

The New Global History Toward a Narrative for Pangaea Two

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Summary: The author approaches contemporary history from a position that defines the expression “truly global” as earth-centered. On this ground, two kinds of global history can be distinguished: the non-linear geophysical history of first nature, which is alternately uniting and dividing the world-continent (called Pangaea One), and the revolutionary technoscientific history of second nature, which is beginning to defragment the earth with things like the World Wide Web. The new Global History explores contemporary global history in general and the emerging civilizational unity (called Pangaea Two) in particular. The new historiographical approach is introduced via a critical discussion of Globality, Globalization, Periodization, World History, and Methodology.

Zusammenfassung: Der Autor nähert sich der Gegenwartsgeschichte von einer Position, die den Ausdruck “wahrhaft global” als erdzentriert definiert. Auf dieser Basis können zwei Arten von Globalgeschichte unterschieden werden: die nicht-lineare geophysikalische Geschichte der ersten Natur, die den Weltkontinent abwechselnd zusammenfügt und fragmentiert (Pangaea Eins genannt), und die revolutionäre technowissenschaftliche Geschichte der zweiten Natur, die angefangen hat die Erde mit Dingen wie dem World Wide Web zu defragmentieren. Die neue Globalgeschichte erforscht die globale Gegenwartsgeschichte im allgemeinen und die sich anbahnende zivilisatorische Einheit (Pangaea Zwei genannt) im besonderen. Der neue historiographische Ansatz wird anhand einer kritischen Diskussion von Globalität, Globalisierung, Periodisierung, Weltgeschichte und Methodologie vorgestellt.

Overview

((1)) Titles of the form “The New –” invite the tested response: what may be right about the new Global History, is not new, and what appears to be new, is not right at all. Claims to newness are not accepted easily. They are met with skepticism, especially when history is involved. Is it really worth the trouble to weave novelty into my title and advertise a “new” Global History?¹ I am afraid my chance to learn the answer to this question will come with the critical replies.

((2)) The message of the “new” Global History is: do not confuse our Global History Initiative (Mazlish & Buultjens 1993) with a superficially globalized World History. This confusion arises when one assumes that no reasonable distinction between World and Global History could be made. World History would figure as Global History and Global History as World History. In a way, that is the case now. World History, a vigorous old-timer, is blurring the difference between itself and Global History, a newcomer, by liberally calling itself sometimes Global History and sometimes World History. This semantic doppelgänger explains why we may want to talk about our small branch as “new” Global History assuming that it is sufficiently different from a globalized World History. I would characterize the difference as follows: we global historians are chiefly interested in past and present globalizations and their contemporary outcome (globality), whereas the main focus of our world-historical colleagues is on civilizations and their epic struggles.

((3)) In this article, I shall be following an alternative tack toward global history. I think that the designation “new global history” is warranted by the novelty of a human-made global history. There are two kinds of global history at work in the world today: the geophysical history of our planet or primordial global history, which is currently widening the Atlantic Ocean at the expense of the Pacific, and contemporary history, which is expanding the Internet all over the world. Both histories are truly global (earth-centered). However, earth’s global history is as old as this planet (4.6 billion years); it is written into ancient rocks and magnetically recorded on ocean floors, whereas humankind’s global history is an infant and written up by us. The difference between these two global histories could not be clearer: nature is the architect of earth’s basic global history, and humankind is the active and reflexive historical subject of earth’s second or new global history.

((4)) The issue of an appropriate narrative for our time, which is raised in my subtitle, is another can of worms that a wiser person would have left untouched in a contentious forum like this. Nevertheless, I hope that the combined *End of Nature* (McKibben 1989), *History* (Fukuyama 1992), *The Nation-State* (Guéhenno 1995; Ohmae 1995), *Science* (Horgan 1996), and *Time* (Barbour 2000) is not as imminent as it seemed to be at the end of the twentieth century, and that the question is fair: what is the leading story at the dawn of the twenty-first century? My answer is: the emergence of a global technoscientific civilization (Schäfer 2001), a civilization for the whole globe that I have heuristically referred to since 1994 as Pangaea Two.

((5)) Of course, it is possible to dismiss my answer and dispute the premise of my question. There are many relevant stories to tell after all, now so as well as later. But once an individual or a group starts contemplating the potential directions of contemporary history, alternative futures will have to be considered, even without actively choosing or pursuing a particular one. Future historians are of no help to us when it comes to setting the agenda of the present. All living members of the human community are involved in the making of contemporary history. There is nothing grandiose about that. Traditional illusions about the historical role of the individual are long gone (although an outstanding person like Nelson Mandela still makes a big difference on the global stage). History is made inside a contemporaneous jumble. This is the performative privilege and cognitive handicap of all living generations. We would not have to make up our mind about the present, and its most wanted direction, if the roads to the future could be mapped out like the roads to the past.

((6)) The story I want to tell presumes the evolution from Pangaea One to Pangaea Two, but be warned: my narrative is tinged with some old-fashioned optimism. I anticipate a more cosmopolitan description of the contemporary world, and for the future: more political freedom, racial equality, and economic justice, a better distribution of the goods of technoscience, and improved environmental health care. Thus, the new Global History I shall be discussing goes beyond the postmodern condition of utopian fatigue and narrative despair. I believe in intelligent life after postmodernism and not in the futility of all hope. Richard Rorty is right, the failure to construct “a plausible narrative of progress” (1999: 232) indicates a critical loss of social hope.

((7)) “Pangaea” (Greek *pangaia*, “all-earth” or “all land”) refers to the ancient supercontinent proposed by Alfred Wegener (1880-1930) who died prematurely during a meteorological expedition to Greenland (Lüdecke 2000). According to Wegener’s theory of continental drift (1966), which was first announced in 1912, the landmasses of the earth are laterally mobile. They had been welded into a single world-continent – named Pangaea both by Wegener and his unwilling audience – during the late Permian and early Triassic Periods, i.e. around the last five or six percent of geologic time. From our perspective, Pangaea was formed deep in time though remarkably late in relation to earth-time.

((8)) Wegener’s bold hypothesis was some fifty years ahead of the geological fraternity; even his recent German biographer, Martin Schwarzbach (1986; 1989), himself a geologist, had declared in 1954 that Wegener’s wandering continents must be “rejected” (90). Today, almost everybody in the earth sciences is a “drifter,” or, better, a “mobilist.” The stocks and shares of continental drift began to rise in the early 1960s.² The emerging concept of plate tectonics reversed what mainstream geology had to say about Wegener; it swiftly turned the “non-scientific dreamer and poet in a state of auto-intoxication” (Cohen 1985: 453 and 619, note 5) into “the man who really started it all” (Hallam 1973: 114). Wegener is now enshrined in the pantheon of geology as “the heroic but neglected genius” (Le Grand 1988: 37) that envisioned a new paradigm.

((9)) I use the term “Pangaea One” to indicate a past instance of *terrestrial unity*. Pangaea One, presently scattered all around, has become a fact of basic global history. The ancient world-continent, surrounded by the world-ocean “Panthalassa,” reached once from pole to pole. However, the processes that made and unmade Pangaea One are incessant; today’s earth scientists believe that they act inside the mantle of the geobody and alternately destroy and reconstruct the entire face of the earth. With “Pangaea Two,” I mean to suggest that a momentous confluence of powerful interests and capabilities has begun to create a *civilizational unity* on top of the current global fragmentation into continents and islands. This technoscientific unification is very much a work in progress, but Pangaea Two has already reconnected all terrestrial and aquatic parts of the globe (that were set adrift some 200 million years ago) with rapidly branching communication and transportation networks based on technoscience and involving near-earth space.

((10)) Technoscience emancipates humankind from continents and oceans, the biggest physical constraints to world-unity that the break-up of Pangaea One had thrown in the paths of our slow-traveling precursors. Pangaea Two is a marvelous achievement, but if someone gets too excited about it, I suggest asking: what about earthquakes, comets, and asteroids? The formidable forces that worked on Pangaea One have not disappeared; they labor blindly underneath and above the biosphere of this globe. It seems safe to assume that the balance of power between the two global histories is not necessarily tilted in favor of the human species. Still, Pangaea Two may be able to go a long way if it manages to cooperate with the known mechanisms of basic global history.

Globality

((11)) The common trait of a truly global history is earth in its entirety. The global histories of Pangaea One and Two pertain to the whole globe; they meet the earth-in-its-entirety- or globality-requirement. *Globality* is the benchmark of a global history, not modernity, continents, regions, civilizations, or nations. As contemporary thinking begins to focus on globality, the whole geobody comes into view. Centering contemporary history on globality is essential and has a number of corrective consequences: it serves as an antidote against overindulged social constructivism, shatters the everyday presentism by adding the very *longue durée* of geologic time and basic global history to our temporal frame of reference, and spurs the realization that the human species has stepped into the circles of global power.

((12)) We like to flatter our ingenuity and emphasize social over natural constructions, but doing so is a sure way to forget that our constructions are notoriously fragile. A time span of roughly 250 million years separates the *formation* from the *formulation* of Pangaea One. Nobody would be aware of Pangaea One without Wegener and plate tectonics or generally, without modern science. Yet, without the work of nature, and in particular, without globe-encircling submarine ridges and oceanic trenches along the Pacific Rim, which are unique to this planet and make it a “restless earth” (Carlson 1990), this

globe would not have moving continents and a nearly constant volume. Earth would be one more lifeless planet orbiting the sun. This means: there would be no understanding of basic global history without social constructions like Pangaea One, and no human beings without basic global history. Contemporary thinking must follow the arrow of time in two directions, forward and backward through millions of years, to fully understand both the formation and the formulation of Pangaea One.

