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The Story behind any Story: Evolution, Historicity, and Narrative Mapping

“The narratives of the world are numberless” (Barthes 1977 [1966], 79)—and yet all stories may be seen as chapters of a single story. Evolutionary approaches to literary and cultural phenomena (Wilson 1998; J. Carroll 2004) have led to a growing awareness that these literary and cultural phenomena are best accounted for within a consilient disciplinary framework. From this consilient standpoint, human modes of communication must be contextualized as situated historical phenomena, and history as such is to be placed within the wider context of the evolution of human societies and of life generally (what is often called “big history”). Using the notions of “narrative mapping” and “narrative anchoring,” a series of conclusions relevant to narratology may be drawn from the aforementioned theoretical outlook, bearing in particular on the narratological conceptualization of time. Cultural conceptions of big history underpin the production, the reception and the critical analysis of any specific narrative, as well as any narrativizing strategy, in the sense that these conceptions provide both a general ideational background to the experiences depicted in the narratives, and a mental framework in which to situate (e.g., historicize) the narrative genres used in the depiction. A major contribution to evolutionary theory, Herbert Spencer’s philosophical work, can be examined through the lens of its narratological significance as a significant step both in the narrativization of science and in the development of a scientific narratology.

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Narratology was born with a scientific aspiration to universality. In Aristotle’s poetics, philosophy, understood as knowledge of universals, is contrasted to history conceived as knowledge of individual facts. Any opposition seems to call for a synthesis or mediation, and Aristotle suggested one in his theory of poetry: poetry is more philosophical than

history, because it imposes a conceptual order or pattern on the events of human experience and action. The *Poetics* offers a foundational model for narratology—it is the first narratological treatise, besides much else. But in addition to its structural analyses of plot dynamics, of anagnorisis, of eventfulness and of closure, in addition to its theory of genres and media, and its metacritical observations, the treatise also contains some pointers relating to evolutionary poetics – to the origin of drama and of mimetic art generally, grounding it on the imitative instincts in human nature. It can also lay claim, therefore, to taking precedence as the first treatise in cognitive poetics.

Paul Ricœur (1985 [1984]) pointed out the cognitive importance of emplotment, as first conceived by Aristotle. Emplotment, organizing events into a story, is a prime cognitive move, equal at least in importance to the joining of subject and predicate in a proposition, or to metaphor, which (as pointed out by Vico 1968 [1744]) stands at the root of creative thought. And there is of course a chapter on metaphor in the *Poetics*, although its main emphasis falls on the analysis of plot.

Emplotment and narrativity allow us to see, or establish, the connection in a series of events. Much post-structuralist criticism has been suspicious of such connections, and has deconstructed narrative causality and the unities built by master plotters. Gary Saul Morson's *Narrative and Freedom* (1994) may be singled out as an instance of such criticism. It is a masterful critique of several ills attending the retrospective stance of narrative, and a major contribution to the analysis of hindsight bias (although this term is not used in the book). Hindsight bias (see García Landa 2005) is the narrative fallacy par excellence, although one might go one step further and argue that *narrative* itself is the narrative fallacy par excellence, so entwined with distortions and illusions is the knowledge we articulate and the stories we tell, with truth and fiction present in almost equal proportions—though not in the same positions—in fictional stories and in historical or biographical records.

Connection, unity, and unity-finders have been abundantly disparaged and deconstructed since the 1960s, although they no doubt tell part of the truth in the story. Nietzsche's fragmentary aphorisms and his hermeneutics of suspicion have been much preferred to the grand philosophical systematics of Hegel, which are largely left unread, at least outside the philosophical field. But the task of unification, unfashionable like romantic fiction, keeps on rolling nonetheless, with much labour being done behind the back of the deconstructors, quietly changing the very landscape in which all of us live and work and think. Quietly—or

rather suddenly sometimes. “*Only connect*”: the unforeseen revolution of Internet communications, unforeseen by the imagination of science fiction even, is a particularly relevant example. The demise of the Grand Narratives became one of the catchphrases of the academy precisely at the time in which the Grand Narratives of globalization, electronic communications and relativistic cosmology were asserting their cultural influence in the most incontestable way.

As my title suggests, I want to emphasize one such aspect of narrative, its inherent power to provide unification, to connect—in the last analysis, to connect *all narratives and the whole of reality* in a cognitive sweep which makes a unified sense of the whole of the world we live in—a *Key to All Mythologies*, indeed, if there is ever to be one. The term “third culture” has become widespread in recent years, associated to E. O. Wilson’s notion of consilience—the building of bridges between the sciences and the humanities. This integrational work is currently being carried out most prominently in the fields of cognitive (neuro)science, behavioral genetics, evolutionary biology (including biological anthropology, evolutionary psychology, and sociobiology)—and environmental science.¹

Wilson’s seminal formulation in his 1998 book *Consilience: The Unity of Knowledge*, and his most recent contributions (2013, 2014), emphasize the mutual involvement of science and human praxis. Cultural and moral options, political choices, and ethics, must be ultimately grounded on human nature and on the sustainable and rational use of resources.

As an example, if we start with forest management, an entire academic and practical field in its own right, we soon are up against great problems of moral reasoning having to do with resource management and the relation of humanity to the natural environment. And then, of course, in order to really make judgments of a moral nature we must know the environment much more thoroughly than we know in most cases. And as part of that we have to understand the impact of economics and of human

¹ See Wilson (1998). My paper “Consilience and Retrospection” (García Landa 2013b) provides a critical narratological approach to the notion of consilience. Mellmann (2010) may serve as an example of a consilient approach to the theorizing of narrative voice, perspective and focalization. S. Carroll (2013) elegantly bridges the gap between the purposeless descriptions of the universe provided by the physical sciences, and the purposeful human universe of action and story.

nature. What are our desires and our needs? And that leads us back then to how we handle forest management. (Wilson 2014, 46)

Human history might be told from the perspective of forest management, just as it can be told as the story of the division of work and of the development of specialized techniques for the organized exploitation of natural resources.

The accounts of “Big History” in the books by David Christian (2004) or Fred Spier (2010) provide histories of cosmic evolution in order to, as it were, historicize human history, and set in a wider context the rise of life, minds, and civilizations. The scientific contextualization provided by such works throws a much-needed light on the challenges faced by human societies and cultures—especially in the context of the present and oncoming energy crisis and of current concerns about overpopulation, ecological sustainability, and the industrial depletion of the environment. These are the inescapable contexts of both present and future cultural investigations and representations. And such Big Histories make it clear that in the last analysis there is just *one* human story, and *one* history of the universe, which is the inescapable backdrop to all the stories dreamt and devised by mankind, and the soil on which they grow.

