

American Genesis as Doctrine

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Rethinking the Americas encourages a rethinking of borders, in time and space, around fields of study, and between knowledges. It demands considering versions of the continent's history, and geography, often excluded or distorted in standard accounts of our planetary experience. The oscillation between singular and plural in the continent's very name points already to a need for finer definition, firmer concept. At a time when economic imperialism, or globalization as it is called, threatens every last redoubt, and when area studies reach their ontological limit, nothing could be more apt than this particular rethinking.

As the most dispossessed of continents, America becomes, ipso facto, the richest focus of study, theoretical analysis, and education worthy of the name. It is the place to look anew at the master narratives and structuring of knowledge that the West has invented to justify and promote itself. It is also the site of an enduring intelligence that in recent centuries has, almost entirely unacknowledged, decisively nourished that of the West.

Study of America may, then, readily become restitution. How such a project might be made into pedagogy is obviously a matter for discussion among many. How to resist from within the pressures of the disciplines we work in, each of which has its own western priorities, schemes and exclusions? How to resist from within the limitations of languages imported from Europe—Dutch, English, French, Portuguese, Spanish—each of which has staked its claim at the expense of languages longer resident?

As it is manifest in university systems, the structuring of western knowledge typically finds its institutional beginnings in the celebrated schools of medieval Europe, Paris, Oxford, Bologna and so on. The subsequent changes made to that structure, as Christian theology waned and "science" waxed, is a familiar story (Butterfield). Far less familiar is America's role in those changes, not just as a furnisher of new or unsuspected data but as the home of an intellectual endeavor in its own right (Arciniegas). Radical or removed as it may seem at first, this question of knowledge systems opens into what is perhaps the richest vein of Americanism. It bears directly on several key debates that currently surround elements of American experience; and it is inseparable from the

story of how the new sciences and disciplines emerged in post-Columbian Europe.

The western shift from theology to science meant rethinking the world and its origins while finding a place for America in the medieval mappamundi. As the Biblical Genesis lost its status as the ultimate authority on how the planet was formed and populated, cosmogony became the preserve of the astronomy promoted by Galileo and then the geology, biology and other sciences produced by 18th-century Enlightenment. Having burned Galileo, the Christian theologians bitterly resisted the theories of the first geologists, or Vulcanists as they were known, which literally multiplied and contorted the only rocks accounted for in the Bible (the sedimentary strata of the Flood); in the same vein, they decried fossil evidence that man, rather than being God's separate creation, had evolved with and from other species. At all events, these changes came after the encounter with America and rendered obsolete the knowledge carried and preached by the Europeans who first set foot there.

Further, on just the more conflictive issues—how the planet was formed, how humans evolved—America could be shown to have developed ideas of its own that anticipated with precision the shifts in western knowledge. This much was understood by certain Europeans at the time, in a 16th-century window that allowed dialogue of a kind (Gimmel). Thereafter, the west closed in accepting only the demonstrations of its own science and principles of knowledge, and projecting back as it were the idea that, thanks to this science, it knew, could know and indeed somehow always had known everything best. To this tendency an excellent antidote may be found in Lévi Strauss's terse comparison between New and Old Worlds in "Race et histoire" (1950):

The example of America shows convincingly enough that this cumulative history is not the exclusive privilege of one civilization or one period of history. This immense continent doubtlessly saw men arrive in small groups of nomads moving over the Bering trait in the course of the last ice age, at a date which modern archaeological knowledge tentatively sets around the twentieth millennium B.C. During this period, these men achieved one of the world's most astonishing demonstrations of cumulative history. They explored thoroughly the resources of a new natural environment. Besides the domestication of some animal species, they cultivated the most diverse vegetable form for their food, their remedies, and their poisons. And—something unequalled anywhere else—they adapted such poisonous

substances as cassava plants to the role of basic food; they used other plants as stimulants or anesthetics; they collected certain poisons or narcotics according to the way they affected certain animal species; finally, they perfected to the highest degree certain industries such as weaving, ceramics, and the working of precious metals. In order to appreciate this immense accomplishment, it is enough to measure the contribution of America against the civilizations of the Old World. In the first place, there are potatoes, rubber, tobacco, and coca (the basis of modern anesthetics) which, in various ways constitute four pillars of Western culture; there are corn and ground nuts, which were to completely transform the African economy before becoming widespread in the alimentary diet of Europe; then, cocoa, vanilla, tomatoes, pineapples, pimentos [chilis], several types of beans, cotton, and gourds. Finally, the zero, basis of arithmetic (and, indirectly of modern mathematics), was known and used by the Maya at least half a millennium before being discovered by Indian scholars, from whom Europe received it through the Arabs. For this reason perhaps, their calendar was then more accurate than that of the Old World. Much ink has been spilled about the question whether the political regime of the Inca was socialist or totalitarian. In any case it fell within the most modern formulas and was many centuries ahead of European phenomena of the same type. The recent revival of interest in curare should call to mind, if necessary, that the scientific knowledge of the native Americans, applied to so many vegetable substances unused in the rest of the world, can still provide the latter with important contributions.

