DISTANT READING

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Evolution, World-Systems, Weltliteratur

Up to this point in time, the essays of Distant Reading *seem to be regulated by a sort of secret pendulum, which makes them oscillate back and forth between evolution ('Modern European Literature', 'Slaughterhouse'), and world-systems theory ('Conjectures', 'Planet Hollywood'). The thought that there may be something wrong with the pendulum itself—or, in plainer words, that the two theories may be incompatible—hardly ever occurred to me: they were both uncompromisingly materialistic; both historical; both supported by plenty of empirical evidence . . . What more could one ask for?*

An invitation to speak at Wallerstein's Fernand Braudel Center forced me to consider the matter more directly; and, retrospectively, 'Evolution, World-Systems, Weltliteratur*' seems to do a good job at outlining the conceptual antithesis between the two theories, and a not-so-good job at correlating their differences with two long periods in the history of world literature itself.*[1] *But the fundamental problem posed by the adoption of natural science as a conceptual model for social history isn't really addressed in the article. By*

1 The final section of the essay is one I would completely reformulate today, largely in the light of Alexander Beecroft's numerous empirical specifications in 'World Literature Without a Hyphen', *New Left Review* II/54 (November–December 2008).

'fundamental problem', I don't mean the opposition between laws and individuals, explanation and interpretation, random and intentional, distant and close, and so on; in all these cases, I am squarely on the side of the natural sciences. But there is one question that I find truly insoluble: evolution has no equivalent for the idea of social conflict. *Competition among organisms, or among similar species, yes; as well as arms races between predators and prey: but nothing like a conflict whose outcome may redefine the entire ecosystem. Nor is this a problem of evolution only; from what I understand complexity and network theory have exactly the same blind spot—which, clearly, no theory of culture and society can allow.*

My next long-term research project—on tragic collision and network theory—may help me gain some additional insight on this question. Meanwhile, as I was re-reading the article for this collection, I also realized that, beginning more or less around this time, both evolution and world-systems theory began to play a far less important role in my research. In part, it must have been the awareness of their possible weaknesses; but the decisive factor was certainly the growing importance of quantitative research that characterized my work at Stanford, and that eventually led to the creation of the Literary Lab in 2010. Not that quantitative data contradicted in any way the theses of evolution or of world-systems theory; but they produced such a large new body of evidence, for which I was so completely unprepared, that the need for a theoretical framework was for a few years forgotten in the heady mood of permanent exploration. As I write, the results of the explorations are finally beginning to settle, and the un-theoretical interlude is ending; in fact, a desire for a general theory of the new literary archive is slowly emerging in the world of digital humanities. It is on this new empirical terrain that the next encounter of evolutionary theory and historical materialism is likely to take place.

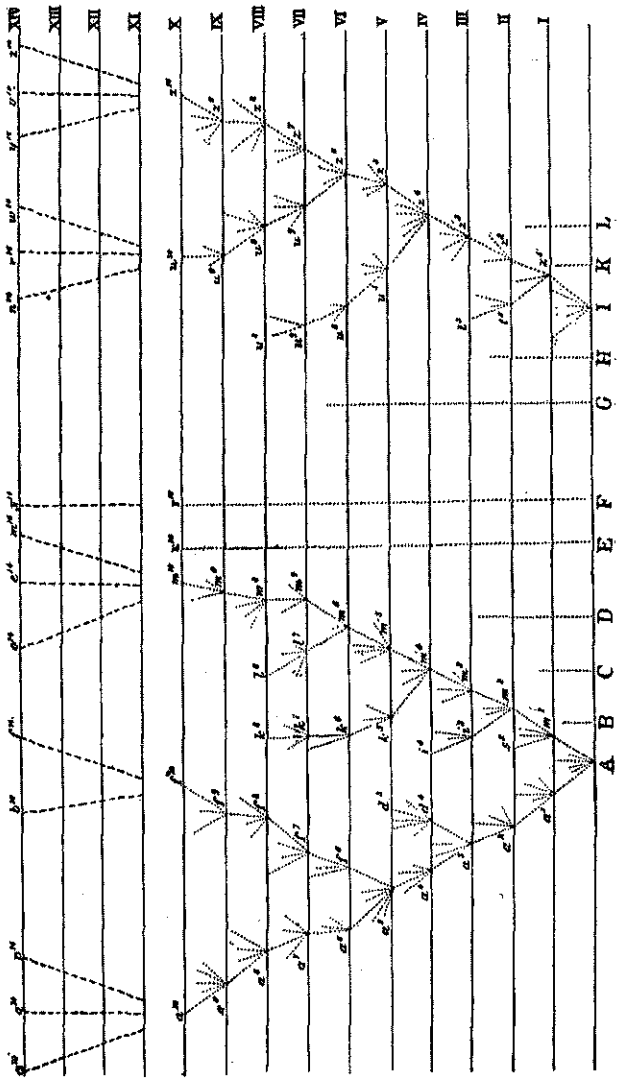
Although the term 'world literature' has been around for almost two centuries, we don't yet have a genuine theory of the object—however loosely defined—to which it refers. We have no set of concepts, no hypotheses to organize the immense quantity of data that constitutes world literature. We do not *know* what world literature is.

