10-1-2002

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WHAT IS LIVING AND WHAT IS DEAD IN EUROCENTRISM:
A REVIEW-ESSAY OF J.M. BLAUT'S EIGHT EUROCENTRIC
HISTORIANS.

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Historians and sociologists have long been fascinated by the "rise of the West." For a long time the consensus was that Europe was a unique civilization which began to diverge from the rest of the world as early as ancient Greece, if not later, during Medieval and Renaissance times. In the last decade, however, a determined army of scholars, led by James Blaut (1993), Jack Goody (1996), Bing Wong (1997), Andre Gunder Frank (1998), Ken Pomeranz (2000), and Jack Goldstone (2000) has mounted a frontal attack on this consensus. Although these scholars offer different answers to the question why modern industry arose first in Europe, they all insist that, as late as 1750/1800, there were few substantial economic and technological differences between Europe and Asia.

Blaut's Eight Eurocentric Historians, the second volume of a planned trilogy under the title The Colonizer's Model of the World, is a continuation of this challenge. Unfortunately, shortly after completing this book, Blaut passed away, and the third volume, which was to contain his own explanation of the rise of Europe, will not be forthcoming. We do have a sketch of this "non-Eurocentric" theory in the first volume, released in 1993 with the same title as the three-volume project, though with the additional subtitle: "Geographical Diffusionism and Eurocentric History."

Volume II also has a brief summary of the logic of this theory [8-12]. It asserts that, in 1500, the levels and rates of development of the civilizations of the world were similar [10-11] to Europe. Europe moved slowly ahead only after it began to reap great profits from the Americas. But this undeveloped theory, which thus far holds no new surprises, but follows the well-known argument that the colonization of the New World was decisive to Europe's industrialization, should not be viewed as the main theme or even goal of this project.

Blaut certainly seems unconcerned with empirically based arguments showing, for instance, that the profits of the colonial trade between Europe and the Americas were too small to have contributed much to capital formation in the period of the industrial revolution, or that the slave trade and the plantation sector in general, which Blaut
sees as crucial, were no more uniquely important to the industrialization process than were many other important home industries in 18th century Britain.

The legacy of this project, I would say, lies somewhere else: making us aware that at the root of many (Blaut would insist all) accounts of the "European miracle" and the "rise of the west" is the taken-for-granted belief that Europe has always been more progressive and more enlightened than the East. While the first volume exposed in general the origins of Eurocentrism as a colonialist ideology guided by a specific set of racial, cultural and environmental assumptions about the superiority of Western civilization, *Eight Eurocentric Historians*, the second volume, is a close textual analysis of the work of eight prominent proponents of this superiority, namely: Lynn White (1962), Robert Brenner (1976), E.L. Jones (1981), Michael Mann (1986), John Hall (1985), Jared Diamond (1997), and David Landes (1998), including a short initial chapter on Max Weber as the most influential classical thinker on each of these scholars.

But the virtue of this work – its direct, bold style in tracking down the unexamined assumptions of Eurocentric exponents – is also its weakness. This book is unsatisfied with revealing the shortfalls of past arguments. It wants, ultimately, to imprint on us the message that any explanation that looks within Europe, particularly pre-1500 Europe, for something that made it rise to hegemony is intrinsically Eurocentric, and therefore wrong.

Blaut correctly points out that contemporary scholars no longer subscribe to the idea that Europe's rise lay in the racial superiority of white people over the people of other races. He also argues well that many (he would say most) contemporary scholars look to the environment and culture to explain why Europe grew richer, and that these explanations are Eurocentric because they do claim – in a language at times insensitive to other places and cultures – that the environment and culture of Europe were inherently superior.

Blaut, however, wants to do more than just show that a colonialist ideology is at the roots of these arguments: he wants to convince us as well that Eurocentrism is "factually" wrong. What if some of these arguments, or parts of them, are shown to withstand the empirical tests performed by its critics? Do we still reject them as Eurocentric? Is it possible at all to prioritize factors that make Europe distinct without being Eurocentric?

I think Blaut was right, as he tells in the Preface, to take the advice
of a friend who suggested that, if he is to convince the scholarly community that their "most cherished beliefs" are wrong, he has "to take on the historians themselves, the influential expounders of Eurocentric world history, and answer their specific arguments" [xii]. Too many scholars today are satisfied with detecting two or three weak points in an argument before they jump into developing their "new theory," without really tackling the logic, the methodologies, the sources, and the architectural nuances of the existing theories.