((13)) The emerging focus on globality confronts historians with big numbers, the eruptive presence of global geodynamics, the modification of earth's most important cycles, and the new "technoscapes" (Appadurai 1996: 34) of contemporary history. When volcanoes and cars add carbon dioxide to the atmosphere, old and new global history intersect. Very slow and very fast changes are now remodeling the face of the earth together. Global change in seconds interferes with global change over millions of years. Computers operating with mega-, giga-, and teraflops (millions, billions, and trillions of floating-point operations per second) move regularly billions of dollars with cascading effects for whole nations, large regions, and millions of people. Are we readying the next generation of historians for the challenges of globality (the competent handling of big numbers and the analysis of global technoscience)?

((14)) Spending 100 to 300 dollars on a trip is not that much, even for a historian, but renting a house for 300,000 dollars per summer (as some people do each year on eastern Long Island) is extreme and would be impossible for a historian. Yet, as excessive as this last figure may be, it is still an imaginable one in relation to income in some countries. Now think about the same number in terms of years. Who would know how to deal with 300,000 years? Forget the History Department. This much time is unimaginable for the professional historian who has become a century expert. Hundreds of thousands of years "belong" to paleoanthropology or other disciplines with the same prefix. However, we should keep in mind that a chunk of 300,000 years (or dollars) is very little in fields where people are used to work with millions and billions of years/dollars like geochronology and global banking. We have taught our graduate students all the popular (esoteric) discourses of the last quarter of the twentieth century; but can they map the "financescapes" of a global political economy?

((15)) The dominant vector of change in geohistory (as in all previous history) links the globality of Pangaea One to the big numbers of deep time, whereas the main change-vector of Pangaea Two drives the new global history across geographical and political borders. This strong lateral thrust of contemporary transformations generates the big numbers of interregional and transcontinental flows analyzed in the predominantly non-historical literature on globalization (Held, et al. 1999; Dicken 1998). The question arises: where is History in the expanding field of global studies? Globalization spells change. Isn't keeping track of change the key function of History?

((16)) Earth and humans meet at the intersection between first and second global history. The metaphorical "book of nature"

is written and rewritten at this site. Very old rocks and meteorites indicate the age of our planet: rubidium-87, potassium-40, or uranium-238 provide radiometric data, and geophysicists pen the chapters on earth chronology. However, there is more to the meeting of earth and us than the benign interplay between radioactive "chronometers" with a long half-life on the one side, and suitable theories and instruments on the other. The human species is altering the global life cycles of this planet (water, carbon, and nitrogen cycles), and has entered Pangaea Two as a nuclear agent. The energy that has helped to drive India some 9,000 kilometers across the earth, from Antarctica to Asia, is no longer an exclusive property of ignorant basic global history; humans too are now playing with the fuel of the stars. This power has become part and parcel of the new global history during the Cold War. The old system was much simpler; its dynamics could be sketched with an arrow pointing from earth to humans. At present, a second arrow is needed: one that points from humans to earth. Earth and humans are now conjoined in a coupled system.

((17)) The human acquisition of nuclear power has loaded the new global history with an ecological care-horizon that extends deep into the future. What began in 1942 with the first controlled nuclear fission has given our species global power and global problems. The latest pages of ecological history speak of global fallout until the Partial Test Ban Treaty of 1963; radionuclides that accumulated in food sources of people and animals from nuclear power plant accidents like Chernobyl, 1986; and large amounts of radioactive waste in need of permanent isolation and safe disposal. Human "access to a new source of energy" has more than once revolutionized history (Simmons 1990: 344), but the unfinished domestication of radioactivity has bumped human beings up to the level of reflexive globality. Humankind's short nuclear history is by necessity reflected in the widest ecological frames of reference. Furthermore, global ecological impacts from military and civilian uses of nuclear energy to genetically modified plants confront the agents of Pangaea Two with unusual long-term risks and responsibilities.

((18)) The management problems of plutonium indicate a global burden. March 26, 1999, after forty-four years of research, preparation, and litigation, the first disposal facility in the United States for radioactive trash – the Waste Isolation Pilot Plant (WIPP) in New Mexico³ – received its maiden shipment (monitored by a satellite tracking system) of tools, rags, clothing, and other non-liquid items contaminated with minute amounts of plutonium and other transuranic isotopes. The worthless inaugural trash arrived from Los Alamos in three special shipping containers on a Transuranic Package Transporter Model 2 truck (TRUPACT-II) and was "greeted by hundreds of WIPP employees and local officials." The WIPP mine has been dug into an ancient salt bed that was laid down during Pangaea One by the evaporation of the Permian Sea. Here is why this particular place was chosen: "Formed about 225 million years ago during the Permian Age, large expanses of uninterrupted salt beds provide a repository free from disturbances of large earthquakes. That proven stability over such a long time span offers the predictability that the salt will remain stable for a comparatively short quarter million years. That's about how long the WIPP-bound waste will take to

lose most of its harmful radioactivity and no longer be a threat to the environment.”⁴ The question of how future “generations and civilizations” will be warned and informed “about the location and purpose” of the WIPP (and similar facilities to come) was answered by “linguists, scientists, science-related writers, and anthropologists” who “brain stormed about the most efficient way to retain WIPP knowledge over thousands of years.”⁵ It seems that historians were not asked how one could mark a terrestrial site for the deep future. So, the best we can do is to try to immortalize WIPP in the new Global History as a significant property of Pangaea Two.

((19)) Some scientists would have preferred to lob all nuclear waste into outer space (Carlson 1990: 56). Not doing so is probably cheaper and a sign of reflexive globality. In a local setting, say a campground, it can be requested to remove all garbage upon departure and leave nothing behind. Yet, if the campground is the entire planet people cannot pack up and leave for another place. Earth is still “the final frontier” for our garbage and most of us. (Also, to boldly send hot garbage where no one has sent garbage before could hardly qualify as a neighborly interstellar policy.) Globality as the outcome of diverse globalizations may turn out to be a limiting condition. Economic and cultural globalizations are often recklessly transgressive; globality is comprehensive and references the whole planet. I hope that globality will be tied to an emerging global common sense, a viewpoint that transcends the local nimbys (*not in my back yard*) and encompasses the whole world from various perspectives. Models of global warming, theories of plate tectonics, local resistance against unfettered trade, and national attempts at global husbandry (WIPP), they all have entered the globality-frame, and we (new global historians) want to find out how it happened. We also want to know: how do people read this holistic “ideology” in different parts of the world, and how do they juggle globality-demands and vested interests rooted in local grounds?

((20)) Let us follow Lynn White’s lead (1968: 12) and assume that the old canon of modernity has been or will be replaced by the new canon of globality (which by no means is a safe bet) – who is going to benefit? If WIPP is perceived as an example of reflexive globality and global husbandry then we must say: earth and its inhabitants. Of course, there is a long list of paid intermediate beneficiaries, the cheering workers, local, state, and federal officials, management and operating contractors, as well as many engineers and scientists whose work was decisive for WIPP in the past and will continue to be crucial in the future. WIPP is inescapably enmeshed in systems of high-level knowledge ranging from the pursuit of technoscientific projects, which created the transuranic waste in the first place, to theories about past, present, and future rock cycles, tectonic and seismic activities, and assumptions about the communicability of information over hundreds of thousands of years. Should we take into account that some of the nuclear trash is even older than the scientific theories on which its long-term isolation is based? The U.S. Department of the Interior, the federal agency responsible for nationally owned public lands, natural and cultural resources, and American Indian reservations, published a neat booklet on the story of plate tectonics in which the authors correctly say, “The earth-sciences revolution launched by the theory of plate

tectonics (in the early 1960s) is not finished” (Kious & Tilling 1996: Preface). Now, combine this statement with the paradigm-shifting nature of scientific progress and the assumptions of WIPP, and you can see what the subjects of Pangaea Two are asked to perform on behalf of science-based globality: non-trivial leaps of technoscientific faith.

Globalizations

((21)) What brought us from modernity to globality? This question has a short and a long answer. Globalization would be the short answer. The discourse about the catchword of the 1990s freed us, if not from the tar baby of modernity then at least from the limbo of postmodernity. The long answer has not been given yet but can be expected to come from historical studies of the streams of change that have flown together in recent memory and filled the sea of globality.⁶

((22)) The short answer was insufficient and has created its own backlash (Rosenberg 2000). Sloppy and circular reasoning (in which globalization serves both as process and outcome) employed globalization in the singular to capture everything from epochal shift to new historical concept. This wholesale talk about globalization has been criticized as “a gigantic misreading of current reality” (Wallerstein 2000: 250). However, the discourse on globalization is moving beyond its initial clichés and theoretical competitors. Newer globalization-studies are beginning to focus on the plurality of globalizations; they are investigating national trajectories, regional variations, and topical specifications (Therborn 2000). I expect that a good part of the long answer will come from crafty new global history explorers and their charts. These voyagers are entering the study of globalizations from the present sea of globality; they are traveling upstream into the past to survey the rivers of global change.

((23)) Plotting the career of many different globalizations is evidently an important task for the new Global History. Not all rivers of change are created equal, some are mightier than others, different origins, lengths, and courses have to be explored. Thus, the new Global History is reaching variously into the past to map the web of short-, medium- and long-term globalizations, which have put the planet into the center of contemporary history. To characterize our approach as whole-globe- or globality-centered, as I did in the previous section, does not mean that the necessary refocusing of historical research follows automatically. Globality-centering appears to be easier in fields like environmental history (McNeill 2000), where political and cultural boundaries are relatively spurious, and harder when jealously guarded local or national identities interfere.