This paper will not fill the void. But it will sketch a comparison of two theories that have often struck me as excellent models for the task: evolutionary theory, and world-systems analysis. I will begin by outlining their potential contribution to literary history; then, I will discuss their compatibility; and finally, outline the new image of *Weltliteratur* that emerges from their encounter.[2]

I

It is easy to see why evolution is a good model for literary history: it is a theory that explains the extraordinary variety and complexity of existing forms on the basis of a historical process. In a refreshing contrast to literary study—where theories of form are usually blind to history, and historical work blind to form—for evolution form and history are really the two sides of the same coin; or perhaps, one should say, adopting a more evolutionary metaphor, they are the two dimensions of the same tree.

2 Embarrassingly enough, I have used evolution and world-systems analysis for over ten years—even in the same book!—without ever considering their compatibility. Evolution was crucial for the morphological argument of *Modern Epic* (London 1996), whose thematic aspect was in turn strongly shaped by world-systems analysis. A few years later, world-systems analysis played a major role in *Atlas of the European Novel* (London 1998), and in the articles 'Conjectures on World Literature' and 'More Conjectures', included in this volume; while evolution was the basis for 'The Slaughterhouse of Literature' (*Modern Language Quarterly*, 2000) and 'Graphs, Maps, Trees: Abstract Models for Literary History—III' (*New Left Review* II/28 [July–August 2004]; a few passages from this article are more or less repeated in the present text).



Let A be a common, widely-diffused, and varying species, belonging to a genus large in its own country. The little fan of diverging dotted lines of unequal lengths proceeding from A may represent its varying offspring . . . Only those variations which are in some way profitable will be preserved or naturally selected. And here the importance of the principle of benefit being derived from divergence of character comes in; for this will generally lead to the most different or divergent variations (represented by the outer dotted lines) being preserved and accumulated by natural selection.

Figure 1: Divergence of character

Figure 1 is the only image in the entire *Origin of Species*; it appears in the fourth chapter, 'Natural Selection', in the section on 'Divergence of Character'. A tree, or a 'diagram', as Darwin calls it in the text, as if to emphasize that it is designed to visualize the interplay of two variables: history along the vertical axis, which charts the regular passage of time (every interval, 'one thousand generations')—and form along the horizontal axis, which follows for its part the morphological diversification that will eventually lead to 'well-marked varieties', or to entirely new species.

The horizontal axis follows formal diversification . . . But Darwin's words are stronger: he speaks of 'this rather perplexing subject', whereby forms don't just 'change', but do so by always *diverging* from each other (remember, we are in the section on 'Divergence of Character'). Whether as a result of geo-historical accidents, or under the action of a specific 'principle'—as far as I can tell, the question is still open—divergence pervades the history of life, defining its morphospace as an intrinsically expanding one. 'A tree can be viewed *as a simplified description of a matrix of distances*,' write Cavalli-Sforza, Menozzi and Piazza in the methodological prelude to their *History and Geography of Human Genes*; and Figure 2, where genetic groups and linguistic families branch away from each other in geography and morphology at once, makes clear what they mean: a tree is a way of sketching *how far* a given form has moved from another one, or from their common point of origin.