At the same time, European value systems and moral philosophies shifted their reliance on Christian explanations of the natural world. Genesis could no longer serve quite so uncomplicatedly as the blue print for how men should behave towards, say, women, or other species. And again, America proved to have developed ideas very much its own (Campbell), which began to feed European thinking in the 16th century, albeit most often in sadly distorted form. This is saliently the case with doctrines of genesis, based on the cosmogonical scheme of Suns or world-ages, which is worth examining in some detail.

The scheme of five Suns and its impact on Europe

The short-lived 16th-century dialogue between Europe and America involved few but star figures, who in France and England centered on

Michel de Montaigne and Christopher Marlowe. For each of these two, America had a deep fascination; and each was denounced for heresy. In his essay "On Coaches" (Book iii, chapter 6), Montaigne ponders the achievements of the ancients, not just the Greeks and Romans of Europe but the Inca and Aztecs of America. He finds grandeur manifest in architecture, roads, gardens, institutions and philosophy and for his American example of this last turns to Aztec cosmogony:

They believed the state of the world to be divided into five ages, as in the life of five succeeding Suns, whereof four had already ended their course or time; and the same which now shined upon them was the fifth and last. The first perished together with all other creatures by a universal inundation of waters. The second by the fall of the heavens upon us which stifled and overwhelmed every living thing: in which age they affirm the Giants to have been, and showed the Spaniards certain bones of them, according to whose proportion the stature of men came to be the height of twenty hands. The third was consumed by a violent fire which burned and destroyed all. The fourth by a whirling emotion of the air and winds, which with the violent fury of itself removed and overthrew divers high mountains: saying that men died not of it but were transformed into monkeys. (Oh what impression does not the weakness of man's belief admit?) After the consummation of this fourth Sun, the world continued five and twenty years in perpetual darkness: in the fifteenth of which one man and one woman were created, who renewed the race of mankind. Ten years after, upon a certain day, the sun appeared as newly created, from which day begins ever since the calculation of their years. On the third day of whose creation died their ancient gods, their new ones have day by day been born since. In what manner this last Sun shall perish my author could not learn of them. But their number of this fourth change does jump and meet with that great conjunction of the stars which eight hundred and odd years since, according to the astrologians supposition, produced diverse great alterations and strange novelties in the world (John Florio translation).

Montaigne's immediate source is a French translation of Francisco López de Gómara's *Historia de la Conquista de México* (1552), chapter CCVI: "Cinco soles, que son edades". This Spanish account had been taken in turn from works by Aztec historians writing in Spanish and their native Nahuatl, and who, going one step further back again, had drawn on their own archives of books, or codices, and inscriptions in native script

(Nowotny; Brotherston, *Painted*; Boone). The single most important statement in this last category to have survived is undoubtedly the Calendar or Sun Stone which was unearthed from near the Templo Mayor in 1790 and now serves as the centerpiece of Mexico City's Museo Nacional de Antropología. This unquestionably pre-Cortesian text in stone was transcribed into more than one Mesoamerican language, a prominent example being the Cuauhtitlan Annals (f.2; Bierhorst, *History*), which were written out alphabetically in Nahuatl or Aztec in the 16th-century:

The first Sun to be founded has the sign Four Water, it is called Water Sun. Then it happened that water carried everything away, everything vanished and the people were changed into fish.

The second Sun to be founded has the sign Four Jaguar, it is called Jaguar Sun. Then it happened that the sky collapsed, the sun did not follow its course at midday, immediately it was night and when it grew dark the people were torn to pieces. In this Sun giants lived. The old ones said the giants greeted each other thus: "Don't fall over", for whoever fell, fell for good.

The third Sun to be founded has the sign Four Rain, it is called Rain Sun. It happened then that fire rained down, those who lived there were burned. And they say that then tiny stones rained down and spread, the fine stones that we can see; the *tezontli* boiled into stone and the reddish rocks were twisted up.

The fourth Sun, sign Four Wind, is called Wind Sun. Then the wind carried everything away. The people all turned into monkeys and went to live in the forests.

The fifth Sun, sign Four Ollin, is called Earthquake Sun because it started into motion [*ollin*]. The old ones said in this Sun there will be earthquakes and general hunger from which we shall perish.

This scheme of Suns or world-ages is widely invoked in texts from Mexico and Mesoamerica, the most extensive being the *Popol vuh*, which was written by the Quiche Maya in their language in the mid 16th century (Edmonson; Tedlock). Announcing itself to be a transcription from a pre-Cortesian text of the same name, the *Popol vuh* in every respect deserves the label often attached to it of "American bible", since it sets into a complex philosophical argument the catastrophes and metamorphoses of the Suns. Although he does not say so, the world-age scheme celebrated by Montaigne was shared, *mutatis mutandis*, by the Inca, along with other Andean peoples, and it stretches far into North America as well. In the 20th

century, accounts of creation among the Mapuche and the Navajo alike continue to invoke the beginnings of our world in these terms. It may therefore be fairly considered a widespread and long-lived American creation story.