((24)) One of the long-term globalizations is the conceptual construction of the globe itself. Humans have walked the earth with vastly different ideas and accounts about it. How do we relate the current (global) image of earth, which is heavily influenced by satellite photos, to alternative (local) geographies of earlier times? If I have to choose between cultural relativism and pluralism, I would choose the latter. The now omnipresent image of the globe supports the hegemony of

the modern world map. Does that mean that the discourse of modern geography was a triumph of truth over premodern conceptions of space? As a historian, I would say, I have access to temporal truths only; I apply the historical-critical method to studies of the past and hope for new and better truths to emerge in the future. If pressed, I would vote against the classical notion of an absolute and eternal truth and for a choice between controversial truths. Global exploration and modern cartography have gone hand in hand with capitalism and imperialism in the last five hundred years; this is what I can see as a historian. My answer would therefore begin with a revised question: how did Western (scientific) geography manage to displace indigenous conceptions of space after the rediscovery of Ptolemy's *Geographia* in the early fifteenth century? Scientific geography favored physical accuracy and overwhelmed the mapping of political, philosophical, theological, and cosmological world-views, first in the West and eventually in all other parts of the world.

((25)) Thongchai Winichakul has given the best answer to the question above. In a brilliant study, he showed for Siam/Thailand how modern mapping created a modern nation in the nineteenth and early twentieth centuries. Thongchai argued that Thai nationhood was made by scientific cartography, "The regime of mapping did not passively reflect Siam. Rather, it has actively structured 'Siam' in our minds as well as on earth" (1994: 130). Thongchai's book illuminates the underestimated power of maps as well as the tantalizing possibility that mapping and other technosciences may not be "merely a means, a verb, of the human subject. It may be the other way round" (173). For Thongchai, nonhuman subjects have gained the upper hand in modern history. This provocative thought, most eloquently expressed in Goethe's *Zauberlehrling* (Sorcerer's Apprentice) at the beginning of the Industrial Revolution, is especially pertinent for the student of Pangaea Two who cannot ignore the global agency of technoscience.

((26)) Without knowledge of the globe, globalization would be an empty term. How could it be otherwise! The globalization of the globe must come before all other globalizations. What Marx's "original accumulation of capital" did for capitalism, the globalization of the planet has done for globalism. It is easy to see that the unveiling of the full face of the earth is the historical *conditio sine qua non* for globality, the Global Age, and Pangaea Two. However, it does not follow that the total uncovering of the planet was easy to achieve. In fact, the original globalization of the earth was a difficult and costly task and took all of the time of modernity, almost five centuries, to accomplish. People are forgetting now that the pictures of our physical habitat used to be phantasmal, faulty, and incomplete. The new Global History can (and should) ensure that we remember on our way into the twenty-first century that reliable knowledge of the whole planet was a necessity for all things global but not a given, and furthermore, that the constant updating of this knowledge remains a permanent challenge in the communal realm of globality.

((27)) The unveiling of the planet began as an uncoordinated learning process with hunter-gatherers developing mental maps of small parts of the geobody. This local knowledge served human needs for hundreds of thousands of years.

Some larger areas of Eurasia and North Africa were mapped on and off since the sixth century BC by China, Greece, and later Rome, but until the sixteenth century AD, the bulk of the geobody was well below the civilizational horizon everywhere in the world. It fell to the Christian mariners from the competing kingdoms of Portugal, Castile and Aragón to develop an exceptionally strong taste for global exploration during the fifteenth and early sixteenth centuries. Their progressive mapping of the Atlantic Ocean combined with the search for a direct ocean passage to India jump-started the eternally stalling and sluggish engine of world discovery. The breakthrough voyages occurred within thirty-four years (counting from the rounding of the cape of Africa by Bartolomeu Dias, 1488, to the first circumnavigation of the earth by Ferdinand Magellan, his ships, and his crew, 1519-22). Between 1500 and 1600, from the geographical illusions of Christopher Columbus to the scientific cartography of Gerard Mercator (1512-1594), the project to "open up the whole globe" (Juan Luis Vives, 1531) was set in motion and devoured millions of human lives. When the original globalization of the earth was finally finished, in the mid-twentieth century, extensive Cold War mapping of the ocean floors had revealed the last hidden features on the surface of the planet (Erickson 1992: 79): a global system of oceanic ridges (gigantic submarine mountain chains with abyssal troughs in the middle, intersected by transversal cracks, called fracture zones) and deep-sea trenches, where crustal plates sink into the mantle of the earth, mainly around the Pacific Ocean, and supply tens of thousands of undersea volcanoes with molten magma.

((28)) The evolution from a state-centric world (created after the Peace of Westphalia, 1648) with a small number of political actors to the present "multi-centric world" (Rosenau 1990 and 1997) teeming with governmental and non-governmental organizations, national and international associations, and hundreds of thousands of political actors is one medium-range development of major importance. Yet, how shall we read the victorious globalization of the territorial nation-state? Look at the political world map and try to find the precious few who are not represented by a nation-state. The nation-state has become a global phenomenon – virtually all the habitable land throughout the world is in one way or another administered by a sovereign state with a definite territory. The modern nation-state, instead of staggering "on its last legs" (Appadurai 1996: 19), as some early globalization theorists wished or feared, is adaptive, and has moved beyond foreign policy into areas like global ecology. The social-natural whole of Pangaea Two, which includes poorly regulated greenhouse gases in the classic three-dimensional space of first nature and fairly uncontrolled foreign currency markets in the new digital or technoscientific space of second nature, provides the complex global environment of the state today. Saskia Sassen's call for "a new geography of power" (2000: 375) is right on target. Her analysis begins with the observation that "most global processes materialize in national territories" (which explains the enduring regulatory power of the nation-state, especially in the highly developed countries) and ends with the qualification that "the fact of a process happening within the territory of a sovereign state does not necessarily mean it is a national process" (385). Following the strengthening of the nation-state on the one hand and its weakening on the other,

Sassen takes us to the fork in the road where territoriality is splitting off from territory, in reality as well as in the social sciences. Sociology, Economics, Political Science, and the new Global History must be given room at this point to investigate the multidimensional topography of contemporary power.

((29)) A paradigmatic short story in the history of globalizations is the development of the World Wide Web. Dreamed up by Tim Berners-Lee (Berners-Lee & Fischetti 1999) in 1989 at CERN, the European Laboratory for Particle Physics outside Geneva, and discovered by the American media in 1994 (Hayes 1994), it became the leading Internet service within a year (based on packet count in March and byte count in April of 1995). The World Wide Web went in less than a decade from general idea to global presence. However, as an addition to the older Internet it was but a chapter in the collective work of thousands of engineers and scientists that began in the mid-1960s with one overriding objective: let's allow the new machines to talk to each other. Having started out as a social historian (Schäfer 1982 and 1985) I would say that the making of the Internet is probably as relevant for the new Global History as the making of the working class was for the old Social History. Global historians can show the actual growth routes of a globalization by following the network lengthening processes from a small local cluster in California at the end of 1969 to a national and, incidentally, continental network (which can be fruitfully compared with earlier networks), and on to a decentralized global net of networks with substantial local, national, and international repercussions. They can study the technoscientific "nature" of the Internet and discuss what it means that web sites are linked "laterally instead of hierarchically" (Abbate 1999: 217). They can explore the fascinating history and cartography of cyberspace (Dodge & Kitchin 2001) and try their hands at the mixed (first and second nature) geography of Pangaea Two. All this will take time, but the challenges are exciting.

((30)) The new Global History has learned from the history of History that the exploration of the rivers of global change does not move from the past into the present, as the subtitle of the *National Standards for World History* (1994) suggested, but from the present into the past, as all historiography in the final analysis does. The present time is our point of departure. A synergistic convergence of global processes including the accelerating evolution of technoscience since the middle of the nineteenth century can be documented; but how could one demonstrate that a master plan has led the world toward Pangaea Two at the end of the twentieth century? We can only show that the novelty of a global technoscientific civilization arrived in a non-teleological way. So, we must paint the emerging picture of contemporary history accordingly, not as a quick march toward globalism but an unplanned and unforeseen coming together of disparate historical developments with different historical wavelengths in a new historical configuration.

Periodizations

((31)) Periodizations are History's genuine, but generally underrated, theoretical means.⁷ Historians have often wrestled

with the question of how to cut the seamless garment of history at the right time with the right name. Finding the right time means to determine the beginning and, if applicable, the end of an age, and finding the right name means to highlight what a particular age is concretely about. The epochal breaks around 500 and 1500 with the out-dated, but undying division between ancient, middle, and modern ages, or the construction of the Renaissance, the Enlightenment, the Scientific and Industrial Revolutions – these and all other periodizations bear witness to the *ambitio saeculi*, the unstable, and nonetheless unavoidable ambition of making history intelligible through named spans of time. Postmodernism, for instance, has become an influential style and critical mode of thinking but not the name of our time. The "Postmodern Age" would have defined our period negatively; it could or would not answer the question what the present time is positively about.

((32)) The best way to miss the main thrust of our time and to trivialize the complexity of our age is to look for the most dramatic event, an all-defining person or a highly significant thing. Naming our time after a new energy source (Atomic Age), machine (Computer Age), economic actor (Consumer Age), commodity (Information Age), region (Asian Age), frontier (Space Age), and so on makes sense if one wants to draw attention to a vital factor or area of change. However, it could be argued that modern change is a many-headed thing. How foolish to concentrate on one face of the dragon only! How can the right name for one feature supply us with the right name for all features? We have to look for an all-encompassing periodization when an entire timescape is at stake. Yet, can we find the magic word that opens every door in the compound of the present so that we can understand what is going on inside our time?

((33)) Let me try to clarify the difficulty that the naming of contemporary history poses by default. Unlike all other history, contemporary history is incomplete in the epochal sense; its historical formation is unfinished since the event-horizon of the present is open to the future. Only epochs that are enclosed by other epochs can be epochs "in a precise sense" as Karlheinz Stierle observed (1987: 453). The privilege of hindsight is not granted to contemporary history because we cannot identify the footprints of historical change from a vantage point in the future. However, we can hazard specifying the leading tendency of our time and asking, what is the most important pattern of history today? I would answer, The massive clustering of globalizations and the emergence of a global technoscientific civilization. But I would add a cautionary note as well and say: any answer to this question is to some degree a historical conjecture, and therefore subject to investment risk. The new Global History can work with that risk, but cannot guarantee a winning ticket.