A theory that takes as its central problem the *multiplicity of forms* existing in the world; that explains them as the result of *divergence and branching*; and that bases divergence on a process of *spatial separation*: here is what evolutionary theory has to offer to literary history. Many different forms, in a discontinuous space: not a bad starting point, for the study of world literature.

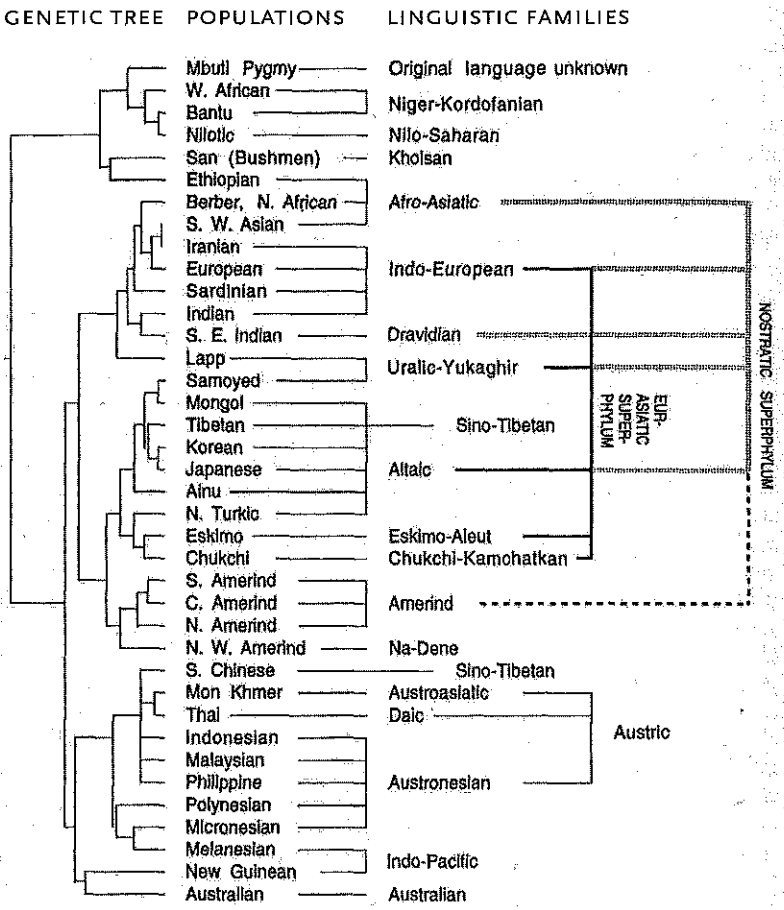


Figure 2: Linguistic trees

II

In world-systems analysis the coordinates change, as the onset of capitalism brusquely reduces the many independent spaces needed for the origin of species (or of languages) to just three positions: core, periphery, semi-periphery. The world becomes

one, and *unequal*: one, because capitalism constrains production everywhere on the planet; and unequal, because its network of exchanges requires, and reinforces, a marked unevenness between the three areas.

Here, too, it's easy to understand the theory's appeal for literary study. On its basis, we can finally grasp the *unity* of world literature, as in Goethe's and Marx's *Weltliteratur*. And then, the theory illuminates the *internal articulations* of the literary system: like capitalism, *Weltliteratur* is itself one and unequal, and its various components—the world's many national and local literatures—are often thwarted in their development by their position within the system as a whole. Itamar Even-Zohar (whose 'polisystem theory' is quite similar to world-systems analysis) puts it very well when he observes that, within the international literary system, 'there is no symmetry': powerful literatures from the core constantly 'interfere' with the trajectory of peripheral ones (whereas the reverse almost never happens), thus constantly increasing the inequality of the system.

While studying the international market for eighteenth- and nineteenth-century novels, I reached very similar conclusions to Even-Zohar's. Here, the crucial mechanism by which the market operated was that of *diffusion*: books from the core were incessantly exported into the semi-periphery and the periphery, where they were read, admired, imitated, turned into models—thus drawing those literatures into the orbit of core ones, and indeed 'interfering' with their autonomous development. And then, this asymmetric diffusion imposed a stunning *sameness* on the literary system: wave after wave of epistolary fiction, or historical novels, or *mystères*, dominated the scene everywhere—often, like American action movies today, more thoroughly in the smaller markets of peripheral cultures than in their country of origin.