There are many directions one can take to go from the many stories to the principle of all stories. One was the road taken by structuralist critics, the founding fathers of narratology, trying to establish the basic structural principles of stories, finding a grammar of stories or a semiotic system accounting for all narratives. Both the Central and East European formalists in the early decades of the twentieth century and the structuralists from the 1960s were re-appropriating Aristotle’s project, with all narratives being analyzed as answering to common structural principles. Myth criticism as best exemplified in the work of Northrop Frye (1957) outlined a similar project—and the insights provided from these perspectives can be usefully rethought from a consilient stance. Joseph Carroll’s Darwinian poetics or Brian Boyd’s book *On the Origin of Stories* (2009) are only the first steps in this reassessment. And a pugnacious reassessment it is, often taking a contentious stance on (post-) structuralism. The sociobiological critics stress the limited flexibility of human nature, as against the claims of post-structuralist constructivist critics, who tend to favor the view of human nature as a blank slate for

culture to write on.² The sociobiological critics claim that human nature, for all its flexibility, is limited and circumscribed, and tied to our age-long heritage and evolutionary history. Mankind's Big Story is especially prominent from this stance, and the prehistoric heritage weighs heavily on the shoulders of the clothed apes.

Another way to synthesis, from the many to the one, and to science, was provided in the nineteenth century by historicist and dialectical philosophies—by Hegel's *Phenomenology of Spirit* (1977 [1807]) and by his philosophy of history, by Marxist historical materialism—and also by Darwinian evolutionary theory, which provided the conceptual frame for an evolutionary grounding of all living phenomena as part of a biological big history.

In this context, a close acquaintance of George Eliot's provides us with yet another version of what Mr. Casaubon might call *the key to all mythologies*. One of the earliest and most complex theories of evolution was formulated by the British positivist philosopher Herbert Spencer over one hundred and fifty years ago. His groundbreaking *First Principles* appeared in 1862, and was last revised by the author in 1900. It is somewhat ironic that Spencer is often regarded today as something of an epigone of Darwin, given that Spencer's theory of evolution not only predated the publication of the *Origin of Species*, in *Social Statics* (1850): as a theory of self-organization (or "dumb design," as opposed to so-called "intelligent design"), it is also much more complex and wide-encompassing than Darwinism. It is a theory of the global evolution of the universe and its phenomena, not merely a theory of the evolution of living forms, although it certainly takes into account the evolution of living beings, for the details of which Spencer often refers the reader to Darwin. Spencer goes much farther in trying to account for the self-organizing generation of *all phenomena*, at the physical-mathematical level, at the cosmological level, and also at the level of geology, biology, psychology, sociology, economics and culture.

It goes without saying that Spencer's conception of evolution is much more abstract and general than Darwin's, as it aims to explain a multitude of phenomena which were outside the scope of Darwinian biology. Actually, Darwin does not address the origin of life, not venturing to write on the subject, being too prudent both in scientific terms and in terms of the possible damage to his social life and reputation.

² See some of the arguments against evolutionary criticism and neuroaesthetics in Tallis (2012).

Darwin suggests that all living beings descend from one primeval living form, but he does not speculate much on the origin of that being, other than telling us in pseudo-Biblical language that “life was breathed into it.” Darwinism addresses evolution understood as the formation of species and diverse varieties of living beings; evolution means for Darwin (who does not much use the term himself) “descent with modification”; and his celebrated principle of natural selection and of the self-organizing emergence of complexity applies only to living beings. But many complex biological phenomena, such as consciousness, are not dealt with by Darwin either.

In contrast, the evolution of consciousness is central for Spencer’s system. His definition of evolution is more encompassing and ambitious than Darwin’s—too ambitious, some have said. Spencer’s definition of evolution runs thus:

Evolution is an integration of matter and concomitant dissipation of motion; during which matter passes from an indefinite, incoherent homogeneity to a definite, coherent heterogeneity; and during which the retained motion undergoes a parallel transformation. (Spencer 1937 [1862], 358: §145, original emphasis)

To para-rephrase, evolution is the dialectic process whereby greater complexity is generated through the spontaneous integration of natural forces and phenomena, giving rise to identifiable sub-systems and relatively autonomous structures, with laws of their own, in specific circumstances and local environments resulting from prior evolution. Some examples of this relative integration, at various levels, may be mentioned here:

- The formation of a planet out of disperse matter.
- The formation of pluricellular beings out of unicellular beings.
- The formation of complex societies, unifying dispersed populations.
- The integration of productive and economic systems in a global economy.

I pause to say that these transformations can only be accounted for *through narrative*, through the kind of cognitive grasping and that integrates diverse phenomena into a coherent account, a story of perceived processes and their development. It is also in this sense that

“the universe is made of stories, not of atoms,” as Muriel Rukeyser said.³

Now for some instances of the growing heterogeneity which goes along with these unifications:

- The formation of planets with different characteristics, a plurality of worlds, in different positions of the Solar System.
- The diverse forms of pluricellular beings and of anatomical structures, as compared with the relative uniformity of single-celled organisms or of the first hypothetical primeval organism.
- Different modes of social life, different ecological economies, exploiting a variety of natural resources and landscapes.
- The differentiation of social classes and professions in a nation.
- The global division of work and the extreme specialization of production allowed by the development of communications.

Although Spencer was not familiar with the Internet or with GATS, present-day notions such as the *global village*, the *business niches of the Long Tail*, etc., are only a corollary of this law of evolution, once we acknowledge the growing generation of complexity through dialectical processes of feedback and the ecological differentiation of systems of equilibrated forces. Spencer did not know about the European Union, either, but he announces it quite explicitly, a century in advance, in the mid-Victorian age, on the basis of his analysis of data and of historical processes, and well before the idea had reached the thoughts of any politician in Brussels.