((34)) Take all periodizations away and historical thought would drown in turbulent streams of events. We have to tailor the garments of historical interpretation with different cuts for different times, including the present time. So, what is the best we can do to properly address contemporary history? Here is what I think. A new historical configuration materialized in the second half of the twentieth century without a master plan. A multitude of interlocking and mutually reinforcing changes

enmeshed all local histories and created the new global history that I am trying to capture with Pangaea Two. Contemporary history became global history. This epochal shift was widely recognized in the 1990s, and naming attempts were made.⁸ One of the offshoots of the perception at the end of the twentieth century that something new might be in store was our Global History Initiative.

((35)) In 1996, the historical sociologist Martin Albrow published *The Global Age*, a full-fledged attempt at an “epochal theory” for the present era. A fictional motto from the year 2050 introducing the first chapter (“Resuming the History of Epochs”) summarized his take, “In the 1990s came the general recognition that the Modern Age was at an end and that the Global Age had already begun” (1997: 7). Other observers of our time had reached a similar conclusion. In 1995, Michael Geyer and Charles Bright summarized their findings about world history “in a Global Age” in one terse sentence, “World history has just begun” (1060). I certainly agree with Global Age as a suitable name for our epoch, and I have no problem with the implicit understanding that all previous world history was a pipe dream of world historians. But I would not conflate the Global Age with the advent of world history – the construction of a new age is built on controversies.

((36)) However, the history of periodization has provided us with a somewhat less ambitious option. Those, who do not want to risk misidentifying the present time with a specific nametag, can grasp the conglomerate of contemporary history by simply referring to the epochal significance of, say, the twenty-first century. True, it has hardly begun, but carries already some weight, not least because it terminated the twentieth century. Or did it not? One could argue with the trope of the “long century” (as I did elsewhere) that the “real” twentieth century (characterized by the confluence of numerous globalizations) started around 1950, and is still going strong.¹⁰ So, the twentieth, the twenty-first, or both centuries could provide the smart answer to the epochal question asked by the observers of contemporary history. Johannes Burkhardt’s little known but wonderfully instructive study of the protestant invention of counting history in centuries¹¹ has shown how the dividing of history into consecutive one-hundred-year periods instead of Olympiads, decades, fifty-year intervals (“annorum quinquagena”), one or ten generations, became possible and meaningful. Why shouldn’t the twenty-first century acquire a global “l’esprit du temps” as distinctive as Voltaire’s enlightened eighteenth century?

((37)) We can now leave the problem of the right name for our age, which in any case seems to suffer progressively from “ageism” (an inflation of period names, several for every ten years, fueled by increasing complexity and accelerating historical change), and turn again to the new Global History, which could rightly be seen to come with an almost intrinsic long-term periodization. As I have already emphasized ((26)), the earth has become a known global entity only lately, during the last five hundred years. The entire physico-biological reality of planet Earth, that is to say, all her waters, lands, plants, animals, and people, were largely unknown before the original globalization of the earth. The new Global History distinguishes, therefore, between: (1) worlds that were defi-

nately not global; (2) a world that was set to become more and more global; and (3) a world that is truly global for better or worse. The terminology that would convey these very general distinctions with minimal effort is *preglobal*, *protoglobal*, and *global*. Thus, the European discovery of the American continent would mark the beginning of the end of preglobal times for the human species; the following five centuries would comprise the protoglobal period of global history; and this intermediate period would end with the beginning of the global era proper or the last steps of “the transition out of the Modern and into the Global Age between 1945 and 1989” (Albrow 1997: 96).

((38)) The new Global History has yet to apply the basic distinctions between preglobal, protoglobal, and global stretches of history in a substantial way. The two demarcation lines between pre- and protoglobal as well as protoglobal and global histories are, of course, theoretical seams focused on earth-in-its-entirety. They are based on the central assumption that nothing can be deemed “global” before the entire globe has become known. Artificial like all distinctions, these temporal borders are nonetheless necessary historiographical tools that both permit and constrain. They allow the new Global History to perform certain heuristic interventions (the appreciation of two global histories, natural and human, for instance); yet, they also constrain the global historian from making anachronistic globality assumptions. The vogue to call things that fall into proto- and preglobal times “worldwide” and “global” indicates that something of that nature is happening now (not necessarily then). The currently backwards-expanding histories and theories of the economic “world” system illustrate this trend.¹²

((39)) Maybe the time has come for a Thucydidean turn to contemporary history. The history of the present time is the challenge; global history is happening now. Professional historiography is preoccupied with the past (how many articles about contemporary global history are published in the leading historical journals?) and has left the enormous space of the present all too generously to Political Science, Economics, Sociology, and journalism. Rigorous work about the present has become a signature of the social sciences. Yet the social sciences are often professionally shortsighted as far as medium- and long-term connections between past and present are concerned. Neither the majority of the social sciences nor global journalism (CNN International, for instance, which features itself as the global news network that is capturing “history live”) has much to offer in terms of deep historical analyses of the Global Age.

((40)) What is “truly global” is the question. The answer I have given in ((3)) and ((11)) is tied to the entire spatial habitat of life on this planet, and the periodization I am suggesting reflects the human appropriation of this habitat over time. This rough triptych of global history (with a large preglobal panel on the side that grew out of geology and biology, a comparatively small protoglobal panel of some five hundred years in the middle, and, hopefully, another large panel on the truly global side) is open to innumerable subdivisions on each panel. However, the hinges divide what was unconsciously connected in actual life, and connect what the global history

periodization must knowingly separate from its globality point of view. I think I can already hear some catcalls. False Realism! Crude Naturalism! Teleology! And, not so far off, I admit, Neo-Cellariusism!¹³ How would I answer the boos? Probably with an effort to demonstrate the heuristic value of my scheme. Take, for example, the fashionable allusions to an emerging “planetary consciousness.” I would look for the progressive extension of the ethnocentric “us,” and try to pursue this painful stretching in the time frames of global history. To do this, I would turn the phrase about planetary consciousness around into consciousness of the planet, project it from the non-researchable future into the researchable past and ask, how did the knowledge and appreciation of the entire planet and all its people come about? We would find, I suppose, that the historical evolution toward planetary consciousness has been accompanied by the lengthening of the lines of travel, first in globally unconnected ways during preglobal times, later connecting clusters of travel here and there, slowly forming an ever denser network of lines on the prescriptive/descriptive parchment of maps, drawing ever larger clusters of travel together in the protoglobal period until the whole world was covered and represented. I would argue that the global consciousness of the twenty-first century is linked to the massively globalized lines of travel and communication supported by Pangaea Two.

Qualifications

((41)) If there was ever an ideal in need of deconstruction, the goal of traditional World History to be “total, global, and universal in time and space” (Allardyce 1990: 67) should be considered. I have argued elsewhere (1993 and 1994b)¹⁴ that the whole physical space of human action, plus the whole span of historical time, plus the whole of humanity is too big a task for serious research and constitutes a trinity of false totalities. In order to serve a diverse global audience and to articulate the reflexive complexity of the contemporary world, the new Global History is free to employ global theories and bound to eschew total history.

((42)) The World Histories of Hesiod, Polybius, Augustine, as well as others are still read, but as primary sources. What could be construed from a narrow modernist perspective as shortcomings constitutes their contemporary historical appeal. Indeed preglobal “ignorance” about the planet geographically and its inhabitants historically is doubly valuable for the new Global History. First, it permits us to understand why the classical writers of World History could reasonably dare to tell the whole story: the world was a much smaller place and, in the case of Christian World History, it had a helpful divine beginning and preordained end. Second, it allows us to reconstruct the local worlds of the past. For example, when Herodotus wonders “why, since the earth is all one, there should be three names set on it [Libya, Asia, Europa], all indicating descent from women” (1988: 297), we can use his remark to question Eurocentric approaches, develop gendered interpretations, or map the Herodoteian view of North Africa cum Eurasia in the fifth century BC. Today, the knowledge situation resembles the other extreme. We know not too little, but far too much for a universal account of

global history. Now any sum total of the entire world and our fellow subjects in global space and historical time would be arrogant and superficial.

((43)) Traditional Western World History has privileged totalizing analyses, raising validity questions, and single-voice-accounts, casting doubts on their authors’ legitimacy. Can a white man from the West do justice to all the histories of the world? Eminent world historians like Oswald Spengler, Arnold Toynbee, and William McNeill have given their affirmative answers in grand historical narratives. These authors assumed that they could speak for the West *and* “the rest,” and be total in time and space without sacrificing scholarship. Their writings about the rise and fall of world civilizations (Spengler 1965; Toynbee 1946/57) or the give and take between civilizational centers (McNeill 1963) are classic epitomes of Western World History. They are impressive and hubristic, instructive and questionable. It would be fitting if these literary monuments would come with the memento: “Thus spoke the great men of history, morphed into great historians, now extinct.”

((44)) World History is thriving in the United States unlike anywhere else in the world. It is taught in American secondary schools, colleges, and universities under names like Global Studies, Western Civilization, and Global History. The authors of U.S. World and Global History textbooks, heavy and magnificent tomes, a publishing bonanza, are now trying to purge Western cultural prejudices through the inclusion and approbation of non-European civilizations. This makes the teaching of World History definitely less arrogant, but not necessarily less Western. If a world historian says, “*Global perspective* means in the first instance a book that is not Western or Europe-centered,” we may ask, who is speaking? Answer: Anthony Esler, an American professor, in the preface to his version of “the whole human story” (1996: xiii). Earlier world historians followed a general European attitude of Western superiority and counted the non-Western others out of history if they did not belong to a civilization with approved signs of linear progress (Wolf 1997; Adas 1989). Now many more are counted in, but who does the counting? World History, even the globalized kind, is still predominantly narrated by Western voices.