World literature as one and unequal: this was the contribution of the world-systems approach. The *international constraints* under which literature is written: the limits that the world market imposes on the imagination. 'Diffusion is the great conservative force in human history', wrote A. L. Kroeber—and he was absolutely right.

III

One can hardly imagine a more clear-cut antithesis. Evolution foregrounds the *diversification* of existing forms produced by speciation; world-systems analysis, the *sameness* (or at any rate, the limits on diversity) enforced by diffusion. I am simplifying of course, evolution includes mutation *and* selection (i.e. both the production and the elimination of diversity), just as world-systems analysis specifies *different* positions within the international division of labour. But still, think of those titles: *The Origin of* Species, plural, and *The Modern World*-System, singular: grammar is a good index of the opposite research projects. And the geographical substratum of the two theories duplicates the antithesis: Darwin's breakthrough famously occurred in an *archipelago*, because the origin of species (Ernst Mayr's 'allopatric speciation') needs a world made of separate spaces; but the long-distance trade of modern capitalism *bridges* the greatest of oceans, and subjects all societies to a single, continuous geography.

A theory of diversification; a theory of sameness. Clearly, the two are incompatible. Just as clearly, they both explain important aspects of world literature. They are both true: but they *cannot* both be true.[3] Or perhaps, better, they cannot be true—*unless literature itself functions in two completely incompatible ways*.

3 Obviously enough, I am here speaking of their truth *when applied to literature*; in their original fields (biology and economic history) the two theories are simply incomparable.

This sounds like an absurd idea; but it does have a historical and morphological rationale. The historical argument is simple: diversification and sameness are both present in literary history because they arise in different epochs, and from different social mechanisms. Diversification is the result of the (relative) isolation of human cultures from their origins until a few centuries ago; sameness appears much later, sometime around the eighteenth century, when the international literary market becomes strong enough to (begin to) subjugate those separate cultures. Here I am simplifying again, there have been earlier episodes of widespread diffusion (like the Petrarchist epidemics of late medieval Europe), just as there have been *later* episodes of diversification; but the point is that each of the two principles has an elective affinity with a different socio-historical configuration; and that, by and large, we have moved from the one to the other.

This, in broad strokes, is the historical argument. The morphological one is different. So far, I have implicitly accepted the evolutionary assumption that in literature, just as in nature, *diversity equals divergence*: that new forms only arise by branching out from pre-existing ones via some kind of mutation. Now, if this were the case, then diffusion (and with it the world-systems approach) would have very little to say on literary innovation: great at explaining how forms *move*, a theory of diffusion cannot account for how they *change*, for the simple reason that diffusion is not meant to multiply forms, but to *reduce* their number by maximizing the space occupied by just one of them. Diffusion is the great conservative—not creative—force of human history.

In literature, just as in nature, diversity equals divergence . . . But what if the *convergence* of distinct lineages could also produce new forms?

IV

This question will strike many readers as almost a rhetorical one. 'Darwinian evolution', writes Stephen Jay Gould, 'is a process of constant separation and distinction. Cultural change, on the other hand, receives a powerful boost from amalgamation and anastomosis of different traditions. A clever traveler may take one look at a foreign wheel, import the invention back home, and change his local culture fundamentally and forever.'[4] The clever traveller is a poor example (it's a case of diffusion, not of amalgamation), but the general point is clear, and well expressed by the historian of technology George Basalla: 'Different biological species usually do not interbreed', he writes: 'Artifactual types, on the other hand, are routinely combined to produce new and fruitful entities.'[5]

Routinely combined . . . That's it: for most scholars, convergence is the basic, if not the *only* mode of cultural history. I have criticized elsewhere this position, countering it with a sort of cyclical division of labour between divergence and convergence in the shaping of the literary morphospace.[6] Here, I will only add that the decisive historical watershed is again the establishment of an international market: divergence being the main path of literary change before its advent, and convergence afterwards. Thomas Pavel's morphological reflections in *La Pensée du Roman*—based on a very different conceptual framework from the present paper—offers excellent (because independent) corroboration for this thesis: divergence is for him the driving force in the first fifteen centuries of the novel's existence, and convergence from the eighteenth century onwards.