Spencer could not deal in any detail with the origin of life and of consciousness, but he does situate them within the framework of this general theory of the *evolution of complexity*. It should be said that although in a more general sense any change, including processes of disintegration and disaggregation, are part of evolution, Spencer considers those as a contrary process: the growth of integrating and complexifying evolution in certain sections of the Universe may be followed by *dissolution*; actually, this may be taking place elsewhere at the same time. Dissolution is the result of a tendency to what Spencer’s near-contemporary Boltzmann called entropy, a reduction in heterogeneity.⁴ Consciousness, within the scope of Spencer’s theory, is a phenomenon that is possible only in the context of highly complex living processes,

³ Quoted by S. M. Carroll (2013). Carroll’s lecture provides a consilient justification of this statement from the point of view of contemporary physics.

⁴ On the current understanding of entropy, cosmology, and the arrow of time, see Sean Carroll (2010).

resulting from a high degree of heterogeneity. The materialist and evolutionary theory of consciousness formulated some decades later by George Herbert Mead in *The Philosophy of the Present* (2002 [1932]) is much in consonance with Spenser's thought, and it is tempting to see these two highly elaborate theories of complexity in terms of each other.

The global integration of evolutionary processes observed by Spencer (resulting from what Mead would call the sociality of physical phenomena), and his notion of consciousness, cannot but culminate in a philosophy of evolution which redefines itself, and accounts for itself, in such terms. Philosophy must needs be a process of integration. Being the highest activity of consciousness, philosophy must conceive of itself in these terms, and develop an awareness of what it is, considered in the light of overall evolutionary processes. And Spencer, like Hegel, must be forgiven if these reflections lead to a somewhat circular reflexivity (the "circling thoughts" of consciousness being essentially reflexive) or, more immodestly, to an aggrandizing of their own system within the scale of Being. I for one will not question the accuracy of their self-assessments.

William Whewell's term "consilience," revived of late by E. O. Wilson (1998), was not used by Spencer, but he is as clear-sighted and ambitious as Wilson when it comes to the formulation of such cognitive integration as an aim for thought. Without any need to reorient the task of philosophy, Spencer finds consilience presupposed in the very notion of philosophy, which operates under "the tacit implication that Philosophy is completely unified knowledge" (Spencer 1937 [1862], 484). After a preliminary definition of the task, *First Principles* sets down the axiomatic bases of knowledge, "Fundamental propositions, or propositions not deducible from deeper ones" and deriving from the very nature of rationality, taking as our data "those components of our intelligence without which there cannot go on the mental processes implied by philosophizing" (484). And from there we pass to certain basic truths, which for Spencer are "the Indestructibility of Matter" (the reader should remember that we are working here within a largely Newtonian paradigm predating Einstein and Bohr) and "The Continuity of Motion," both derived from the more basic principle of "The Persistence of Force"—a notion whose ultimate nature would have to be revised in our universe of quantum fluctuations. Be as it may, Spencer derives other basic principles of physics from these primary axioms: "The Persistence of the Relations among Forces" or the "Uniformity of Law," a necessary consequence of the fact that a Force cannot arise out of nothing nor lapse into nothing. Present-day cosmology is still grappling with the limits set

to these principles, and to our universe, by the Big Bang theory, black holes and baby universes, but of course those lay beyond the Newtonian paradigm of nineteenth-century physics.⁵

The next step in reasoning is that forces which seem to contradict the principle of the Persistence of Force and to be lost “are transformed into their equivalents in other forces; or, conversely, that forces which become manifest, do so by the disappearance of pre-existing equivalent forces” (1937 [1862], 484–485) – a principle exemplified in astronomical physics, in common geological phenomena, and in biological processes. For instance, Spencer reminds us of the huge amount of biological or geological forces on earth which result from the transformations of incoming solar radiation... although he underestimates the role of self-generated energy, coming from radioactive decay.

Other laws are derived from the principle of the Persistence of Force and illustrate in their turn a multitude of physical, biological or neuropsychological phenomena. Thus, Spencer’s celebrated Law of Minimal Effort, “The law that everything moves along the line of least resistance, or the line of greater traction, or their resultant” (1937 [1862], 485). It is to be noted that long before Ramón y Cajal or neuroscience, Spencer lays down at this point a bridge between the psychology of the association of ideas and the modern science of neural connections.⁶ The

⁵ See S. M. Carroll (2010) and Aguirre (2013) for an overview of some contemporary approaches to these issues. A highly interesting proposal to extend evolutionary theory to the realm of physics and rethink the nature and role of time in cosmology has been put forth by Smolin (2013) and by Unger and Smolin (2015).

⁶ “A stimulus implies a force added to, or evolved in, that part of the organism which is its seat; while a mechanical movement implies an expenditure or loss of force in that part of the organism which is its seat: implying some tension of molecular state between the two localities. Hence if, in the life of a minute animal, there are circumstances involving that a stimulation in one particular place is habitually followed by a contraction in another particular place—if there is thus a repeated motion through some line of least resistance between these places; what must be the result as respects the line? If this line—this channel—is affected by the discharge—if the obstructive action of the tissues traversed, involves any reaction upon them, deducting from their obstructive power; then a subsequent motion between these two points will meet with less resistance along this channel than the previous motion met with, and will consequently take this channel still more decidedly. Every repetition will further diminish the resistance offered; and thus will gradually be formed a permanent line of communication, differing greatly from the surrounding tissue in respect of the ease with which

same principle is applied by Spencer to the acquisition of habits, to learning, and to the personal association of impressions and memories (and this he did before the age of Proustian madeleines).

Another of the principles derived is that of the *Rhythm of Movement*, the creation of alternance and rhythm out of the composition of forces, out of repetitions, undulations, of partial—provisional—balancings of forces. As a matter of fact, if life exists at all as a form of complex order, it is because physical forces and chemical processes have come to be arranged in a complex and rhythmical way, and because there have come to exist large, complex and long-standing equilibria of forces giving rise to the appropriate ecosystems. No life is “breathed” into Spencer’s primitive living beings, which are conceived in a thoroughly materialist perspective as complex chemical packing systems for the preservation and rhythmical circulation of energy.

Knowledge of natural phenomena thus rests on a physics grounded, in its turn, on the principles necessary for the rational understanding of phenomena. The task of philosophy is to elucidate the way in which diverse physical and cosmic phenomena obey a common logic, a “law of cooperation” (which G. H. Mead will later refer to as the basic sociality of physical phenomena, present at any level from the interaction of forces to the phenomenology of consciousness and cultural dynamics). “And hence in comprehending the Cosmos as conforming to this law of co-operation, must consist that highest unification which Philosophy seeks” (Spencer 1937 [1862], 486).