((45)) The Western voice of traditional World History is a liability. World History always was, and to a large degree still is, an occidental affair. Paul Costello, a historian of seven world historians of the last century, remarked that “no universal and comprehensive world histories ... have been written from a traditionally Chinese, African, or Indian perspective” (1993: 225). Jawaharlal Nehru’s *Glimpses of World History* (1942) and K. M. Panikkar’s *Asia and Western Dominance* (1959) are notable exceptions, except that H. G. Wells’s *Outline of History* (1920) was Nehru’s guidebook (Kopf 1991). “As long as the West has its Orientalists but the East has no ‘Occidentalists’ there can be no real equilibrium,” wrote Henk Wesseling (1992: 78). However, this imbalance is beginning to wane. Western Orientalists have received a harsh lesson from *Orientalism* (Said 1979), and Western-trained, non-Western Occidentalists and comparativists like R. Bin Wong (1997) and Dipesh Chakrabarty (2000) are bound to influence the world-histori-

cal discourse. This has been noted positively among current world historians (Buck 1999) and within the wider professional community (Stokes 2001).

((46)) Yet, what about the new Global History? It seems to have a Western voice and pedigree as well. Yes, it has, but it does not matter so much. The new Global History is a moderate and researchable enterprise. It concentrates mainly, but not exclusively, on global phenomena in contemporary history, and benefits from the fact that the Global Age is bringing all people into the present.¹⁵ Global historians, though looking at the spatial whole, are not pursuing historical holism. Humankind, which has come alive and works no longer only in theory or on the level of the General Assembly of the United Nations but also from below is helping our case. Once a speechless philosophical abstraction, humankind has gotten voices and websites; it is calling the bluff of the holistic scholar by articulating contemporaneous concerns in many ways and languages. People watch, hear, read, experience, discuss, support, challenge, and fight globalizations; they look at contemporary history from local perspectives around the world; they see wildly different things, and frequently the same things quite differently. This is perhaps the ultimate reason why I expect that the first new Global History speakers will not dominate the discourse. Too many others across the world are interested in global phenomena, the history of global tourism for example. Look what may happen. I could contribute to the study of tourism from my point of view, in my voice, with my accent. Jamaica Kincaid did just that in *A Small Place* (1989). Kincaid enriched the study of global tourism from her point of view, in her voice, with her accent. The United States-based writer from Antigua dealt with a global phenomenon; her take on tourism can speak to a global historian and vice versa.

((47)) How does the new Global History deal with the fact that World History features as Global History too? My initial answer was to use the adjective “new” as a way out of the potential confusion ((2)). Yet, my faith in the power of purely semantic solutions is limited. I think we must live with the competitive ambiguity and at the same time seek to establish a productive relation that would allow both branches to grow on the History tree. Until now, my strategy was to avoid the comparison with World History by aligning the “new” global history with Pangaea Two and the “old” global history with Pangaea One ((9)). This makes sense, I believe, for the natural, old, and ongoing global history as well as for the other type that is human, and emerging. But the problem of rival Global Histories raises its head when one starts writing about global history. This difficulty can be faced polemically, which is not creative, or constructively, which requires an understanding of the real differences between World and Global History. I shall argue that the perceived opposition between World and Global History has become unnecessary and should give way to a cooperative division of labor between these two new branches of History.

((48)) How World History is doing today, and what, can be gleaned from the articles and book reviews of the *Journal of World History*, now in its twelfth year. In my view the pages of this periodical confirm at least two observations, namely that

World History is “maturing” (Stokes 2001: 524) and that the ups and downs of world civilizations are still central to the work of most world historians.¹⁶ There is change and continuity with the effect that traditional World History may be well on its way to become a thing of the past. It arrived in the twentieth century with the heavy metahistorical baggage from a complex Western heritage, but seems to have traveled much lighter into the twenty-first century. Of course, this impression needs to be backed up by careful study. Without that work I would just say: global changes took their toll. The 1990s provided everybody with a global perspective, and not a few historians with the growing suspicion that the approach from the past might be missing the critical questions of the present. I think that the contemporary challenges of global history have given the publishers a reason to advertise World History as Global History, but also convinced a growing number of world historians that they could gain academically by freeing their projects from Eurocentrism and total history.

((49)) Look beyond the blurbs and it becomes clear that World History has not produced a new Global History but a new approach to the writing of World History. What we have to take into account are the real research interests of two new History shoots.¹⁷ As outlined previously, the actualities of global history were brought to the fore by the coming together of many globalizations. Some sensitive minds saw the coming of a Global Age since the 1950s or even earlier, but the consequences were slight. In the last ten or twelve years of the twentieth century, however, manifold and sizable impacts of global thinking have made a difference. It is in this context of acute global awareness and change that the new Global History and the new World History developed; both are true siblings of the Global Age, and both appear to be innovative in their own way. The new World History is bringing a fresh approach to the study of historical civilizations, while the new Global History is approaching contemporary civilization (Pangaea Two). The new World History seems to be moving away from single grand narratives and Eurocentric claims and counterclaims (the hallmarks of traditional World History) and on to more detailed and carefully researched investigations of “cross-cultural interactions” (Bentley 1996), whereas the new Global History has found in humankind a new subject to reckon with, in the whole planet a new field of action to investigate, and in globality a new unit to evaluate.

((50)) The biggest difference between the world today and the worlds of the past has possibly been made by the globalization of technoscience. Local achievements of technoscientific advancements were put on display in international World Fairs since the mid-nineteenth century, but the tools, weapons, and methods of technoscience have become omnipresent only recently. Thus, it spells “local civilizations” for the new World History and “worldwide technoscientific civilization” for the new Global History – they both differ by as narrow or wide a margin as the singular of civilization differs from the plural. The technoscientific civilization of Pangaea Two cuts across all cultures, large and small; contemporary civilization is a global entity in a planetary world of local societies and cultures. This qualification of civilization (one) and culture (many) has escaped detection for some time but not altogether. When Theodor W. Adorno declared in 1966,

“Universal history must be construed and denied ... No universal history leads from savagery to humanitarianism, but there is one leading from the slingshot to the megaton bomb” (1973: 320), he made two critical points about world history. Subsequent philosophies (postmodernism and deconstructionism) followed up on the denial of moral progress and attacked the whole range of occidental chauvinisms, yet did nothing about Adorno’s construction-point. The new Global History has no particular philosophical ax to grind but may be able to shed some light on the evolution from the slingshot to the global technoscientific civilization of the twenty-first century.

Conclusion

((51)) Nobody, whether privileged or abused by global history, is simply a local fellow anymore. We may like or curse our particular environment and its various natural, political, social, and cultural aspects, but we cannot hope to insulate the local territories ever again from being traversed by spreading networks with growing power. Everything is designed to become interconnected. Tourists and terrorists, arms and drugs, artworks and gadgets, algorithms, messages, diseases, fashions, and pollutants interact, travel across borders, make, enjoy, or suffer history in the Global Age, which is increasingly experienced consciously and unavoidably shared by water and land, plants and animals, humans and machines.

((52)) What does it mean that everybody and everything is shot through with components of global history? First, and most importantly perhaps, the immediate subjects of the new Global History are contemporary to a large degree and not already silenced by death as History’s subjects usually are; they can talk back to the historians and each other, question, protest, and confirm – whatever they please. Second, most people, things, and territories are no longer monadic, discrete, and strongly bounded, but nomadic and yet provincial, cosmopolitan and yet parochial, mixtures of culture and nature, local and global. They overlap, recombine, bounce around in sprouting networks, and should therefore be analyzed in ways that capture transgressive relations and change (instead of a timeless essence or the “things themselves”).

((53)) How do we grasp what appears like kaleidoscopic and unorthodox links between people, things, places, and times? Has the new Global History a new method to offer? The answer is “yes” when the philosophy (called methodology) is taken into account that determines how the world is read, but “no” with respect to the tools (called methods) that will be applied. Versatile tools are not rare; good concepts are. To do its job, the new Global History cannot afford to neglect the global technoscientific civilization of Pangaea Two; it has to have a methodology suited for the analysis of the chains of contemporary beings, which include WIPP’s TRUPACT trucks and the satellites of the following figure. It is for this reason that I would like to suggest relational analysis as our main tool, and the philosophy of the “new science studies” (Latour 1993: 24) as our methodology.

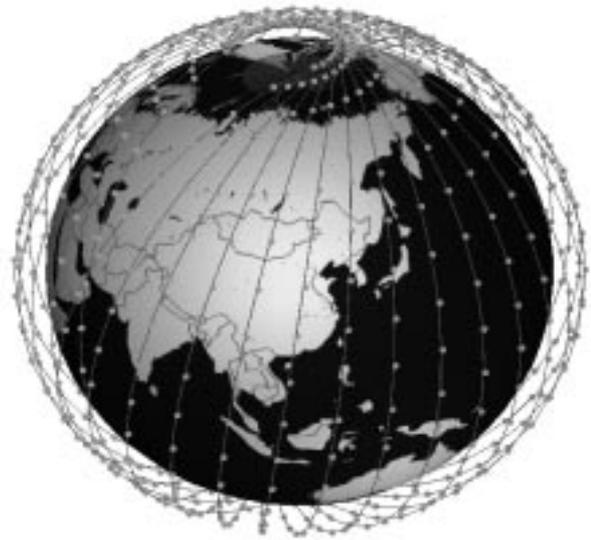


Figure: Internet-in-the-Sky planned by Teledesic (service targeted to begin 2005 with 288 low earth orbit satellites plus spares, see <http://www.teledesic.com>). Image from <http://www.geom.umn.edu/~worfolk/SaVi/constellations.html>.