4 Stephen Jay Gould, *Full House: The Spread of Excellence from Plato to Darwin* (New York 1996), pp. 220–1.

5 George Basalla, *The Evolution of Technology* (Cambridge 1988), pp. 137–8.

6 See 'Graphs, Maps, Trees: Abstract Models for Literary History—III'.

From the eighteenth century onwards . . . Or in other words: convergence becomes active in literary life *at exactly the same time as diffusion*. And one wonders: is it merely a temporal coincidence, or is there a functional relationship between them?

V

Let me begin with a concrete example. Years ago, one of the greatest critics of our time, Antonio Candido, wrote a tryptich of essays (on Zola's *Assommoir* [1877], Verga's *Malavoglia* [1881], and Azevedo's *Cortiço* [1890]), in which he followed the diffusion of the naturalist novel from the core (France), through the semi-periphery (Italy) and into the periphery (Brazil) of the world literary system. And he discovered, among many other things, a sort of *internal asymmetry* in the diffusion of naturalism: whereas the structure of Zola's plot is largely retained by Verga and Azevedo, his *style* tends to be heavily transformed: in Verga, by his Sicilian-Tuscan orchestration of collective speech, and by the use of proverbs; in Azevedo, by the recourse to allegory, and the narrator's frequent ethical intrusions (especially in sexual matters).[7]

Now, Verga and Azevedo are far from being unique. In the late nineteenth century, as the diffusion of modern novels reaches peripheral cultures with increasing regularity, their greatest writers all subject western European models to a similar process of *stylistic overdetermination*: the analytico-impersonal style of nineteenth-century France is replaced by judgmental, loud, sarcastic, emotional voices, always somewhat at odds with the story they are narrating. In slightly different forms, we find the same arrangement in Multatuli's anti-imperialist classic, *Max Havelaar, or The Coffee Sales of the Netherlands Trading Company* (1860), and in Rizal's Filipino masterpiece *Noli me tangere* (1886–87); in Futabatei's *Drifting Clouds* (1887), the 'first modern

7 Antonio Candido, *O discurso e a cidade* (São Paulo 1993).

Japanese novel', and in Tagore's Rashomon-like political parable, *Home and the World* (1916).

Italy, Brazil, Indonesia, the Philippines, Japan, Bengal . . . The specifics obviously differ from case to case, but the formal logic is always the same: these novels are all 'amalgamations of different traditions'—and all of the same kind: they combine *a plot from the core*, and *a style from the periphery*.[8] The realist-naturalist plot of lost illusions and social defeat reaches the periphery of the literary system more or less intact; but in the course of the journey, it becomes somehow detached from the 'serious' tone that used to accompany it, and is joined to a new stylistic register.

But how is it possible for plot and style to become 'detached'?

VI

It is possible, because the novel is a *composite* form, made of the two distinct layers of 'story' and 'discourse'—or, in my slight simplification, of plot and style: plot presiding over the internal concatenation of the events, and style over their verbal presentation. Analytically, the distinction is clear; textually a little less so, because plot and style are usually so tightly interwoven that their separation is hard to imagine. And yet, *if diffusion intervenes, 'moving' novels across the literary system*, they do indeed separate: plot travels well, remaining fairly stable from context to context, whereas style disappears, or changes.

8 It can hardly be a coincidence that the greatest problematizer of narrative voice in western European literature—Joseph Conrad—had himself worked in the colonies, and owed his formal breakthrough (Marlow's laborious, defensive irony) to his wish to represent the periphery to a metropolitan audience. In his case, of course, the ingredients of the amalgamation are reversed: a plot from the periphery—and a style from the core.