In quoting this American creation story at length Montaigne knew he was offering not just a mere curiosity of thought. The life forms and upheavals of each Sun, individually and as a configuration, appeal to concepts that were most relevant to the uncertainties and debates of his day. The phenomena of eclipse, volcanic eruption, earthquake, and vertebrate metamorphosis (fish, monkey) all severely tested the limits of what Europe then knew as science, while in America each, along with the Flood, carried with it clusters of values and ideas from which Genesis diverges strongly. Something of his own unease on this count can be seen in his saving parenthesis ("Oh what impression...."), though this of course was not enough to save his work from papal censorship. Nor did it prevent him from implicitly adopting this other American genesis as his own, in so far as he says that the catastrophes of the Suns happened not just to "them" but to "us" all. He also says that the native Mexicans chose to show fossils to the Spaniards, correctly enhancing Gómara on this point.

When they came to America, evangelizing Christians were pleased to come across stories of the Flood, for them "el diluvio universal", since it suggested that after all there might be a place for Indians in the only account of creation they knew to be true, the biblical Genesis. They were soon less pleased however to discover that in America this Flood came not as the vendetta of an anxious almighty nor involved a covenant with an animal-breeding boat builder. Rather it ratified minute concern with life forms and species metamorphosis, typically into fish, wholly absent from the Bible; and it stood as but one among several cataclysmic events and indeed could be properly read only as part of a configuration of Suns or world-ages.

Then, in the second world age, since eclipses of the solar type that ended it are caused by the moon passing between sun and earth, pre Columbian Europeans in general were ill equipped to understand and calculate them, locked as they were into the quaintly inept Ptolemaic model of celestial spheres turning around the earth. They were also hampered by having inherited Roman arithmetic and calendrics, which as Lévi-Strauss reminds us had no concept of zero or place value. By contrast, American astronomers, above all those working in the tropics, had recourse to a far more advanced mathematics and to calendars whose capacity to articulate time was unrivalled anywhere (Aveni & Brotherston). Eclipse tables in the

Maya hieroglyphic books (Dresden 51-59; Thompson) testify to a competence likewise evident in Aztec annals and (according to Tom Zuidema) inherent the actual organization of the Inca state. With the advent of the Gregorian Calendar Reform of 1582, which belatedly strove to remedy the defects of its Julian predecessor, the Aztec authors of the Mexicanus Codex (9) reflected comparatively on the imported and their resident systems, invoking formulae present already in the Classic inscriptions (488 AD) that calculated the sun's annual movement yet more accurately. In the Andes and Mesoamerica alike, the style of observation and numerical principles underlying this American astronomy rely phenomenologically on the fuller exposure of the night sky afforded by the tropics (and therefore never available in Europe).

In the earthly domain, the eclipse of the second world age suggests ways of thinking which, as with the Flood, fit badly with the lessons of Genesis. There, Adam is given dominion over animals and indeed the rest of creation, being told he may do with it what he pleases. Here in America, the morality goes in quite another direction: the limp watery creatures of the first age are succeeded by others who are hard, giants intent on exploiting other life for their own ends and profit. As a result, the species they want to tame and domesticate, turkeys and dogs, turn on them reclaiming their autonomy; the oppressors are torn to pieces and even their kitchen utensils rise up and batter them. The power of this episode attracted Borges' attention in "La escritura del dios" (*El Aleph*); for Carpentier it stands as the warning given (uniquely, he claims) by American cosmogony against human presumption and dependence on machine-like infrastructure (*Los pasos perdidos* chapter 4, section xxviii, where he also says: "Es el mundo del Génesis que halla mejor su expresión en el lenguaje americano del Popol vuh que en los versículos hebraicos de la Biblia").

In the Huarochiri Manuscript (Salomon & Urioste), a Quechua text of 1607, the behavioral principle and domestic contract remain the same, though the turkeys and dogs of Mesoamerica, as domesticates, become Andean llamas. Aware of European need to respect the Bible as the sole source of world history, the Huarochiri authors suggest a correlation with that source, albeit with palpable lack of conviction: "As Christians we account for this today by saying that it was the eclipse at Jesus Christ's death. And possibly it was".