((54)) The study of networks requires the analysis of relations. For a brilliant introduction to relational analysis I recommend the opening of *The Man Without Qualities* by Robert Musil (1995). The world of global histories is a world of networks that underwrite ever-changing relations, and as such, it is a world without stable or essential qualities. The new Global History shares the relational approach with contemporary philosophy,¹⁸ social science,¹⁹ and anthropology. For example, Eric Wolf used the Marxian *mode of production* as a “relational synoptic concept” to good purpose. Unfurling the category of social labor in a relational way allowed him to reveal “the human relations to the natural environment, the social relations of humans to humans, the institutional structures of state and society that guide these relations, and the ideas through which these relationships are conveyed” (1997: xi). However, our methodology has to go beyond the traditional dualisms; and this calls for a major theoretical adjustment.

((55)) Western philosophy has functioned for centuries with nature and society strongly divided. The strict separation of values and facts, subjects and objects, social and natural, contingent and necessary, local and global, historical and universal, advanced and primitive, human and nonhuman was an article of philosophical faith for the majority of social scientists with no constructive exceptions. Yet, recent science studies have presented us with a new perspective. From its beginning in the 1930s (Schäfer 1994a), studies of modern science and technology have struggled with the entrenched division of nature and society. All attempts to bridge this divide were quickly and publicly condemned (notably John Desmond Bernal’s Marxism, Thomas Kuhn’s Darwinism, David Bloor’s relativism, and Bruno Latour’s nonmodernism), but the students of science kept going and now a serious catching up of

conventional thinking with the neglected “reality” of science studies (Latour 1999) is overdue.

((56)) Newer science studies have increased the basic reality count to three: nature, society, and the fertile nature-society field in-between. Never mind that the opposed idols, nature and society, are still paraded up and down on Main Street. The old pair was an important part of modern history and should be displayed to teach the young a lesson how *not* to construct Pangaea Two. Latour, comparative anthropologist of hybrid humans and things, has argued since *We Have Never Been Modern* (1993) and with reference to Steven Shapin and Simon Schaffer’s landmark book on Thomas Hobbes and Robert Boyle, *Leviathan and the Air-Pump* (1985), that the two “Great Divides” (Latour 1993: 99) of modernity separating nature and society as well as modern and non-modern societies can and should be dissolved. Helped by the emerging paradigm of the new science studies and inspired by independent thinkers like Michel Serres (Serres & Latour 1996), Latour has focused on the nature-society field and shown it as the place where the networks are situated and things are worked out. “Nature and Society have no more existence than West and East” (Latour 1993: 85); which means that nature and society are relative poles, resources for relational analyses.²⁰ Once we have learned to juggle the symbolic features of machines and the natural elements of social organizations, we can come to grips with the abundant reality of the third kind (“small imps”²¹ and other mysterious “hybrids”²²) that has formed the “dark matter” of modern history.

((57)) How shall the new Global History address nature, society, and the nature-society field? I think we could work with the terminology I have explicitly or implicitly applied throughout this essay and use *first nature* (also called Pangaea One), *second nature* (also called Pangaea Two), and *local societies and cultures* to draw the cognitive maps of a world that exhibits civilizational unity. Pangaea One and local societies cum cultures, the two principal historical actors Kant and his successors had split apart and consigned to the sanitized poles of nature and society are, finally, no longer segregated. Now we can go beyond the traditional dichotomies and begin to anatomize the mixtures of nature and society like a Latourian speed bump.²³ If we describe the relations that make the speed bump, us, everything we use, and everything we know, global history will find a voice.

((58)) But complexity starts with three, that is to say, we global historians have a three body problem. Remember the question that vexed the Newtonians in the mid-eighteenth century, “What are the expected motions of, say, the earth, sun, and moon, under the mutual influence of each other’s gravitational fields?” (Mason 1962: 293). The new Global History has to handle the temporal relations and interactive dynamics of first nature, societies cum cultures, *and* second nature. How do they affect each other? How shall we read the historical constellations formed by the geobody of Pangaea One, local societies and cultures all around, and the technobody of Pangaea Two?

((59)) My attempt to present what the new Global History is about must end with this question mark. I am optimistic that interesting answers will follow because I believe that we have

reached the point where the new Global History is beginning to ask the right questions. What I would like to clear up before finishing, though, is the central role played by second nature. Let me explain why Pangaea Two, global technoscientific civilization, and second nature are lumped together in my thinking. I have suggested defining contemporary civilization not as a local culture writ large but as “a deterritorialized ensemble of networked technoscientific practices with global reach” (2001: 312). This definition frees civilization from the advanced-type-of-culture idea, which was discriminating and confusing, and assigns civilization the role of broker between the forces of first nature and the creative power of human societies. The networks of facts, knowledge-practices, and technoscientific things have gotten so extended and ubiquitous that it seems appropriate to call contemporary civilization singular and global. The term Pangaea Two takes care of this novelty by linking civilization both to earth and humankind, thus separating it from the ethnocentric egotism that has given human history so much of its brutal flavor.

((60)) However, Pangaea Two or second nature is neither benign nor evil yet powerful enough to wreak global havoc. I would suggest using the term second nature to call attention to another set of aspects of the global technoscientific civilization, namely its opacity, contingency, and Janus-faced personality. The beginnings of second nature reach far back in time to the earliest tools and the mythical deed of Prometheus. Only in the last one hundred and fifty years, when fledgling techniques were replaced by the productions of technoscience, has second nature progressed rapidly through several orders of magnitude and complexity. Its proliferating offspring is now encircling the globe and so densely linked that one can no longer assume that the collective interplay of this worldly family of things is readily understandable. Second nature must be researched like first nature because Pangaea Two is as opaque and contingent as first nature used to be. Second nature is also characterized by Janus, the Roman god of doors, gateways, and beginnings, because it faces the sociocultural powers and the forces of Pangaea One at the same time. Asked why he robs banks, the bank robber said, that’s where the money is. Likewise, the new Global History focuses on Pangaea Two – that’s where the historical action is today.

Notes

1 I distinguish between the reality of global history and the writing about it: lowercase letters (global history) point to the raw existence of global history; capital letters (Global History) flag what global historians do.

2 The last geological textbook to leave Wegener out was published in 1966 (Marvin 1973: 205). For a critical appraisal of the rejection of continental drift, see Oreskes (1999).

3 See <http://www.wipp.carlsbad.nm.us>.

4 See <http://www.wipp.carlsbad.nm.us/fctshs/whysalt.pdf>.

5 See <http://www.wipp.carlsbad.nm.us/fctshs/markersystem.pdf>.

6 I hope to contribute to the longer answer in a book entitled “Pangaea Two” with chapters on three major changes: from local to global space; from unequal to synchronized time; and from territories to networks.

7 William Green distinguished between a “coincidental” periodization method (which looks for the “convergence of numerous important developments at a single moment in history”) and a “leading-sector approach” (which works with the “pulling power” of “one overwhelming source of change”), but concluded: “For the moment, we are com-

pelled to exercise arbitrary eclectic judgments on global periodization" (1995: 102 and 110). I think we can do better.

8 I toyed originally with "Global History Age" but thought that was too clumsy. In 1995, I settled for "The Global Ages" (in analogy to the Middle Ages) in a response to the *New York Times*, which had asked its readers to name the present era (Schäfer 1995).

9 What has just begun is not *world* history, but *global* history. Does the adjective make a difference? Definitely. The student of global history who grants that we live in the Global Age is fully aware of the entire planet (in ways indicated by the section on globality) and contemplates a truly global world. The scope of contemporary history is literally global, i.e. it pertains to the whole planet. However, a "world" can be much smaller than the planet, and most often is. The civilizations of traditional World History are exemplary in this regard: they were largely worlds unto themselves, situated here and there on a much bigger planet. So, we must distinguish between "world" and "globe" (or world and global history) since the entire globe can contain many worlds.

10 See Schäfer (1996): "Mein 20. Jahrhundert begann irgendwann um 1950, als das 'lange' 19. Jahrhundert zu Ende ging, und es ist in seinem 'ausgehenden' Jahrfünft alles andere als moribund. Es hat für mehr als ein paar Kalenderjahre Zukunft und wird vermutlich auch noch im 21. Jahrhundert Epoche machen."

11 See Burkhardt (1971: 137, Concise Summary): "Historians in many countries today refer to historical events as having occurred in a certain century. This convention of referring to centuries, however, as opposed to counting years, is a fairly recent one. It first appeared in the sixteenth century and is a special invention of historiography ... The word 'century', as an historical terminus, was used for the first time in the so-called 'Magdeburger Centurien', the first protestant ecclesiastical history, which was published by Matthias Flacius Illyricus in Basel in 1559. Each volume ('centuria') covered the space of one-hundred years, beginning at the birth of Christ. Subsequently, the number of the volume corresponded directly with the present-day number of the century ... The modern usage of this method and its functions in historiography ... were fully developed by 1800 ... The division of history itself into hundred-year-periods has received epochal significance. This applies especially to recent centuries: since the seventeenth century it has become common practice that contemporaries regard their own century as the epoch in which they are living."

12 Pushed into the long sixteenth century by Immanuel Wallerstein (1974), the long thirteenth century by Janet Abu-Lughod (1991), and the millennia of traditional World History by Andre Gunder Frank (1991) and friends, the "world" of the various world systems has become increasingly preglobal in the geocentric sense of the new Global History.

13 Christoph Cellarius (Christof Keller, 1638-1707), a school principal ("Rektor") and native of the city of Halle on the Saale River, is famous/infamous in the history of historiography as the one who "invented" the Middle Ages. However, Geoffrey Barraclough's charge that Cellarius put the "straight-jacket" of ancient, middle, and modern history "over all future historical thought" (1956: 54) reveals only the conceptual weakness of that later thinking and not the apparent strength of Cellarius' *Historia Tripartita* or *Historia Universalis* (1696, 1704, and, posthumous, 1708). Cellarius used the new counting in centuries quite effectively for the purposes of a comparative political history. The Middle Ages ("Historia Medii Aevi") began with "Saeculum IV", and the Modern Age ("Historia Nova") started with "Saeculum XVI"; see Burkhardt (1971: 51-57).