Historiographical mapping of a debate of this magnitude is an excellent way of taking stock of what has been achieved and what needs to be done. Blaut is quite effective in dissecting and refuting some of the claims and assumptions these authors make to explain the historical priority of Europe. I question, however, whether the eight scholars he has chosen are representative. They may be the "most widely" read and may "provide almost the entire spectrum of Eurocentric arguments that are being widely used today" [16]. Yet, as Blaut recognizes, these historians (with the possible exception of Diamond) offer very similar arguments varying only in the emphasis they place on certain factors and the use of evidence, each influenced by Weber's (apparent) belief in the "rationality" of Europeans and the "irrationality and traditionalism" of non-Europeans.

Moreover, since Blaut analyzes sequentially the writings of these scholars, each in separate chapters, the result is excessive duplication. This problem is compounded, as the book moves on, by Blaut's growing sense of complacency and sweeping rejection of too many (already criticized) "Eurocentric" arguments as "not true," "not so," "absolutely untrue," "this is of course nonsense," and so on. This repetition could have been easily avoided by grouping into one chapter two or three of the scholars with the most common arguments, and allowing space for less similar theories and books.

Readers are indeed left wondering why two of the most impressive world history books are missing: William McNeill's *The Rise of the West, A History of the Human Community* (1963), and Fernand Braudel's three volume work, *Civilization and Capitalism, 15th-18th Century* (1981, 1982, 1984). Or why more recent specialized contributions such as Toby Huff's *The Rise of Early Modern Science: Islam, China, and the West* (1995), Alfred Crosby's *The Measure of Reality. Quantification and Western Society, 1250-1600* (1999), and Margaret Jacob's *Scientific Culture and the Making of the Industrial West* (1997), are not even mentioned. Exploring them would have added some excit-
One wonders whether these books were ignored because they could not be fitted into a "model" that defines Eurocentric scholars as inherently limited and prejudicial in their knowledge of the East. Although McNeill and Braudel both insist that 16th century Europe had certain legal, military, and intellectual features that set it apart from other civilizations, they do so in full appreciation of the intercivilizational character of world cultures, without characterizing the East as "static" or "backward." The very thesis of *Rise of the West* is that civilizations are not independent entities but have fundamental interrelations throughout their history. But this does not mean that all cultures have the same rates of economic and technical development. McNeill thinks Europe rose to world dominance during the 16th century because it "possessed three talismans of power" lacking elsewhere: "(1) a deep-rooted pugnacity and recklessness operating by means of (2) a complex military technology, most notably in naval matters; (3) a population inured to a variety of diseases which had long been endemic throughout the Old World ecumene" [McNeill: 569].

I imagine Blaut would have been rather pleased with an argument that explains (and blames) Europe's rise in terms of the germs its inhabitants carried to the New World. It is a view which conforms with his "uniformitarian" argument that, in 1500, many areas of Afro-Eurasia had more or less the same potential for modernity, and that Europe's colonial empire was a fortunate result of the relatively milder Atlantic wind systems as compared to the Pacific.

Actually Blaut does cite approvingly Crosby's earlier book, *The Columbian Exchange: Biological and Cultural Consequences of 1492* (1972). Yet, welcoming as he is to this early Crosby, he willfully ignores the later Crosby who wrote, in *Measure of Reality*:"as I played out my role as a biological determinist, I was nagged by the impression that Europeans were incomparably successful at sending ships across oceans to predetermined destinations and at arriving at those destinations with superior weaponry -- with, for instance, cannons superior to those of the Ottomans and the Chinese; that they were more efficient at operating joint-stock companies and empires of unprecedented extension and degree of activity than anyone else..." [x]. Are these questions too Eurocentric?

Let us, for the sake of argument, agree that every interpretation which sees modernity as a Western phenomenon, including those cul-
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Uturally sensitive to the indispensable contributions of non-Europeans, are Eurocentric. Are they mere ideologies dressed-up as theory with no scholarly merit and little factual basis? Blaut successfully employs recent scholarship on world history to question some, I would say, of the "thirty different reasons" which, by his count, "have been put forward by our eight Eurocentric historians" [200] – reasons which actually amount to about six or seven cogent, logically rounded arguments. Some of these arguments, as to be expected, are also found in altered form in McNeill and Braudel, and developed in much greater detail in the specialized works of Huff, Crosby, and Jacob. Blaut effectively challenges (though there is still ample room for disputat) the following three central arguments.

1. Agricultural Revolution.

Europe alone experienced an agricultural revolution in the Middle Ages which led to a unique system of "intensive" cultivation, with sustained increases in productivity, based on new technologies and new methods of cultivation. Michael Mann certainly deserves the strongly worded criticisms of Blaut, as he accepts without reservations (in his otherwise impressive The Sources of Social Power: Vol. 1. A History of Power from the Beginning to A.D. 1760, published in 1986, when the literature on Asia's agrarian economy was already plentiful) the accounts of Lynn White (1962) and E.L. Jones (1981). Mann claims that Europeans, more than "any previous agrarian people," followed a path of intense cultivation of their heavier, wetter soils through the systematic diffusion of the heavy iron plough, three-field system, horseshoe, shoulder harness, and water mill [Mann 1986: 412].