The law Spencer wished for, a law accounting for “the continuous redistribution of matter and movement,” might be seen as realized at least in part in Einstein’s theory of relativity, specified in the formula relating energy and matter, $e=mc^2$, although physicists are still looking for a comprehensive “theory of everything” which may account for all of the basic forces of the universe under a single physico-mathematical explanation. It eluded Einstein, and this particular key may well be kept under lock forever.⁷

But, beyond the problem of physical reductionism, a consilient science should account for emergent phenomena; it should be able to explain all phenomena “in their passage from the imperceptible to the

force traverses it. Hence in small creatures may result rudimentary nervous connexions.” (Spencer 1937 [1862], 211–212: §79)

⁷ Readers may, however, keep abreast of recent developments in string theory, quantum gravity and other attempts at a Theory of Everything in the *Wikipedia* article “Theory of Everything.” See also Unger and Smolin (2015) on this issue.

perceptible, and back to the imperceptible.” This passage takes place in each of the phenomena of the universe, and also in the universe considered as a whole. The passage from *nothing* to *everything* and back to *nothing* is in one sense the ultimate short short story, one with a cosmic scope—a “Small History” which is also the most comprehensive evolutionary backdrop to any narrative. It comprises the history of everything, the gradual and emergent development of all phenomena which is evolution as conceived by Spencer.

Let us note in passing that the grand theoretical sweep of Spencer’s theory of evolution is not without precedent or contextual *Zeitgeist*. We have already mentioned Darwinism. But one might as well point out the cosmological-evolutionary theories of Darwin’s grandfather Erasmus Darwin, or, immediately before Spencer, that unique seamless texture of mysticism and scientific speculation, Edgar Allan Poe’s *Eureka*—both building bridges between traditional accounts of Creation and what can only be termed nineteenth-century versions of the Big Bang theory, long *avant la lettre*.⁸

I find a fascinating historiographic and narratological dimension in the philosophical project of nineteenth-century evolutionary theory, and one much akin to the contemporary concerns with the natural and ecological contextualization of the whole of human endeavors, as expressed for instance in E. O. Wilson’s recent book *The Social Conquest of Earth* (2012). A philosophy of evolution is necessarily a global theory of the history of the universe, considered in its physical, astronomical, geological and biological aspects. It includes, too, a history of human evolution (although in *First Principles* Spencer avoids dealing head-on with this contentious subject).

But this evolutionary conception also provides a framework—a cognitive map, or all-encompassing script – for the narratives of human history: a narrative structuring of the development of cultures and societies, and of psychological and ideological phenomena, allowing the narrative anchoring and the narrative mapping of human experience. Recently we have had a spate of excellent documentaries on this issue, notably those by Jacques Malaterre (2003, 2007, 2011), that bear witness to a growing interest of educated audiences in the need to connect cultural history and the history of civilization with an increased awareness of the origins and the ecological significance of the human phenomenon; the success of Yuval Noah Harari’s *Sapiens* (2015 [2011]) is another case in

⁸ See my article on the Big Bang before the Big Bang (García Landa 2014).

point. Anthropology and cultural history find their appropriate perspective within this scope, as does the more specific disciplinary study of psychological, political, economic and ideological phenomena in the various branches of the social sciences and the humanities. Any given phenomenon is understandable, on the one hand, as a manifestation of more basic principles of which it is an expression; on the other, it becomes part of a wider interactional context. Thus, the history of specific phenomena, “in their appearance and until their disappearance,” is rooted on a wider history, the comprehensive framework of all *effective* histories. As to *possible* or *imagined* histories, they are best approached initially as culturally situated fictions or cognitive constructions within the highly specific context of human communications and cultural myths.

We may use the term *narrative anchoring* (see García Landa 2008) to refer to the cognitive manoeuvre which situates a given narrative with respect to, or within the context of, those larger and more encompassing narrative and temporal schemes which structure our large-scale interpretation of reality, such as the Christian myth from Creation to Apocalypse, or Polybius’ notion of Universal History arising as an emergent phenomenon associated with the development of the Roman Empire. *Historicizing* a phenomenon within the cognitive frame of modern historiography is only one specific mode of narrative anchoring, given that experience may be embedded or cognitively situated within narrative frames arising from many other cultural and cognitive activities (e.g., myths) besides modern or formal historiography. With *narrative mapping* I refer here (taking another, and complementary, perspective) to our awareness that the narratives we use and those we recognize in our cultural landscape are themselves *historically situated* within a historicized map of developing narrative modes, a historicity some aspects of which are recognized at first sight in our interpretation of culturally situated narratives (e.g., as giving rise to such aesthetic experiences as the *dated*, the *corny* or the *exotic*), while other aspects require much detailed contextualizing and analysis.

From a philosophical standpoint, the notions of narrative anchoring and narrative mapping may be further theorized as cognitive instruments resting on the social and intersubjective nature of time experience, on the one hand, and the typification of experience on the other—concepts which may be grounded in a tradition of phenomenological reflection on the theory of social life. Some pointers in this tradition may be briefly mentioned: Edmund Husserl’s notion of the intersubjective dimension of immanent time, which gives rise to the experience of a world-time (1982

[1931], 128); Heinrich Schütz's examination of the social nature of knowledge-schemes, which are transmitted through cultural typifications and generalizations (see López Sáenz 1994, 194), and Peter L. Berger and Thomas Luckmann's analyses of the conceptual machineries of universe-maintenance (1967 [1966], 126). The notion of an all-encompassing text of history resulting from the sum of partial historical accounts and perspectives might be traced from Polybius to J. G. Droysen or W. Dilthey....⁹ But *basta!*—given that the conceptual genealogy of the concepts of narrative anchoring and narrative mapping might be traced through whole libraries and would take up many papers like this one. Suffice it to say that the narrative and time-schematic dimension of experience is already experienced at a *reflexive* level in the context of everyday experience, and has therefore been approached from many angles by philosophers, historians, literary scholars and social scientists who nonetheless would never have dreamt of being associated with the term *narratology*. There is a continuum and an overlapping of perspectives on the issue, ranging from naïve and unreflecting everyday concepts to elaborate theories couched in specialized discourses: the narratological perspective on these phenomena may bring out to the fore many narrative aspects of these cognitive modes, aspects which are insufficiently theorized, even in the most elaborate philosophical or scientific accounts.