With the rain of fire that ended the third Sun we pass from the discourse of astronomy to that of geology. Mountains are literally thrown up by pressure from below, which produces the feather-light volcanic rock known in Nahuatl as *tezontli* and which, likewise, causes the earthquakes destined

to end our world, the fifth Sun. Annals recorded in Mexico's codices detail seismic dislocation and bending up of sedimentary strata as well as showing the origins of igneous rock in complex cross-sections of volcanic flows; these sources also gauge seismic intensity in what is clearly an antecedent of the Richter scale (García Acosta). As is known, Andean architects developed techniques of interlocking foundations, which in practice have resisted earthquakes over millennia. Just as its tropics fostered astronomy and mathematics, so America's tectonically active western rim rendered unthinkable the physically stable model of the planet so keenly defended as orthodox by Europe until as late as the end of the eighteenth century. In the European view of genesis, the only way rocks could have been formed was by sedimentation, as a result of the biblical Flood; this is, of course, the model finally upset by the first European geologists, Darwin, Humboldt and others, for whom experience of America was definitive.

Not only was the sedimentary European model unthinkable in this American context from the start, so were the doctrines of fixity, stability and insurance built upon it. For the word for earthquake in Nahuatl, *ollin*, also means movement, elasticity, the material rubber (unknown outside the American tropics before Columbus), and hence chance, as in the rubber-ball game *ulama* played in and around Mesoamerica. As we saw, our age is called Four *Ollin*; *hule*, which derives from *ollin*, is modern Mexican for rubber; the ball-game *ulama*—the epic focus of the *Popol vuh*—is another derivative, as is the name of the ancient Olmec or rubber people who are credited as the first players of that game. In all, an integral role for the American concept of radical instability quite alien to Biblical teaching.

With the fourth Sun, those changed into monkeys complete a chain of metamorphoses that begins in the first, with those changed into fish. The underlying logic is that of vertebrate evolution, of life forms whose kinship can be deduced from fossils as from the midwife's sense of embryology. Upon arrival in America, as Montaigne notes, Europeans were repeatedly presented with bones and other evidence of prior life forms, which their idea of genesis did not help them to interpret. Indeed, in Montaigne's day, the noun "fossil" merely meant a chimerical species of underground fish and acquired its modern meaning only in the 18th century. As for midwifery, that most ancient science repeatedly suppressed (and even outlawed) in the West, human gestation governed the prime articulation of time in much of the New World, notably Mesoamerica, and is the principal focus of chapters in the surviving codices.

Throughout the American tropics, in its vast biological diversity, the evolutionary story is epitomized in the motif of the feathered snake, the

oviparous plumed serpent which, in the *Popol vuh*, presides over the long path to human emergence. At the very beginning of things, immersed in the primeval waters, this feather snake communicates through electricity (lightning) with Sky Heart above, whose name is One Leg (Hu r aqan—whence huracán and other European words for hurricane), as they dream the world into existence. Subsequently, after the flood and during the eclipse of the giants, a family of huge bird-reptiles—feathered parrots and scaly saurian sons—encounters and is eventually matched by a team of mammals, hair-covered and vulnerable, yet cunning and capable of solidarity. In the fourth Sun, the bird-reptile family legacy is carried forward by the woman Caiman Macaw, who gives birth to sons who change into monkeys, like their Nahuatl counterparts.

In the larger evolutionary story told by the *Popol vuh*, Caiman Macaw stands as the first wife of One Hunter, and her monkey sons relate as elder half-brothers to the twin sons of One Hunter's second wife, Blood Woman. These Twins are epic protohumans who go on to inaugurate the fifth Sun of humankind, having descended to the underworld to play ulama against their maternal grandfathers and to avenge their own father. As the bird-reptile Caiman Macaw, the mother of the monkeys differs critically from the mother of the Twins, Blood Woman. This latter inherits her genetic advantage from her ancestors, the bony lords of the underworld who have murdered her sons' father yet nonetheless provide her with her better blood. In other words, whatever superiority we wish to arrogate to ourselves, we humans should never forget where we come from, what we owe to our animal kin and forefathers, and how late we appear in the great saga of creation.

The 16th-century *Popol vuh* constructs its evolutionary tale with immense ingenuity, inseting whole clusters of clues into details of anatomy, descent and chronology. As the "American Bible" and a way of construing genesis, it makes quite clear to interested eyes how far contemporary (16th-century) Europeans, in their own terms, had to go to catch up. Moreover, in Mesoamerican and the Andean accounts alike, vertebrate evolution is intricately bound up with rock formation. Both the *Popol vuh* and South American texts like the Huarochiri Manuscript tell stories of ancient caiman and serpentine monsters whose bodies need to be set firmly as strata into the mountains they raise up and shake down.