14 The English version of this essay contains a number of errata; a corrected version is available at: <http://www.sinc.sunysb.edu/Class/wschafer>.

15 I have tried to contemplate the socio-temporal consequences of global history in a forthcoming chapter on "History in the Present Time"; see Schäfer (2003). An earlier, German version of this essay appeared in *Ungleichzeitigkeit als Ideologie* (1994c: 132-55).

16 This was underlined by Patrick Manning, director of the World History Center at Northeastern University, in an *American Historical Review* Forum on "Periodization in World History" (1996: 777).

17 "We" is Bruce Mazlish, Raymond Grew, I, and everybody interested. We have sustained an ongoing discussion in the last decade concerning Global History and/or versus World History. Our starting ideas can be found in *Conceptualizing Global History* (Mazlish & Buultjens 1993). Raymond Grew helped me to see World History in a better light; his position can be gleaned from an important review in *History and Theory* (vol. 34, number 4, 1995, pp. 371-394) and *Food in Global History* (1999: 1-29). Bruce Mazlish has challenged us since 1989 to

think about "Spaceship Earth" or the global exigencies of history today; his latest reflections on World and Global History (1998a and 1998b) added "Ecumenical History" to our problematic historiographical environment.

18 Richard Rorty advocates "panrelationalism" and suggests thinking of everything "as if it were a number" (1999: 52). He exemplifies his antiessentialist stance with the number 17 and the impossibility to define the "seventeenness" of 17 intrinsically.

19 Charles Tilly's remark that "relational analysis remains a minority movement in social science as a whole; individuals and holisms continue to reign" (1998: 21) indicates how few and far between relational approaches at this point still are.

20 Of course, Latour is a member of the Invisible College of relationists too: "Relationism will serve as an organon for planetary negotiations over the relative universals that we are groping to construct" (1993: 114).

21 "Imps" are but one example of the innumerable sociotechnoscientific crossings of resources from the relative poles of nature and society. Early in 1967, when the U.S. government proposal of connecting a number of time-sharing computers over dial-up telephone lines was discussed at a conference in Ann Arbor, Michigan, the reaction was lukewarm (at the time everybody was dealing with scarce computing resources and nobody wanted to reduce these resources further by letting others link up). However, one of the attending engineers, Wesley Clark, proposed to build a subnet and connect each host machine to a node of it thus reducing the unwelcome demands placed on the hosts and avoiding the enormous difficulty of making a large number of disparate machines capable of talking to each other. Wes Clark's idea was accepted; the nodes ("small" computers) were designed by BBN of Cambridge, Massachusetts, and called "Interface Message Processors" (IMPs, pronounced like chimps).

22 Latour's term for "mixtures of nature and culture" is "hybrids" (1993: 30). Donna Haraway's "cyborgs" and Andrew Pickering's "monsters" are members of the same far-flung family; they all contribute to the categorically mixed population of Pangaea Two.

23 See Latour (1999: 190): "The speed bump is ultimately *not* made of matter; it is full of engineers and chancellors and lawmakers, commingling their wills and their story lines with those of gravel, concrete, paint, and standard calculations."

Literature

Abbate, Janet. 1999. *Inventing the Internet*. Cambridge: MIT Press.

Abu-Lughod, Janet L. 1991. *Before European Hegemony: The World System A.D. 1250-1350*, First ed. 1989. New York and Oxford: Oxford University Press.

Adas, Michael. 1989. *Machines as the Measure of Men: Science, Technology, and Ideologies of Western Dominance*. Ithaca and London: Cornell University Press.

Adorno, Theodor W. 1973. *Negative Dialectics*, First ed. Suhrkamp, 1966. Translated by E. B. Ashton. New York: The Seabury Press.

Albrow, Martin. 1997. *The Global Age: State and Society Beyond Modernity*, First published in 1996. Stanford: Stanford University Press.

Allardyce, Gilbert. 1990. "Toward World History: American Historians and the Coming of the World History Course." *Journal of World History*, 1: 23-76.

Appadurai, Arjun. 1996. *Modernity at Large: Cultural Dimensions of Globalization*. Minneapolis: University of Minnesota Press.

Barbour, Julian B. 2000. *The End of Time: The Next Revolution in Physics*. Oxford and New York: Oxford University Press.

Barraclough, Geoffrey. 1956. *History in a Changing World*. Norman: University of Oklahoma Press.

Bentley, Jerry H. 1996. "Cross-Cultural Interaction and Periodization in World History." *The American Historical Review*, 101, no. 3: 749-70.

Berners-Lee, Tim, and Mark Fischetti. 1999. *Weaving the Web: The Original Design and Ultimate Destiny of the World Wide Web by Its Inventor*. New York: HarperSanFrancisco.

Buck, David D. 1999. "Was It Fluck or Luck That Made the West Grow Rich?" Review Article. *Journal of World History*, 10, no. 2: 413-30.

Burkhardt, Johannes. 1971. *Die Entstehung der Modernen Jahrhundertrechnung: Ursprung und Ausbildung einer Historiographischen Technik von Flacius bis Ranke*. Göttingen: Verlag Alfred Kümmerle.

- Carlson, Keith J., Ed. 1990. *The Restless Earth*. Nobel Conference XXIV. San Francisco: Harper & Row.
- Chakrabarty, Dipesh. 2000. *Provincializing Europe: Postcolonial Thought and Historical Difference*. Princeton and Oxford: Princeton University Press.
- Cohen, I. Bernard. 1985. *Revolution in Science*. Cambridge, Mass.: Harvard University Press.
- Costello, Paul. 1993. *World Historians and Their Goals: Twentieth-Century Answers to Modernism*. DeKalb: Northern Illinois University Press.
- Dicken, Peter. 1998. *Global Shift: Transforming the World Economy*. New York and London: The Guilford Press.
- Dodge, Martin, and Rob Kitchin. 2001. *Mapping Cyberspace*. London and New York: Routledge.
- Erickson, Jon. 1992. *Plate Tectonics: Unraveling the Mysteries of the Earth*. New York and Oxford: Facts on File.
- Esler, Anthony. 1996. *The Human Venture*, Third edition. Upper Saddle River: Prentice Hall.
- Frank, Andre Gunder. 1991. „A Plea for World System History.“ *Journal of World History*, 2, no. 1: 1-28.
- Fukuyama, Francis. 1992. *The End of History and the Last Man*. New York: The Free Press.
- Geyer, Michael, and Charles Bright. 1995. „World History in a Global Age.“ *The American Historical Review*, 100 (October): 1034-60.
- Green, William A. 1995. „Periodizing World History.“ *History and Theory*, Theme Issue 34 (World Historians and Their Critics): 99-111.
- Grew, Raymond, Ed. 1999. *Food in Global History*. Boulder: Westview Press.
- Guéhenno, Jean-Marie. 1995 [Paris 1993]. *The End of the Nation-State*. Translated by Victoria Elliott. Minneapolis and London: University of Minnesota Press.
- Hallam, A(nthony). 1973. *A Revolution in the Earth Sciences: From Continental Drift to Plate Tectonics*. Oxford: Clarendon Press.
- Hayes, Brian. 1994. „The World Wide Web.“ *American Scientist*, 82, no. 5: 416-20.
- Held, David, Anthony McGrew, David Goldblatt, and Jonathan Perraton. 1999. *Global Transformations: Politics, Economics and Culture*. Stanford: Stanford University Press.
- Herodotus. 1988. *The History*, First Publ. 1987. Translated by David Greene. Chicago and London: The University of Chicago Press.
- Horgan, John. 1996. *The End of Science: Facing the Limits of Knowledge in the Twilight of the Scientific Age*. Reading: Addison-Wesley.
- Kincaid, Jamaica. 1989. *A Small Place*. New York: Plume.
- Kious, Jacquelyne W., and Robert I. Tilling. 1996. *This Dynamic Earth: The Story of Plate Tectonics*. Washington, DC: U.S. Government Printing Office.
- Kopf, David. 1991. „A Look at Nehru's World History from the Dark Side of Modernity.“ *Journal of World History*, 2, no. 1: 47-63.
- Latour, Bruno. 1993. *We Have Never Been Modern*. Translated by Catherine Porter. Cambridge, Mass.: Harvard University Press.
- . 1999. *Pandora's Hope: Essays on the Reality of Science Studies*. Cambridge: Harvard University Press.
- Le Grand, H. E. 1988. *Drifting Continents and Shifting Theories*. Cambridge: Cambridge University Press.
- Lüdecke, Cornelia. 2000. „Lifting the Veil: The Circumstances That Caused Alfred Wegener's Death on the Greenland Icecap, 1930.“ *Polar Record*, 36: 139-54.
- Manning, Patrick. 1996. „The Problem of Interactions in World History.“ *The American Historical Review*, 101, no. 3: 771-82.
- Marvin, Ursula B. 1973. *Continental Drift: The Evolution of a Concept*. Washington: Smithsonian Institution Press.
- Mason, Stephen F. 1962. *A History of the Sciences*, First edition under the title *Main Currents of Scientific Thought*, 1956; Revised edition 1962. New York: Collier Books.
- Mazlish, Bruce. 1998a. „Comparing Global History to World History.“ *Journal of Interdisciplinary History*, 28, no. 3: 385-95.
- . 1998b. „Crossing Boundaries: Ecumenical, World, and Global History.“ In *World History: Ideologies, Structures, and Identities*, edited by Philip Pomper, Richard H. Elphick, and Richard T. Vann, 41-52. Oxford: Blackwell.
- Mazlish, Bruce, and Ralph Buultjens, Eds. 1993. *Conceptualizing Global History*. Boulder, San Francisco and Oxford: Westview Press.
- McKibben, Bill. 1989. *The End of Nature*. New York: Anchor Books, Doubleday.
- McNeill, John R. 2000. *Something New Under the Sun: An Environmental History of the Twentieth-Century World*. New York and London: W. W. Norton.
- McNeill, William H. 1963. *The Rise of the West: A History of the Human Community*. Chicago and London: The University of Chicago Press.
- Musil, Robert. 1995. *The Man Without Qualities*, 2 Vols., Incl. 20 Chapters from the Posthumous Papers. Translated by Sophie Wilkins and Burton Pike. New York: Alfred A. Knopf.
- National Standards for World History: Exploring Paths to the Present*. Grades 5-12. Expanded edition. Los Angeles: National Center for History in the Schools at the University of California.
- Nehru, Jawaharlal. 1942. *Glimpses of World History: Being Further Letters to His Daughter Written in Prison, and Containing a Rambling Account of History for Young People*. New York: The John Day Company.
- Ohmae, Kenichi. 1995. *The End of the Nation State: The Rise of Regional Economies*. New York: The Free Press.
- Oreskes, Naomi. 1999. *The Rejection of Continental Drift: Theory and Method in American Earth Science*. New York and Oxford: Oxford University Press.
- Panikkar, K. M. 1959. *Asia and Western Dominance: A Survey of the Vasco Da Gama Epoch of Asian History, 1498-1945*. London: George Allen & Unwin.
- Rorty, Richard. 1999. *Philosophy and Social Hope*. London: Penguin Books.
- Rosenau, James N. 1990. *Turbulence in World Politics: A Theory of Change and Continuity*. Princeton: Princeton University Press.
- . 1997. *Along the Domestic-Foreign Frontier: Exploring Governance in a Turbulent World*. Cambridge Studies in International Relations, vol. 53. Cambridge: Cambridge University Press.
- Rosenberg, Justin. 2000. *The Follies of Globalisation Theory: Polemical Essays*. London and New York: Verso.
- Said, Edward W. 1979. *Orientalism*. New York: Vintage Books.
- Sassen, Saskia. 2000. „Territory and Territoriality in the Global Economy.“ *International Sociology*, 15, no. 2: 372-93.
- Schäfer, Wolf. 1982. „Collective Thinking from Below: Early Working-Class Thought Reconsidered.“ *Dialectical Anthropology*, 6, no. 3: 193-214.
- . 1985. *Die Unvertraute Moderne: Historische Umrisse einer Anderen Natur- und Sozialgeschichte*. Fischer Wissenschaft, vol. 7356. Frankfurt: Fischer.
- . 1993. „Global History: Historiographical Feasibility and Environmental Reality.“ In *Conceptualizing Global History*, edited by Bruce Mazlish and Ralph Buultjens, 47-69. Boulder: Westview Press.
- . 1994a. „Äussere Umstände des Externalismus: Der Fall Boris Hessen und die Geschichte der Wissenschaftsforschung.“ In *Ungleichzeitigkeit als Ideologie*, 17-50. Frankfurt am Main: Fischer Sozialwissenschaft.
- . 1994b. „Globalgeschichte: Historiographische Möglichkeit und Umweltgeschichtliche Wirklichkeit.“ In *Ungleichzeitigkeit als Ideologie*, 156-85. Frankfurt am Main: Fischer Sozialwissenschaft.
- . 1994c. *Ungleichzeitigkeit als Ideologie: Beiträge zur Historischen Aufklärung*. Frankfurt Am Main: Fischer Sozialwissenschaft.
- . 1995. „The Global Ages“ <<http://www.sinc.sunysb.edu/Class/wschafer/age.htm>>.
- . 1996. „Das 20. Jahrhundert hat gerade erst begonnen: Nach welchen Kriterien kann die Gegenwartsgeschichte periodisiert, kann eine Epoche konstruiert werden?“ *DIE ZEIT* 25 October, 56.
- . 2001. „Global Civilization and Local Cultures: A Crude Look at the Whole.“ *International Sociology*, 16 (September 2001), no. 3: 301-19.