The evolutionary interpretation of historical phenomena at different levels of complexity is a project with a prominent narrative dimension, and with many implications for the theory of narrative. In analyzing a story's narrative anchoring, we show how individual narratives are not a narratologically simple phenomenon; rather, they are made up of many narrative layers and structures: processes, anecdotes, previous histories, archetypes, interpretive frames and scripts, virtual plots and sideshadows. All of these find an anchoring through the individual narrative which articulates, uses or invokes them, but they can only do so thanks to the link provided by the general narrativity of reality—that relational character of all evolutionary phenomena, the all-encompassing frame of temporal development, which is conceptually grasped by evolutionary and consilient “Big Histories” such as the one articulated by Spencer.

Every time a narrative presupposes a specific world view, a given

⁹ In (2013a) I provide a perspective on Polybius from the standpoint of narrative hermeneutics. On Droysen's *Historik* and Dilthey's *Der Aufbau der geschichtlichen Welt in den Geisteswissenschaften*, see H. G. Gadamer's commentary (2013 [1960], 216ff.)

theory of reality, or a practical assumption of the way things are or are not, it is anchoring itself to such a narrative understanding of reality—or if it does not do so explicitly, we must bring that anchoring to light in order to make sense of the narrative. This is also the case every time a “grand narrative” is taken to be the background of lived or narrated experience—grand narratives such as the spread of civilization, cultural progress, rural exodus and the development of cities, industrialization, dreams of utopia, globalization—or conversely, grand narratives of crisis, impending catastrophes, ecological doom, overpopulation, global warming and collapse. Perhaps we need an updated Theory of Myths (yet another *Key to All Mythologies*)—a contemporary and historicized *Anatomy of Criticism*, to help us contextualize and anchor these narratives of Spring, Summer, Crisis, and Winter which are at work structuring our discourse every time we do not hold our peace.¹⁰

Michel Butor wrote that narrative “is a phenomenon which goes significantly beyond the domain of literature; it is one of the essential constituents of our apprehension of reality” (1992 [1960], 7). And indeed, our understanding of reality is a narrative one; reality is for us narrative in nature, a universal story taking place before, while, and after it is told. The human symbolic world is made of words and of the stories we build with them, but there is a perceptual grounding both in words and in stories which ensures that our virtual world of symbols is not arbitrarily imposed on the real world. One may say that reality is a narrative, literally so, from the moment we have a brain—a narrative generator—to understand and structure it.¹¹

An intuitive cognitive projection of complex narrative frames is to be found in the very substance of our everyday experience, as well as in the production of narrative discourses and in the activity of their interpreters and critics. Elaborate intellectual articulations of this

¹⁰ Big history should provide us with tools for rethinking both the modes of repetition and of static time (habit, laws, customs, etc.) and the modes of crisis and event (transformation, conflict, epiphany, etc.)—historicizing them in a new light. More generally speaking, Frye’s poetics of myth is in for an appreciative revaluation from the standpoint of present-day evolutionary and cognitive poetics.

¹¹ On the brain as a structuring generator of reality, see Gazzaniga (1998, 2008). See also Mellmann (2010) for a cognitive evolutionary perspective on narrative structures, and Bergen (2012) on the neurological substratum uniting language and perception. Bergen’s book may serve as an example of a consilient approach bridging the gap between the disciplines of semantics and neuroscience.

complexity, such as the one we find in Spencer's systematics, build on this general narrativity of our experience and communication. We perceive the world as an ongoing process of transformation and change, integrated in its complexity and diversity, made up of analogies between temporal processes and obeying observable regularities. The spontaneous analogy between the cycles of the day and of the year, the course of human life, and the stories of creation and apocalypse, is only one prominent example.

The Universe, universal evolution, can be conceived, as suggested by Spencer's philosophy, as an all-encompassing narrative (or narratable) process and as a complex multitude of narrative processes, framed within one another, embedded or sequenced in ways familiar to narratologists; processes which are classifiable or understandable through their relation to the whole. History as usually taught—that is, the history of nations and civilizations—is only a small chapter in this big history of mankind, the history of humanization, of the origin of language, the history of the dozen extinct species of humans and proto-humans which preceded us or were driven to extinction, as happens even today to the primitive populations, cultural isolates still surviving in their ancestral mode of life and caught up in the sweep of globalizing civilization. The Big History of mankind was for Darwin a “grand sequence of events” (Darwin 2001 [1874], 249) that should be explained by evolutionary biology. And sociobiologists like E. O. Wilson have shown that our story is not just our story: it is our nature too, indelibly stamped in our being. The evolutionary perspective shows the extent to which our very bodies and minds are living narratives, historical texts made of flesh and bone, biological sediments structured by embodied history, if only we can read them.

Darwin's perspective was grand, but Spencer's is grander; it is also much more closely argued than Nietzsche's vision of the Eternal Return. The history of life and consciousness is only a chapter—our chapter—in the history of physical and chemical processes. And Spencer conceives the role of his evolutionary philosophy (his *System of Synthetic Philosophy*, as he called it) as a consilient perspective on reason and knowledge, on the natural and human sciences. It is in fact a narrative explanation of all possible phenomena in nature (and culture), from their emergence (at the beginning of the story) to their disappearance, given that nothing is eternal:

If [Philosophy] begins its explanations with existences that already have

concrete forms, then, manifestly, they had preceding histories, or will have succeeding histories, or both, of which no account is given. Whence we saw it to follow that the formula sought, equally applicable to existences taken singly and in their totality, must be applicable to the whole history of each and to the whole history of all. This must be the ideal form of a Philosophy, however far short of it the reality may fall. (Spencer 1937 [1862], 486: §186)

The Universe is a complex process in which Spencer distinguishes a primary process of evolution, an “integration of matter and dissipation of movement,” as he puts it, and secondary processes accompanying it, a composite evolution: “The primary re-distribution of Matter and Motion is accompanied by secondary re-distributions” (1937 [1862], 487: §186)—re-distributions resulting in the generation of complexity, rather than in an integration of everything into a simple universal unity. Separate wholes divided into parts are created, and there are indirect processes of integration making these parts mutually dependent, even as they become differentiated.