As the Aztec Sun Stone visually confirms, the four ages defined by flood, eclipse, rain of fire and wind become constituents of our own fifth world. They are shown not so much to precede our present as to inhere in it, each in its own rhythms and time-depth. This non-serial understanding of

genesis again much complicates the biblical schedule of seven days and indeed much of western science's subsequent reliance on linear time. It certainly far exceeds the temporal imagination with which James Ussher established a time scale for Genesis, positing a start for creation no more than a few thousand years ago (North). The American count is both multiple and much longer: our fifth age is a fifth of the processional cycle (26000 years; Rios Codex p. 8); rock strata form and twist over millions of years (Madrid Codex, pp. 57, 69). Just this factor in the American genesis became a significant reason for disbelief and heresy among Montaigne's English contemporaries. Both Christopher Marlowe and Thomas Heriot claimed the Indians knew the true age of the world to be far greater, in what for the former became a wholesale attack on Christian thought and practice. Focusing on the eucharistic blood, which Montaigne subversively includes in his discussion of anthropophagy in "Of the cannibals" (*Essays* Book I chapter 30), Marlowe says it would be replaced to much advantage by American tobacco smoked in a peace pipe. Echoing Heriot, who claimed that "the late discovered Indians are able to shew antiquities thousands before Adam", Marlowe then dismissively opposes the 6 thousand years "within" which Adam is said to have lived to the "above 16 thousand years" known to the Indians. In this respect, the Baines Note, the little-known tract which sets out Marlowe's heresies, is critically significant: "For revolutionary impact and scope it stands alone, an extraordinary document in the history of English free thought" (Kocher, 68).

In all of the continent's major cosmogonies the transition to the present age announces the birth of agriculture and humankind's capacity to feed itself: be the harvest of manioc (cassava) or maize, the broader doctrine remains the same, in the *Popol vuh*, the Aztec *Legend of the Suns* (Bierhorst, *History...*), the Navajo *Dine bahane* (Zolbrod), the Carib *Watunna* (Civrieux), the Guarani *Ayvu rapyta* (Cadogan), the *Jurupary* narrative of the Rio Negro (Hugh-Jones; Medeiros), and comparable "classic" texts. As Lévi-Strauss pointed out, few if any parts of the world rival America, particularly its tropics (the garden of the planet), in the amount and variety of food plants developed there. Just as manioc is imaged as bone, "the buried bones of the father" according to both Amazonian and Mesoamerican sources, so maize becomes flesh. Indeed, transubstantiated in the *Popol vuh*, maize is our flesh; we are what we eat (Maize plants are shown anthropomorphic in the Classic inscriptions and the codices). This epochal moment of first planting and harvest characteristically announces the beginnings of human history proper while the time-scheme or quincunx of the Suns is geographically spread out on to the landscape, this all under

the aegis of astronomy. Emerging from the underworld as heralds of maize agriculture, the Twins in the *Popol vuh* walk into the sky as sun and moon, joining the pioneer house-builders who had become the Pleiades (the transformation which Lévi-Strauss takes as his prime American myth in *Mythologiques*)

Herewith we find last divergences in the Bible, which largely blacks out the sky as a source of wonder and knowledge and which far from celebrating agriculture defines it as the calling of the assassin Cain. The need to plant is after all said to be consequent upon a supposed "fall" from grace. Immensely persuasive, this biblical misapprehension or misrepresentation of human and in particular American achievement lives on in Rousseau and even Marx and has severely skewed western attempts to understand the beginnings of society.

In sum, the American story of the Suns establishes a philosophy of creation from which the Bible comes to differ radically, notably on such points as the numbered rhythms of the sky and the depth and multiple layers of earth time; metamorphosis and human kinship with other animal species, and even plants; the powers consigned to the "underworld"; humankind's ability to plant and feed itself; and the feat of dreaming and conceiving reality in the first place rather than summarily ordering subjects to appear.

Genesis in America

The impact that American genesis may or may not have had on Europe is one thing; its inherence in its own continent is another. Much modified over time and by geography, the lessons of this story are still very much alive. Indeed, were this not so, it would be even harder to understand the astounding resistance of native American cultures, in the face of century after century of oppression and the most brutal invitations to suicide. Deeply rooted as it is in far longer periods of local exploration and experiment, this resident genesis informs manners and imagination in ways western sciences still struggle to decode, difficulty being in inverse proportion to respect for native intellect.

From the first moments of European colonial rule, American genesis nurtured skepticism towards imported doctrines of creation and their attendant dogmas. Just as the authors of the Huarochiri Manuscript half-heartedly suggested that the eclipse of the second Sun may have been the one seen at Christ's death, so in Mexico the scribes of the Mexicanus Codex deconstructed the Christian zodiac, restoring it to its eleven-fold pagan life forms, and offering a devastating critique of the Aristotelian "four elements" which Christian theologians had incorporated into their world-scheme.

Upon having access to them, native speakers of America's main urban languages translated an array of Old World texts, in which they recast in their own terms questions of chronology (the Arabian Nights in Maya), divine control over world-age catastrophes (the Quechua Faust), and the relationship between humans and other species (Aesop's Fables in Aztec). Local priorities of this order show through even when translations were sponsored for evangelizing purposes (Brotherston, *Book...*, chapter 13; Burkhart). At the same time, drawing on documents in American scripts, native historians defended a perspective in which their own political experience grows out of their own genesis, and in which the European invasion is not at all the beginning of "history" (contrast the current western use of the term "pre-history" to describe America before the invasion). Their sources were screenfold books in Mesoamerica, and, in the Andes, the knotted string or quipu in the Andes (Ascher; Julien).