—. 2002. „History in the Present Time.“ In *Prometheus Wired: Globalization, History and Technology*, edited by Peter Lyth and Helmuth Trischler. Forthcoming.

Schwarzbach, Martin. 1954. *Geologie in Bildern: Eine Einführung in die Wissenschaft von der Erde*. Wittlich: Georg Fischer Verlag.

—. 1986. *Alfred Wegener. The Father of Continental Drift*. Translated by Carla Love. Madison: Science Tech.

—. 1989. *Alfred Wegener und die Drift der Kontinente*, Second edition. Stuttgart: Wissenschaftliche Verlagsgesellschaft.

Serres, Michel, and Bruno Latour. 1996. *Conversations on Science, Culture, and Time*. First Published in French as *Eclaircissements*, 1990. Translated by Roxanne Lapidus. Studies in Literature and Science. Ann Arbor: The University of Michigan Press.

Shapin, Steven, and Simon Schaffer. 1985. *Leviathan and the Air-Pump: Hobbes, Boyle, and the Experimental Life*. Including a Translation of Thomas Hobbes, *Dialogus Physicus De Natura Aeris*, by Simon Schaffer. Princeton: Princeton University Press.

Simmons, Ian Gordon. 1990. *Changing the Face of the Earth: Culture, Environment, History*, First ed. 1989. Oxford and New York: Basil Blackwell.

Spengler, Oswald. 1965. *The Decline of the West*. New York: The Modern Library.

Stierle, Karlheinz. 1987. „Renaissance: Die Entstehung eines Epochenbegriffs aus dem Geist des 19. Jahrhunderts.“ In *Epochenschwelle und Epochenbewusstsein*, edited by Reinhart Herzog and Reinhart Koselleck, 453-92. München: Wilhelm Fink Verlag.

Stokes, Gale. 2001. „The Fates of Human Societies: A Review of Recent Macrohistories.“ Review Essay. *The American Historical Review*, 106, no. 2: 508-25.

Therborn, Göran. 2000. „Globalizations: Dimensions, Historical Waves, Regional Effects, Normative Governance.“ *International Sociology*, 15, no. 2: 151-79.

Thongchai Winichakul. 1994. *Siam Mapped: A History of the Geo-Body of a Nation*. Honolulu: University of Hawaii Press.

Tilly, Charles. 1998. *Durable Inequality*. Berkeley: University of California Press.

Toynbee, Arnold J. 1946/57. *A Study of History*. New York: Oxford University Press.

Wallerstein, Immanuel. 1974. *The Modern World-System*. New York: Academic Press.

—. 2000. „Globalization or the Age of Transition? A Long-Term View of the Trajectory of the World-System.“ *International Sociology*, 15, no. 2: 249-65.

Wegener, Alfred. 1966. *The Origin of Continents and Oceans*. New York: Dover Publications, Inc. [New English translation by John Biram of the 1962 printing of the 4th revised ed. of *Die Entstehung der Kontinente und Ozeane*, publ. in 1929 by Vieweg & Sohn. The first German edition was published in 1915.]

Wells, H. G. 1920. *The Outline of History: Being a Plain History of Life and Mankind*. 2 vols. New York: Macmillan.

Wesseling, Henk. 1992. „Overseas History.“ In *New Perspectives on Historical Writing*, edited by Peter Burke, 67-92. University Park, Pennsylvania: Pennsylvania State University Press.

White, Lynn. 1968. *Machina Ex Deo: Essays in the Dynamism of Western Culture*. Cambridge, Mass.: MIT Press.

Wolf, Eric R. 1997. *Europe and the People Without History*. With a New Preface, First ed. 1982. Berkeley: University of California Press.

Wong, R. Bin. 1997. *China Transformed: Historical Change and the Limits of European Experience*. Ithaca: Cornell University Press.

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Critique / Kritik

Dramatis Personae for Pangaea Two

Martin Albrow

((1)) Let me pass quickly over areas of substantial agreement with Schäfer: his distinction between new Global History and old World History; the plurality of globalizations; the necessity for a non-teleological historical narrative; the importance of periodization; the new geography of power. Overarching these is a sense, that we both share, of living in a Global Age. We are part of a common project, but it is bigger than both of us and, as he says, the interconnectedness of our time extends beyond our understanding.

((2)) Both Schäfer's richly illustrated and finely argued essay and my comment on it are written in the spirit of the Global Age, seeking solutions for its problems. Schäfer proposes to write the self-narrative of our time and to that extent will contribute to the strategic vision that responsible agents seek. Since a major part of the efforts of Presidents, Editors, and CEOs, as well as of globalization critics, is devoted to telling that story, I wish him every success in reasserting this as a task for professional historiography, something it should never have relinquished. My own comment amounts to a plea, that he will adopt a further virtue of a previous age and write the new Global History with a stronger concern for human agency and a more explicit identification of the main characters of the historical narrative.

((3)) To paraphrase Schäfer, Pangaea Two is a time when the human achieves a global scale, that is the history of this old earth of ours becomes entwined with human civilization as that becomes global in scope and consequences. But even as the materiality of the globe, the first nature, is now exposed to human impact, its product is a second nature, techno-civilization, that in its magnitude is as opaque to human understanding as first nature.

((4)) My main critical point can be made briefly. Although Schäfer speaks of the optimistic slant to his thinking I believe he depends too much on postmodern formulations drawn from the new science studies. They lead him to overstate the global unity and interconnectedness of the second nature, inhibiting him from identifying agents and entities in a new narrative, who tend to appear as an untheorised plurality of local societies and cultures. There is thus too little scope for human agency as a counterpart to techno-science in the new global civilization and an implicit restriction on possible collective solutions to global problems. I am not advocating the unity of humankind against the plurality of science. But we should allow for unity and plurality in both techno-science and in society.

((5)) The sense of the opacity of the second nature is one of the leading thoughts in Schäfer's grand vision. It sits easily