From this primary re-distribution we were led on to consider the secondary re-distributions, by inquiring how there came to be a formation of parts during the formation of a whole. It turned out that there is habitually a passage from homogeneity to heterogeneity, along with the passage from diffusion to concentration. While the matter composing the Solar System has been assuming a denser form, it has changed from unity to variety of distribution. Solidification of the Earth has been accompanied by a progress from comparative uniformity to extreme multiformity. In the course of its advance from a germ to a mass of relatively great bulk, every plant and animal also advances from simplicity to complexity. The increase of a society in numbers and consolidation has for its concomitant an increased heterogeneity both of its political and its industrial organization. And the like holds of all super-organic products – Language, Science, Art, and Literature. (Spencer 1937 [1862], 488: §187)

In any kind of phenomena, as Spencer puts it in a necessarily general formulation, we pass from a relatively diffuse, uniform and indeterminate structure to the creation of multiple, concentrated, complex and mutually integrated forms. Unless, that is, these complex forms enter a process of decay and dissolution. It is not by chance, Spencer asserts, that all disciplines of knowledge and all phenomena can be subsumed under this all-encompassing law of evolution. It works, rather, the other way round: the disciplines we use to know and classify reality are “mere conventional

groupings, made to facilitate the arrangement and acquisition of knowledge,” but their ultimate object is the same cosmic evolution: “there are not several kinds of Evolution having certain traits in common, but one Evolution going on everywhere after the same manner” (1937 [1862], 490). As a matter of fact, the labor of science is to show the common grounding of the evolution of all phenomena, once we have come to know the general principle of reality as manifested in the elementary laws of physics governing matter and energy—that is, in the primary effects of the Force which has generated the universe:

Analysis reduces these several kinds of effect to one kind of effect; and these several kinds of uniformity to one kind of uniformity. And the highest achievement of Science is the interpretation of all orders of phenomena, as differently conditioned manifestations of this one kind of effect, under differently-conditioned modes of this one kind of uniformity. (Spencer 1937 [1862], 498: §194)

Spencer’s theory of complexification and dissolution has an interesting aspect related to the observability of the amount of information—one which might be further explored, though not at this point. Still, we may note in passing that the difference established here between Evolution and Dissolution is relative to the observing subject. As life and consciousness are in themselves complex phenomena, and the necessary basis on which theories of evolution must rest, the very phenomenological constitution of the subject matter leads *per se* to conceiving of the subject matter directionally. Complexification is positively evaluated (it is a “rising” phase of evolution), while disintegration is negatively evaluated—although, if we imaginatively suppress the material basis of our cognitive viewpoint, it’s all the same old process of evolution. And indeed, both evolution and dissolution, in Spencer’s theory, fall under the same explanation as effects resulting from the same causes, as a continuum in fact. We may argue that Spencer’s using two different terms, *evolution* as against *dissolution*, is invidiously “teleological,” “directionalist,” “anthropic,” and other potentially nasty words from the standpoint of late twentieth-century evolutionism. Nonetheless, his theory is quite self-consciously deliberate on this point: we live in a world of objects (as a matter of fact, subjects have to be objects before they are subjects), and therefore we are keenly interested in the formation of objects, and in their dissolution—in their *biography*, we might say, because we ourselves are subject to the same law of evolution and dissolution that governs other

things.¹² Arguably, our knowledge is *narrative* knowledge precisely because it is not neutral with respect to the universe: the structure of our knowledge is of a piece with the evolutionary nature of the universe itself.

This is perhaps the key sentence in this paper, so I will repeat it for emphasis: Our knowledge is *narrative knowledge* because it is not neutral with respect to the universe—the structure of our knowledge is of a piece with the evolutionary nature of the universe itself. To say that our theorizing is not merely constative or descriptive, but also performative and world-making, is an Austinian take on the same issue. What follows? Consilience. – *Only connect*. The understanding of narrative dynamics is therefore an essential cognitive tool in order to understand the universe and evolution. But understanding the universe and evolution, *our* evolution, and the evolution of our story-making ability is an essential cognitive tool in order to understand narrative.¹³

Spencer explains, in an admirable feat of reasoning, just how all phenomena in the evolutionary process derive from the principle of the Conservation of Force. Any homogeneous whole to which a force is applied must lose its homogeneity: an inequality of relationships is thereby produced, and with it a differentiation of parts, to which this same process is applied recursively in phases of growing complexity, so that objects moderately heterogeneous spontaneously tend to become more and more heterogeneous. Darwin is often credited nowadays with the

¹² I would modify, however, the way in which Spencer formulates the relationship between evolution and dissolution to show that the mutual involvement of processes of integration and decay is much closer than his formulation would seem to suggest. I add the italicized words in the following quote: “All things are growing *and* / or decaying, accumulating matter *and* / or wearing away, integrating *and* / or disintegrating” (Spencer 1937 [1862], 251: §95).

¹³ To put it otherwise, narrativity (and narratology) are emergent phenomena which feed back into the complex dynamics of cognition (García Landa 2010b). And this feedback takes place at many levels: from the limited system of a literary narrative to cognitive representations of the ultimate complex system which is the universe as a whole. See Pier (2013) for a theoretical background on complex dynamics in narrative and further reflections on its implications as regards the poetics of reflexivity and narratological theory. Sládek distinguishes the modelling function of narratives in science as a distinct one, set off from such explanatory functions as the illustrative, historical, popularizing or didactic functions: “Modelling narratives *are* in this sense an integral part of theoretical and scientific concepts” (2010, 65). Arguably, a powerful cognitive model (narrative or otherwise) also performs a *legitimizing* function for the discipline, which is Sládek’s sixth function of narrative in the sciences.

notion of the spontaneous emergence of order without an intelligent design. The notion actually goes far back to the Atomists, and more immediately, back to Adam Smith.¹⁴ But Spencer provides one of the most comprehensive, wide-ranging and closely argued expositions of this notion: the universe arises out of Nothing—out of undifferentiated, homogeneous Force—through a systematic application of the domino effect, the butterfly effect and the snowball effect. Mind is no exception: it is a complex outcome of evolution and is therefore to be found at the end of the process, not at the origin. Everywhere, the unintended consequences of the processes of spontaneous organization can be discerned and understood through the mental processes of retrospection. Brains and minds arose in order to prospect the environment through mental models, plans and intentions, but they have also developed, as mirror images perhaps, the ability to retrospect and to construct narratives and explanations.¹⁵

The evolution of consciousness is therefore the last chapter of this law of evolution, so that Spencer's theory turns back reflectively (one might say Hegel-like) on its own genesis. If the Universe is the product of a unified Force resulting in complex and diversified effects, Thought evolves towards an ever deeper understanding of that underlying unity and of those modes of local complexity: planets, living beings, ecological niches, social institutions, manners and fashions. Conscious thought evolves towards the consilience of the disciplines, of the modes of knowledge that account for the specific modes of complexity: it evolves, for instance, toward reflexivity, toward evolutionary theory, and toward this book of Spencer's, *First Principles*. Only in this sense may we speak of an anthropic principle in the Universe: consciousness, the product of

¹⁴ On Adam Smith's "invisible hand" and the law of unintended consequences see Macfarlane (2007). See also my article on self-generated order (García Landa 2015).