The story continues with the struggle for political independence from Europe. As José María Arguedas affirms in his poetry and his anthropological research (*Tupac Amaru; Formación...*), the figure of the resplendent snake Tupac Amaru, leader of the great Andean uprising of 1780, is inseparable from cosmogony, specifically, the notion of the four limbs or parts of Tahuantinsuyu, the extension into geography of the four Suns that inhere in the present age (the limbs of his own quartered body were in fact later buried in these four parts). In Mexico, the unearthing of the Aztec Sun Stone or Calendario a decade or so later literally shook the Viceroyalty there to its foundations. In his reading of this text and its account of the Suns, Ignacio Borunda rehabilitated the idea of local genesis, as well as a history in which the intrusive Spaniards would soon be removed or "eclipsed". Borunda's particular impact on Fray Servando Teresa de Mier also fomented the Guadalupe legend and provided Mexico with one of its major heroes of Independence (a story sardonically retold in Reinaldo Arenas's novel *El mundo alucinante*).

Formally, the world age scheme goes on being articulated as it is on the Sun Stone. As a quincunx, the world ages continue to open out into space, placing the current time or Era at the heart of territory, each of the four earlier ages serving as corner supports, paired to north and south, between stars and rock strata. Quite precise, this particular conceit is found literally from one end of the continent to the other, from the four-part base of Tahuantinsuyu and the Mapuche Threngthreng to the Emergence dry painting of the Navajo, whose quincunx explicitly matches the four ages with the four guardian mountains of their territory, among them Mount Taylor (Tsodzil). A similar case is the quatrefoil design which is found alike

in the codices and in Navajo dry paintings today: held between the horizons of east and west, this time-space model places more emphasis on the evolution of life forms, typically matching vertebrate and plant growth.

In these and other examples, the transition from cosmic to historical time corresponds to the mapping of ancestral land. It stakes a claim whose roots far exceed all western definitions of law and thereby becomes a common reference, a shared frame within which to examine political rivalry and difference between native groups. Given their precise correspondence with the pre-Cortesian codices of Mexico, down to finer points of detail, the quincunx and quatrefoil designs used in dry-paintings today are an especially vivid and visually incontrovertible example of the American world-age paradigm and its resonance over time and space.

A rich instance of this continuity is found among the Mapuche, in the southern cone, since their narratives of genesis on the one hand stem from just the part of America that most intrigued the geologist Darwin while on the other they provide the premise for much of the current renaissance of their culture. One narrative of theirs, recorded in the 1920s by Bertha Koessler-Ilg, is particularly suggestive since it is draws on long-standing experience and observation of Andean rocks, strata with marine fossils thrust up to 12000 feet. Its author, a man from the high mountains ("huinkul-che") above San Martín de los Andes, wished to remain anonymous; he was 86 years old at the time and therefore fully formed before the Mapuche loss of territory in the 1880s. He learned the account from his great-grandfather who in turn traced it back over generations. In this text, the references to fossils—*foro lil* (bone rock)—high in the southern Andes are quite specific, and are further linked to geology by the motif of volcanic fire within the mountain that rises and rises. Earlier in the narrative the fossils are identified with fish and other vertebrate forms that can recur in humans ("creatures who live among humans but who have something beast-like in their faces. If you look at them more closely, they have about them something of snakes, fish, dogs, rats, foxes and, most often, birds. The ones most akin to these creatures are those that have beast-like eyes"). Since it is unknown and certainly unpublished in any of America's imported languages, this account is worth reproducing at length:

The mountain called Threngthreng is linked to lake Lacar, and it stands on four feet, that is, on four smaller mountains. It is sacred and nothing may be sown on its back, since it belongs to the great father Nguenechen. All mountains that stand on four feet (*melihuinkul*) belong to him.

Like Lacar, Threngthreng is home to a snake, only this one was friendly to humankind. One day it warned: "Kaikai-filu is angry, it will drive white waves over the banks of Lacar; it is already lashing its tail violently, stirring the water up and bellowing. Take your kin and enough food and climb up the sacred mountain. I will protect you. When you cry 'Kaikaikai huhuhuhu' I help you up, and when you cry 'Threngthreng hihihhi' I help you down. This is the message from Nguenechen above." The snake then slipped back under the mountain which stood on four feet: since that time much has been washed away by stormy water.

As Kaikai began making waves, beating them into *tror-lafken* or foam, the swirling water rose higher and higher and soon flooded the whole earth whitening it with spray; the monster's heaving and roaring was so horrendous that many died. Those left began the ascent of the high mountain, abandoning Trauma Che (the blind man) and Kine ketro Che (the stutterer), and the halt and maimed in general, since it was everyone for themselves. Halfway up, people and animals were so packed together and terrified that none helped or pitied another. Some even took on the features of others, and many humans and animals turned into stone from shock, as we can see today in the images they left. Human-like animals and animal-like humans stare right out of the cliffs, fish too, and awful carnivores with their greedy eyes. Yet they seem not to be real stones and the elders too believed they are spirits that leave their homes at night and roam about. They are *foro lil*, bone-stones, spirit stones.