As Blaut correctly points out, the soils of northern Europe were potentially less fertile than the alluvial soils of many river basins in Asia [117-118, 140]. Under irrigation, both wheat and rice gave far higher yields than the rain-fed grains of Europe. Compared with the yields per seed (as estimated by Slicher van Bath (1963) and cited by Mann) for medieval and modern England [1200/49.....4:1; 1500/1699.....7:1; 1750/1850.....10.6:1], the yields obtained in traditional China were really outstanding: 20:1, or even 30:1 [Bray 1984: 7-8, 476]. China was, in fact, practicing intense farming thousands of years before Europe. Iron plowshares, both of iron laid over wood and of solid iron, with sturdy square frames and different kinds of mould-boards, were available in China as early as the first or second centuries BC – a technology brought to, or known in Europe, only in the 18th century. The celebrated shoulder harness of medieval Europe was invented in China by the

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Few as these details are, I must say, less are offered by Blaut who, apart from general remarks of the type "x technology was in use in much of Asia a millennium earlier," prefers to guide his readers to the relevant literature. Still, it can be argued, as A. G. Frank has in Re-Orient (1998), that Chinese, and possibly Indian, agricultural techniques were ahead of European ones until relatively late, perhaps the 18th century. In terms of preparation of soil and methods of soil preservation, including rotation of crops, selective breeding of seeds, transplanting and winnowing, techniques of water control and local specialization, Chinese farmers were the most gifted [Bray 1984, 1986]. English farmers surpassed them only with the mechanization of farming and the widespread use of artificial fertilizers in the century after 1750 [Overton 1996].

2. Malthus

Blaut also correctly questions (I did not say refutes) the old Malthusian certainty that Europeans were uniquely rational in practising birth control and ensuring higher living standards, whereas Asians were irrational practitioners of copulation without restraint and without regard for resources [85, 182]. This old view, succinctly expressed by Hajnal (1982), and accepted by Eurocentric scholars, may have been overturned by recent scholarship. If "Christian and especially western Europe accepted celibacy, late marriage, and more widely spaced births" (182), as David Landes contends, China, for its part, controlled fertility by delaying pregnancy within marriage. The result, indeed, was that birth rates in China may have been "well below those of western Europe throughout the 1550-1850 period" [Pomeranz 2000: 41].

As Pomeranz also persuasively shows in his carefully researched book, The Great Divergence, China, Europe, and the Making of the Modern World Economy (2000), Chinese living standards, were actually comparable to Europe's as late as 1750-1800. China's richest region - the Yangtzi Delta - was as well-off economically as England and Holland, and Chinese life expectancies were roughly equal to English levels or greater than most of Europe. Chinese consumption of luxury goods, or "non-essentials" such as sugar, tea, tobacco, and furnishings were higher or similar to those of Europe (see also Wong 1997).

3. Commercial Orientation

Finally, Blaut is on firm ground, supported by abundant sources, when he says that Asians were as commercially oriented as Europeans, and traded not just in luxuries but bulk goods [93], and Asian cities were
as commercial and as connected to wide networks of maritime trade as European cities [67]. Chinese markets for land and labor (and possibly capital) were just as efficient as Europeans ones, with state-supported migrations of labor, responsive financial institutions, and alienable rights in land [Pomeranz 2000]. Until the 1700s, China was able to maintain a positive balance of trade against the rest of the world including Europe which, apart from the silver stolen from the Americas, had few competitive manufactured goods to offer [Frank 1998].

These three challenges do call for a substantial reevaluation of the way Eurocentric scholars have hitherto explained the "European miracle." But there are at least three other major arguments about European primacy that Blaut thinks have been proven "factually wrong" when the case could be made instead that recent research have in fact solidified them.


Of these major arguments, one is known as the "theory of Oriental Despotism." This theory, which Blaut traces in each of the eight Eurocentric historians, contrasts between a unified imperial state in the East that deterred social, scientific, and technological progress, and a decentralized, relatively pluralistic feudal government in Europe that protected private property and tolerated the rise of autonomous corporate orders [95-97, 129-132].

