recent trends are both irreversible (something which, incidentally, is an aspect
of complexity) and advantageous. That the welfare state has had to cede some of its
controlling powers to an emerging and vibrant civil society, that traditional forms
of political engagement have been redirected toward new social movements, and
that non governmental organizations now are at the forefront of the new global
political scene are developments that it would be foolish to oppose. At the same
time, it is important to realize that they point toward a more and more polycentric
world politics. Under these conditions, to pretend that humans will be able to “co-

pilot” the Earth (Morin and Kern, 1998, p. 246) is neither plausible nor even very
appealing. It might be a reassuring proposition because, contrary to what complex
thought actually tells us, we instinctively like to know that “someone is in charge.”
Yet I believe that complex thought teaches us that the Earth and humans in all their
extraordinary diversity do not need any pilot! If, as I suggested earlier, the global
economy is already far too complex to be controlled from a center that does not
exist, a fortiori the metaphor of a pilot steering humanity toward a better future
sounds completely discordant coming from a theorist of complexity.

I concede that Morin does not imply that “the pilot” would be an identifiable
institution and is more like a collective spiritual force but the metaphor is still
inadequate. There is no well of knowledge (i.e., technical, scientific, economic,
organizational, psycho-social, etc., but also ethical and political knowledge) deep
enough to permit that kind of grandiose undertaking. We must learn to cope better
with the admittedly disturbing uncertainties attendant to the process of muddling
through that complexity inexorably imposes on us. As for Morin’s hope for the
emergence of a planetary civil society (e.g., Morin, 2002), it leaves many questions
unanswered; his enthusiasm for global meta-systems seems to close the door a
little too prematurely on the search for decentralized local democratic solutions.
The very possibility of a global democratic debate is, from my standpoint, so remote
as to be practically impossible, which is not to say that modest steps toward the
sort of planetary co-operation that Morin advocates should not be taken.

YET NOT SO SIMPLE!

The last word should properly belong to Morin:

the game of truth and error is not played only in terms of the empirical valida-
tion and the logical coherence of theories. It is played also in depth and most
importantly in the invisible zone of paradigms. (Morin, 1991a, p. 245)

This “invisible zone of paradigm” may be similar to what Michael Polanyi called
implicit knowledge (1966). Despite my earlier criticism of the excessively implicit
character of Morin’s ontology, it is certainly important to remember that human
knowledge encompasses far more than what is found in formal theories. And truth
may well reside in these “invisible zones.” Perhaps knowing where one is going is not all that important after all. Perhaps it is not the trail itself but the traveling that matters. It is what readers make of the paradoxes, loops, and puns that allow them to come closer to a deeper appreciation for the complexity of physical, biological, and societal processes, of a world in flux. Morin provides his reader with an extraordinarily rich panoply of concepts, and images, quite a few hunches and a good dose of encouragement. (Indeed the recent development of the new discipline known as “bioinformatics,” which among other things is concerned with the study of how genes interact in complex ways, strongly evokes Morin’s intuitive concept of “computo.”) Like a teacher who is fulfilled through the progress of his students, he seems to be telling us: go on your own way now...

Morin’s planetary politics points in a utopian direction that should be resisted for being paradoxically both too complex and too simple if I am correct about the current need to reinvent democracy as an open-ended process rooted in local circumstances. Morin’s prescriptions oddly downplay the self-organizing dynamics of markets and civil society that a new politics should, in my opinion, accompany and nurture, even if I concede that occasionally there may be a need for concerted efforts aimed at avoiding threatening outcomes. But that is a far cry from strategic planning of the kind that could be likened to piloting a planetary aircraft! All the same, the prescriptive part of Morin’s work is probably not what matters most in his work.

Morin, in addition to being an epistemologist and a (reluctant) metaphysician, acts as a teacher, a mentor who uses bits and pieces of wisdom, offering his readers a chance to weave them together. His method is truly complex in a way that my earlier criticisms had not anticipated. The dialogic of the observer and the observed transcends La Méthode and takes on a different form through the dialogue between the author and his readers. We then become part of the picture, as in Escher’s fantastic “Picture Gallery,” and it is our reading that transforms sometimes incomplete materials into a rich canvas whose potential existence is realized through the discussions that, like this special issue, it provokes. As it turns out, the metaphor that best applies to Morin’s entire work is that of a catalyst or ferment: its effects are transformative rather than merely didactic. Like all excellent teachers, Morin does not so much impart knowledge as he helps us create our own.

NOTES

1. Morin himself uses a similar image to describe the human predicament: he speaks in that respect of l’itinérance, the act of following a path (Morin, 1993, pp. 197–198). Heinz Weinmann (1994, p. 11) also compares Morin’s anthropological and philosophical writings to “an epistemological journey,” an unfinished journey for that matter—indeed a journey that can have no end.

2. About this period, see Kofman (1996).

3. I am quoting here from a cassette tape Edgar Morin sent me in 1988 in answer to questions I had previously forwarded to him. Morin added some interesting remarks on these and other thinkers to explain how his own thinking differs in some critical respects from the slant that they give to these seminal concepts. For example, he expressed reservations about Prigogine and Stengers’s (1984) overly optimistic view about the reconciliation between humans and nature; he explained that he locates himself somewhere between this sort of Panglossian position and Monod’s exaggeratedly pessimistic supposition that the alliance between human and nature has been lost.
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5. In a personal conversation (March 1997), Morin did in fact do so.
6. Barel (1979) is in fact less openly Marxist in tone.
7. “What is dying today is not the notion of humankind but an insular notion of it, withdrawn from nature and from human nature itself” (Morin, 1973, p. 210; my translation).
8. To quote the subtitle of volume 4.
9. Albeit very perceptive, Morin’s one page survey of the whole of Greek philosophy stands almost as a caricature of what I am aiming at here (Morin, 1991a, p. 53).
10. Most of these texts are collected in Morin (1984).
11. The parallels between Merleau-Ponty’s ontology (1962, p. 1968) and Morin’s theoretical works are rather striking; Merleau-Ponty’s reflections on the contingency of the self, of nature and of society, his skill in depicting their relationships, his analyses of the manner in which the “tact Cogito” makes the presence of self known to self and precedes philosophy are some of the aspect of his legacy that Morin must have used in his search for a “method,” even though explicit references to Merleau-Ponty are quite rare in the four published volumes of *La Méthode*.
12. Three-dimensional tensions are not absent from *La Méthode*, the best example perhaps being the I-Me-Self relationship. However, Morin seems not to be very concerned about why some relationships appear as polar opposites and others require the introduction of a third (or fourth, etc.) level.
13. It is striking, for example, that in the otherwise insightful pages Morin devotes to the virtues of decentralization and the dysfunctional character of hierarchies in both nature and society, there is no reference to markets (Morin, 1986, pp. 309–330); Kofman (1996, pp. 101–102) claims that in these pages Morin implicitly declares a preference for markets and he is probably right, but *implicit* is the operative word here.
14. Morin himself, however, claims to have had an abiding interest in economic theory in general, and a particular admiration for François Perroux (personal interview, March 1997).
15. Note that I am not implying that there is absolutely no alternative to strict laissez-faire and libertarian politics; I believe that some forms of democratic decision making, especially at the local level, are preferable to a complete reliance on market forces (see diZerega, 2000). I am even prepared to accept the idea that some form of “metadesign,” that is, some way of designing democratic institutions where global problems could be discussed, assessed, and perhaps deflected from their least desirable pathways, is worth pursuing. My point is simply that in talking about “control” at the global level Morin comes dangerously close to contradicting everything he has written on complexity!

REFERENCES


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