The peak of the mountain rose and rose ever higher out of the water, since the kindly snake pushed it up while the people cried Kaikaikai huhuhu, as they had been told to. One man had been at the summit from the start; like the mountain he was called Threngthreng and he was cunning. There was still too little room and the water level would not drop, and the people had too little to eat; and he said: "Glowing rock is now falling upon us and we are being scorched by fire. We need to search out the youngest and finest man among us, quarter him and bestow him on the roaring flood, to quiet it. We need to give this gift to those who rule and apportion the waters, since they also rule the fish." They did it. And the great flood eventually fell back, maybe after entire months. So the people called "Threngthreng hihihhi", as the snake had told them, and slowly it let them descend, bringing them down gently without shaking the mountain as it came down. From this mountain the people went off into other lands; they were all

Mapuche, the ancestors of all humankind, which once knew only the Mapuche language.

Like other Andean peoples, the Mapuche corroborated American genesis not just by examining the extraordinary aspects of rocks and fossils found in their territory. They also observed closely the phenomena of glaciers and the snow line, their advance and retreat over time. Working with an 11-year cycle (halved as 5 1/2 plus 5 1/2 years) which corresponds that of the sun spots, they projected back over many tens of thousands of years. Today, just this intellectual heritage serves as a main support in Mapuche defense of territory (in the upper Bio Bio for instance) and cultural recovery after the ravages of the dictatorships. Writing and publishing in their own language, contemporary Mapuche poets rework the Threngthreng story directly, an example being Leonel Lienlaf's bi-lingual volume *Nepey ñi gũñün piuke/Se ha despertado el ave de mi corazón* (1987; Park). For his part, Elicura Chihauilaf brings out its understanding of landscape in his remarkable translations of Neruda's *Canto general* into Mapudungun, which give quite another sense of the life deep within the trees and rocks of Arauco.

Thanks to this sort of memory and continuity, American genesis has nourished particular acts of resistance. When defending their town, successfully, against neo-liberal (and illegal) plans to build a golf course there in the mid 1990s, the inhabitants of Tepoztlan, Mexico, made their case both in the current political forum and by appealing to the deeper past, making the one tactic reinforce the other. The champion of the town's interests was projected as Tepoztecatl, the local hero who figures in the codices and who is celebrated in a Nahuatl drama each year on his day, 8th September. Known throughout Mesoamerica, Tepoztecatl articulates the time levels of creation in ways similar to those seen in the *Popol vuh*. He presides over the formation of volcanic rock at the crater in Chichinautzin, a mountain which still serves as the official northern landmark of the municipio; he drinks pulque like the house-builders in the *Popol vuh* and relates like them to the night sky; he is the epic hero who rids the town of powerful oppressors, and goes on to protect its interests after the Aztec and then the Spanish invasions. In the Tepoztlan community, there could be no doubt about Tepoztecatl's effectiveness as a concept, the epitome of a deep-shared history. Visually he is featured each year on his day in remarkable murals, intricately composed of over 70 kinds of colored seeds, which draw on the legacy of the codices, establishing his identity at ever deeper historical and cosmic levels of time.

Native cosmogony has played a similar role in Chiapas uprising, also in the 1990s, which in this respect follows a logic of highland Maya resistance that goes back to the first Spanish invasions. A constant reference in this resistance has been not just immediate issues of social and political oppression, severe as these are, but the whole question of larger habitat and environment. The felling of forests, polluting of water sources, capitalist ranching, chemical aid for cash crops are all denounced just as much because of their consequences for other species. Here, the native position as such was exemplarily set out by Rigoberta Menchú's account of herself and her people, which takes its premise explicitly from the *Popol vuh*, the American bible written in her Maya Quiché language. For Menchú, the knowledge that "our culture is maize" and that "we are made from white and yellow maize" enables her both to find strength in resisting the criminal invasion of native lands and to identify the common native cause that transcends local bounds of language, dress and custom; this cosmogony also informs her view of mindless machine technology.

In making these points, Menchú comes to distance herself not only from the Bible but from secular theories of revolution that have had gained wide acceptance in Latin America; and in so doing she aligns herself with other native American writers who have taken on the relationship between orthodox Marxism and their own philosophies and "secrets" (Churchill; Warrior). Menchú's argument as such is dramatized by Leslie Marmon Silko in the novel *Almanac of the Dead*, in the rousing speeches made by the Maya leader Isabel Escapía. It is also present in countless texts and manifestos that have emerged from the South American rainforest, among them Umusin Panlon's updated Desana genesis *Antes o mundo não existia* (1980; Ribeiro), or Kaká Werá's Guaraní autobiography (*Ore awe...*1994). In staging *Antes o mundo* in Manaus, Márcio Souza dwelt fully on its difference from the Bible and western ideas of origin.