Why this difference? Two reasons. First, plot is usually the main point of a novel, and hence it must be as solid as possible. To highlight how inextricable this narrative concatenation ought to be, Boris Tomashevsky coined in 1925 the metaphor of the 'bound motifs', which 'cannot be omitted . . . without disturbing the whole causal-chronological course of events'.[9] But if bound motifs 'cannot be omitted', neither can they really be *changed*: and so, concludes Tomashevsky, 'they are usually distinguished by their "vitality": that is, they appear unchanged in the works of the most various schools'—and just as unchanged, we may add, in the works of the most various countries.[10]

The second reason for the different destinies of plot and style is not structural, but linguistic. Diffusion usually means translation, and hence reformulation from one language into another. Now, plot is largely *independent* from language: it remains more or less the same, not only from language to language, but even from one sign system to another (from novel to illustration, film, ballet . . .) Style is however nothing *but* language, and its translation—*traduttore traditore*—is almost always an act of betrayal: the more complex a style

9 Boris Tomashevsky, 'Thematics' (1925), in Lee T. Lemon and Marion J. Reis, *Russian Formalist Criticism: Four Essays* (Nebraska 1965), p. 68.

10 Here, the analogy with biological mutation is arresting. 'In DNA and protein regions of vital importance for function, one finds perfect—or almost perfect—conservation', write Luigi Luca Cavalli-Sforza, Paolo Menozzi, and Alberto Piazza in *The History and Geography of Human Genes* (Princeton 1994), p. 15: 'This indicates strong selective control against changes that would be deleterious; it also shows that evolutionary improvement in this region is rare or absent. However, variation is quite frequent in chromosome regions that are not of vital importance.' Within narrative structure, bound motifs are the equivalent of those 'protein regions of vital importance for function', where one finds 'near perfect conservation'; whereas the 'chromosome regions that are not of vital importance', and where variation is therefore quite frequent, have their parallel in the 'free motifs' of Tomashevsky's model, which 'may be omitted without destroying the coherence of the narrative', and which are as a consequence quite variable ('each literary school has its characteristic stock [of free motifs]').

is, in fact, the greater the chance that its traits will be lost in the process.

So. As novelistic forms travel through the literary system, their plots are (largely) preserved, while their styles are (partly) lost—and are replaced by 'local' ones, as in Azevedo and the other novelists mentioned above. The result is a hybrid form that does indeed 'amalgamate different traditions', as Gould would have it. But for many of these texts, *dissonance* would be more precise than amalgamation: dissonance, disagreement, at times a lack of integration between what happens in the plot, and how the style evaluates the story, and presents it to the reader. *Form as a struggle*: this is what we have here: a struggle between the story that comes from the core, and the viewpoint that 'receives' it in the periphery. That the two are not seamlessly fused is not just an aesthetic given, then, but the crystallization of an underlying *political* tension. In this respect, the morphology of hybrid texts is an invaluable vantage point from which to observe the endless spiral of hegemony and resistance created by world literature.

VII

The term 'world literature' has been around for almost two centuries, but we still do not know what world literature is . . . Perhaps, because we keep collapsing under a single term *two distinct world literatures*: one that precedes the eighteenth century—and one that follows it. The 'first' *Weltliteratur* is a mosaic of separate, 'local' cultures; it is characterized by strong internal diversity; it produces new forms mostly by divergence; and is best explained by (some version of) evolutionary theory.[11] The 'second' *Weltliteratur*

11 Speaking of 'local' cultures does not exclude the existence of large regional systems (Indo-European, East Asian, Mediterranean, Meso-American, Scandinavian . . .), which may even overlap with each other, like the eight thirteenth-century 'circuits' of Janet Abu-Lughod's *Before European Hegemony*. But these geographical units are not yet stably subordinated to a single center like the one that emerged in eighteenth-century France and Britain.

(which I would prefer to call world literary system) is unified by the international literary market; it shows a growing, and at times stunning amount of sameness; its main mechanism of change is convergence; and it is best explained by (some version of) world-systems analysis.

What are we to make of these two world literatures? I think they offer us a great chance to rethink the place of history in literary studies. A generation ago, the literature of the past used to be the only 'great' literature; today, the only 'relevant' literature is that of the present. In a sense, everything has changed. In another, nothing has, because both positions are profoundly *normative* ones, much more concerned with value judgments than with actual knowledge. Instead, the lesson of the two world literatures is that the past and present of literature should be seen, not as 'better' or 'worse' epochs, but as *structurally so unlike each other* that they require completely different theoretical approaches. Learning to study *the past as past*, then, and *the present as present*: such is the intellectual challenge posed by *Weltliteratur* in the twenty-first century. But this is a very large topic, which deserves a study of its own.