¹⁵ We fast-forward at this point. Although this conception of mind and cognition is implied in Spencer's evolutionary theory, it is only spelt out in rather more recent evolutionary thought. See for instance S. Carroll's "Purpose and the Universe" (2013), Richard Dawkins on "The Purpose of Purpose" (2009) and, as an intermediary step between them and Spencer, G. H. Mead's account of the origin of consciousness and mental representations in *The Philosophy of the Present* (Mead 2002, originally published in 1932). Peirce's scale of semiotic complexity, from simple icons exhibiting their mere Firstness, to more complex signic structures involving Secondness and Thirdness (Peirce 1956, 105) may also be seen as a contribution to evolutionary semiosis, and thus a grounding for an evolutionary theory of consciousness.

complex human sociality and of a reflexive attitude to natural phenomena (including consciousness), tends quite spontaneously to analyze its own genesis and its own complexity and to build mental models of both nature and consciousness. It is quite another thing to suppose that a consciousness of any kind has designed the universe—that is, perhaps, the ultimate instance of hindsight bias, the mother of all narrative fallacies.

An interesting passage in *First Principles* addresses the evolution of science and of religion and the way in which the agency of gods is a notion with a historical genesis, and with a dissolution:

Towards some conception of this order [i.e., the recognition of a persistent Force as a power which transcends knowledge], inquiry, scientific, metaphysical, and theological, has been, and still is, manifestly advancing. The coalescence of polytheistic conceptions into the monotheistic conception, and the reduction of the monotheistic conception to a more and more general form, in which personal superintendence becomes merged in universal immanence, clearly shows this advance. It is equally shown in the fading away of old theories about “essences,” “potentialities,” “occult virtues,” &c.; in the abandonment of such doctrines as those of “Platonic Ideas,” “Pre-established Harmonies” and the like [*one might include here Intelligent Design or the agency of a personal deity!* – JAGL]; and in the tendency towards the identification of Being as present in consciousness, with Being as otherwise conditioned beyond consciousness. Still more conspicuous is it in the progress of Science, which, from the beginning, has been grouping isolated facts under laws, uniting special laws under more general laws, and so reaching on to laws of higher and higher generality; until the conception of universal laws has become familiar to it.

Unification being thus the characteristic of developing thought of all kinds, and eventual arrival at unity being fairly inferable, there arises yet a further support to our conclusion. Since, unless there is some other and higher unity, the unity we have reached must be that towards which developing thought tends. (Spencer 1937 [1862], 495–96: §192)

One might of course want to somewhat qualify this theory of the “Persistence of Force” in the age of quantum fluctuations, dark energy and baby universes (S. Carroll 2010; Aguirre 2013). But the picture is accurate enough as regards the evolution of our cosmic ecological niche, our own observable and historical universe. I have chosen Spencer’s theory not as a currently valid scientific model, but as a particularly self-conscious and well-argued instance of our trans-historical tendency to

interpret individual phenomena as part of a single sequence and as deriving from first principles, a tendency which can be discerned throughout history in creation myths and in materialist philosophies alike. Moreover, Spencer warns us that his theory should not be judged by the details of the exposition, or by the limitations of nineteenth-century science, but on the basis of a general plan mapping out the relationship of first principles to a global and unified interpretation of phenomena in the universe.

And it is at this point that we encounter Spencer's most explicit formulation of a convergence between consilient interpretation, evolutionary theory, and narrative anchoring:

If these conclusions be accepted—if it be agreed that the phenomena going on everywhere are part of the general process of Evolution, save where they are parts of the reverse process of Dissolution; then we may infer that all phenomena receive their complete interpretation only when recognized as parts of these processes. (1937 [1862], 496: §193)

C. S. Peirce thought as much in 1891; and it is only a small step (but one that has waited more than a century to be taken) from this insight to Lee Smolin's (2013, xxv) contention that an evolutionary framework is required at the level of elementary physical principles if the laws of physics are to be *explained* at all.

Reading this passage of Spencer's through the lens of some additional narrativistic awareness, we might say that consilient knowledge of a phenomenon is a narratively structured knowledge. It is knowledge of the present structure of the phenomenon and of how it relates to similar phenomena; but it is also the knowledge of its history, of its possible future, and of the interpretations it has received in the past; knowledge, therefore, which includes an account of how we have come to this knowledge.

A global interpretation necessarily involves a global framework, and that is a cosmological, evolutionary framework. Every individual object has a history: we may see the whole action of the universal forces "in every grain of sand," or recognize the way in which each object tells a story—the history of its specificity. There may be many stories around an object or phenomenon, depending on the tellers, but again, a deeper understanding must see the single story that encompasses them all.

An entire history of anything must include its appearance out of the imperceptible and its disappearance into the imperceptible [...]. And

knowledge of it remains incomplete until it has united the past, present, and future histories into a whole. (Spencer 1937 [1862], 246: §93)

Theodosius Dobzhansky (2001 [1973]) famously asserted that “nothing in biology makes any sense outside the theory of evolution.” We might extend this formula in order to argue that *nothing makes any sense outside the theory of evolution*—or if it does make sense, it is a partial, imperfect sense, whose relations to the sense of other things can be fully understood only within this consilient framework.