Author of perhaps the only sizeable American novel in English that delves into the whole continent's condition and destiny (*Almanac*), Silko announced her native involvement in *Ceremony* (1976), where she explores her own Laguna Pueblo (plus Navajo and Mexican) roots. She does this through the hero Tayo. Already unsettled by the judgmental Christianity of his adoptive mother, Tayo returns psychically damaged from his time as a GI in Asia. His cure, like that of a 7-year drought afflicting his pueblo, and indeed like the antidote to white witchery and the threat of the world's ultimate destroyers, requires him and hence the reader to be re-born into the fifth world of the cosmogony inherited by both the Pueblo and their Navajo neighbors from Anasazi forefathers. Silko arranges the narrative into threads

which trace the various cures: Tayo's day to day life; the traditional Pueblo story of emergence from previous world-ages; and the full-frontal Navajo engagement with current evil, white in origin, radio-active, capitalist and unbelievably destructive (on this last, compare the Navajo shaman in Oliver Stone's film *Natural Born Killers*).

The skill with which Silko intertwines these threads has few if any rivals in the English-language novel, and technically it furthers that of just the native texts that are integrated (in italic verse) into the narrative. This is notably the case in all that concerns the figure Tseh, through whom Tayo re-enters his life and the fifth world. The name Tseh points both to a goddess from early in the Keresan (Pueblo) story of world-ages, and to a guardian mountain, Mount Taylor, that emerges from that story, according to Pueblo and Navajo alike (in the world-age quincunx of the former, Tseh lies northwest: in that of the latter, under the name Tsodzil, she lies southeast). The patterning of the story in this sense is reflexively confirmed in the scene in which Tayo goes through a Navajo curing ceremony, focused on a world-age sand painting that exquisitely interacts with surrounding landscape (for example, the four hoops he goes through in the ceremony in order to restore his senses, recapitulating four stages of human evolution, are of woods from the very trees he descends through in order to meet Tseh, on her mountain). Hence, learning about native cosmogony in this respect and recognizing its power in and for the text (comparable with that of the Biblical Genesis for, say, *Paradise Lost*), reveals level after level of significance in the novel, and cautions us against imposing schemes that derive rather from western belief. In this respect, the most sensitive and informed analysis offered by Nelson might have been even better had it knit Tseh's role yet more tightly with the quincunx of her territory.

Silko's work demands a re-thinking of the continent of the order subsequently proposed by such chicana writers as Gloria Anzaldúa and Cherríe Moraga. At the same time, *Ceremony* complements and furthers the interaction with native cosmogonical texts seen half a century earlier in Latin America. In *Macunaíma* (1928), Brazil's first modern novel, Mário de Andrade draws closely on narratives that belong to the same Carib tradition as *Watunna* (Sá 2004). In *Leyendas de Guatemala* (1930), Miguel Angel Asturias announced an engagement with the codices, the *Popol vuh* and other Maya classics (Asturias's translation of the *Popol vuh* also found its way into Carpentier's *Los pasos perdidos*, in the passages noted above); and this led directly to "Gaspar Ilóm" and *Hombres de maíz* (1949), winner of the Nobel Prize and inspirational for leaders of Maya resistance, among them Asturias's son and Rigoberta Menchú. Following on from these

foundational examples, American genesis has widened and deepened its impact on the Latin American novel in such texts as José María Arguedas's *El zorro de arriba y el zorro de abajo* (1969), Manlio Argueta's *Cuzcatlan* (1986), Augusto Roa Bastos's *Yo, el supremo* (1974), Darcy Ribeiro's *Maíra* (1976), Homero Aridjis's *Leyenda de los soles* (1992), and even the egregious case of Mario Vargas Llosa's *El hablador* (1987; Sá 1998). Simply tracing these novel's textual origins back to the narratives from which they sprang (Quechua, Maya, Guaraní, Aztec, Arawak) can mean intimating nothing less than the continent's own ideas of its origins.

Only when these classic native accounts of creation are seen to share something of a common American source can they be read adequately and avoid being culturally fragmented and balkanized. Diverse as they customarily are assumed to be and formally are, Lienlaf's poetry, the autobiographies by Menchú and Kaka Werá Jecupé, Umusin's cosmogony, and novels by Andrade, Asturias or Silko all construct their reality on the same principles and on the basis of the same order of belief. Further, only then can this precedent in turn be understood as indispensable to competent readings of other American literature written in Portuguese, Spanish and English, and indeed to a proper understanding of the history and criticism of those literatures, their origins and traditions. Bearing this in mind broadens and critically enriches the practice of intertextual comparison (which most often ignores the existence of native texts), much enlivens debates about "difference" and "lo real maravilloso americano", and authoritatively corrects western fondness for supposed universals and archetypes.

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