I have chosen Spencer as a model for consilient narratological analysis at a high level of theoretical elaboration; but we may also find in his work some insights on the conversational and garden-variety versions of narrative anchoring. Narrative mapping is not just a theoretical-philosophical activity, but also a constituent part of everyday life. We do it all the time: the narrative anchoring of stories within larger stories, and within an evolutionary and narrative conception of reality, is one of the most basic cognitive manoeuvres allowing us to construct and organize a world:

Our daily sayings and doings presuppose more or less such knowledge, actual or potential, of states which have gone before and of states which will come after. Knowing any man personally implies before having seen him under a shape much the same as his present shape; and knowing him simply as a man, implies the inferred antecedent states of infancy, childhood, and youth. Though the man's future is not known specifically, it is known generally: that he will die and decay, are facts which complete in outline the changes to be gone through by him. So will all objects around. (Spencer 1937 [1862], 246: §93)

– *The great Globe itself, yea, all which it inherit, shall dissolve; and, like this insubstantial pageant faded, leave not a rack behind.* There is a theory of evolution of sorts in Shakespeare, too, as in so many places from Genesis and Gilgamesh onwards.¹⁶

Science is a powerful generator of such implied biographies for all things, as it helps explain any phenomenon as a historical phenomenon. But so does history, within its own scope, and gossip too, and literary criticism. The nineteenth century was a historicist century. And, after a structuralist twentieth century, it is salutary to gaze back to Spencer's radically historicist theory as a reminder that *there is a story in*

¹⁶ See my note on *ordo naturalis* and complexity (García Landa 2009).

everything, and that *the world*, the Universe, *is a story*. Every single thing is a potential chronotope made of sedimented evolutionary processes; any object or practice is a unique conjunction of phenomena containing an inherent history which can be deciphered and contextualized.¹⁷ We still live in a forest of symbols – and this forest we cannot get out of, nor demythologize it. Science studies a human being, a sheep or a silkworm as beings with a life history which defines them as such, and with an evolutionary background; but it also sees the evolution of their bodies, or of the materials of that man's house, as a natural phenomenon:

Not stopping short at the sheep's back and the caterpillar's cocoon [*or the tulip's streaks, one might add* – JAGL], [Science] identifies in wool and silk the nitrogenous matters absorbed by the sheep and the caterpillar from plants [*or finds in the human body the quintessence of dust from a dead star* – JAGL]. The substance of a plant's leaves, in common with the wood from which furniture is made, it again traces back to certain gases in the air and certain minerals in the soil. And the stratum of stone which was quarried to build the house, it learns was once a loose sediment deposited in an estuary or on the sea-bottom. (Spencer 1937 [1862], 247: §93)

Thus, the Science of Everything, a consilient science, cannot but be a Story of Everything: it is a science with a prominent narrative dimension (García Landa 2013b).

Evolutionary biology arose as a historical and narrative science of life in the nineteenth century. Physics, like chemistry, became narrative, it is said, in the twentieth century, but it was already a narrative and evolutionary science from Spencer's standpoint.

If, then, the past and the future of each object is a sphere of possible knowledge; and if intellectual progress consists largely, if not mainly, in widening our acquaintance with this past and this future; it is obvious that the limit towards which we progress is an expression of the whole past

¹⁷ Bakhtin's (1987 [1937–1938]) discussion of the chronotope, though somewhat loosely theorized, contains many insights bearing on narrative anchoring and narrative mapping, e.g., on the conceptualization of the historicity of narrative settings and materials, showing the historicity of modes of plotting and of bringing characters together (on the road, in the salon, the castle, etc.). Settings (e.g., the castle) he conceives as resulting from congealed time and action, i.e., as "objects which tell a story" in themselves. See also my note on "objects which tell a story" (2012).

and the whole future of each object and the aggregate of objects. (1937 [1862], 247: §93)

Perhaps, too, this is the only way in which so many of these objects, the unobserved and the irrelevant as well as the precious ones, may be redeemable after the death—or the historicization—of God... although such language goes beyond Spencer's impassive perspective.

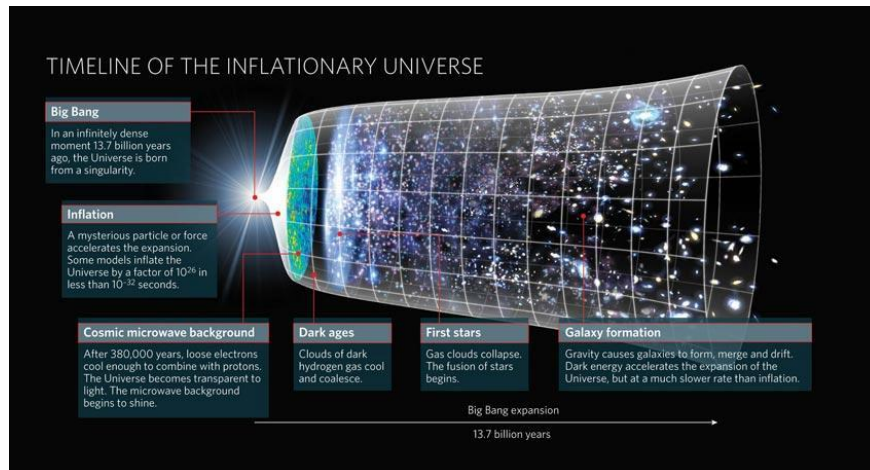
Spencer's attempt at a universal system of knowledge, his *Key to the Unlocking of Everything*, may seem in some respects hopelessly old-fashioned—inescapably, whiskeredly Victorian. But he recognized the extraordinary scope of this endeavor and notes that he is only pointing in the direction towards which knowledge tends, not setting the limits it may reach because of its inherent limitations. Be it as it may, twentieth-century science, whatever its methodological assumptions as regards its labor, has not ceased moving in this consilient direction, and there has not been a shortage of *histories of everything*, *histories of Time* or *histories of the Universe* (García Landa 2010a). More will follow, to the crack of Doom, and they will provide the backdrop to our stories of what we are, and of what we do.

I will end with a recent reflection by E. O. Wilson, the major spokesman for present-day attempts at a consilience between the sciences and the humanities:

The human condition is a product of history, not just the six millenniums of civilization but very much further back, across hundreds of millenniums. The whole of it, biological and cultural evolution, in seamless unity, must be explored for an answer to the mystery. (2013)

That seamless unity is also the unity of a narrative which must be spun and unwoven. And retold, and analyzed.

—oOo—



The illustration shows a scientific version of the story underlying all stories—our current narrative of the history of reality, comprising more than 13,700 million years of cosmic evolution, up to the present moment. But there's no telling that another Big Bang might not take place within the next minute or two. Our reality is contingent, both partially predictable and ultimately unpredictable. Both dimensions require a narratological analysis. (Image courtesy of NASA/WMAP science team).

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