Blaut rightfully opposes the notion that Asian markets, merchants, and proto-industrial organizations were unable to prosper under the weight of bureaucratic elites, who sought mainly to concentrate wealth and resources in their own hands at the expense of private competitors. This theory, however, contains the more significant idea – one fully misunderstood by Blaut – that European civilization was uniquely composed of "a warren of jurisdictions – kingdoms, dukedoms, baronies, bishoprics, communes, guilds, universities and more – a compost of checks and balances [where no] authority, not even the vicar of Christ on earth, had effective political, religious, or intellectual jurisdiction" – to use Crosby's own words [1999: 54].

It was not just a question of Europe's decentralization, since in reality the more centralized societies of Asia experienced long periods of internal war, state breakdown, and decentralization. What set Europe apart, rather, was its organization into legally sanctioned institutions such as cities, universities, and monasteries. Members could enjoy a degree of autonomy not tolerated, or juridically guaranteed, in more centralized societies such as China, where authority descended from the
There is no denying that from the 8th to the 12th century Europe learned a great deal from the more advanced Arabic sciences. But thereafter it was Europe that underwent a revolutionary transformation at the heart of which, as Tony Huff has argued forcefully, was a legal revolution that granted corporate status to the Christian church and a variety of other collectivities, to make contracts, to enact their own ordinances and statutes, "to own property, to sue and be sued, and to have legal representation before the king's court" [Huff: 119-138].

Manors, cities, and merchant associations, among others, enacted whole new systems of law, i.e., manorial law, urban law, and merchant law. Such legislative, executive, and judicial powers were not a possibility in Islamic societies because in Islamic law there was no separation between the sacred and the secular, no texts and rules to define and limit the jurisdictional powers of courts, and no idea of corporate groups independent of the family and kin group [Huff: 138-141, 235]. China, too, never evolved a conception of law which recognized the right of corporate bodies, including cities, to regulate their own affairs independently of the state, or the bonds of kinship [Huff: 317].

This legal revolution of the middle ages is intimately connected to the history of the universities in the West. It is claimed that no other civilization conferred the privileges of a corporation to institutions of higher learning, thus granting these universities a freedom wherein reason could find a "neutral space" of free inquiry. It was within this unique institution, Huff contends, together with the independent influence of Greek thought and its belief in the underlying regularities of nature and in the rational capacity of humans to comprehend those regularities, as initially built up and stored by Islamic scholars, that the "external or social foundations" of modern science were firmly established.

It was here, in the many universities that flourished in Europe in the 12th century, that the ethos of science and its commitment to rational dialogue based on logic, evidence, and experimentation was nurtured. Blaut brushes aside any claims about medieval European priority in scientific knowledge with easy remarks such as "scientific thought was characteristic of all major civilizations. Modern science, in Europe, emerges well after economic modernization has begun" [145]. True enough, Arabic and Chinese sciences, in astronomy, mathematics, medicine, and optics, were ahead for many centuries. Yet, once Europeans translated and elaborated Greek and Arabic texts, they went on to develop a uniquely quantitative conception of the world according to num-
From Roger Bacon (d. 1292) to Jean Buridan (1295-1358), from Nicolas d'Oresme (1325-82) to Nicholas of Cusa (1401-64) – who wrote: "Think of precision for God is absolute precision itself" [Crosby: 101] – medieval European thinkers anticipated Copernicus, Kepler and Galileo. These giants celebrated geometry and were convinced that that numbers were the key to the explanation of nature in terms of matter and motion. The medieval era thus made a decisive transition to modernity. Impressive as the Chinese were in their ability to create efficient technologies out of their natural knowledge, or the Arabs in their sophisticated science of optics, and their complex planetary models (of the Maraghan school), neither made the big leap to modern science, to an algebra based on geometric models, to a mechanistic view of the world with laws that are universal, or to heliocentrism.

5. Rationality

This brings us directly into what Blaut considers to be the theory or belief underlying every other Eurocentric explanation: Max Weber's argument that Europeans marched to a higher stage of history because they have "at all times been more rational than non-Europeans" [20]. Why were Asians stuck with despotic states, high fertility rates, low standards of living, and backward technologies? Well, or so we are told Weber says, Asians could not overcome their irrational attachment to traditional beliefs in magic and superstition, and therefore could not behave rationally to innovate, invent, and progress. And why were Europeans able to escape such attachments? They were inherently much more rational than anyone else. And why?

Blaut cites Weber: "it could be natural to suspect that the most important reason lay in differences of heredity" though the study of heredity is still in its infancy and we cannot offer definite answers – a remark which prompts Blaut to conclude: "Weber saw race as one primordial, or presociological, factor explaining the greatness of Europeans"[21] If the other seven Eurocentric historians later dropped this controversial racist card, and retained only the cultural idea that Europeans were more rational, Weber did not.

A more basic misunderstanding of Weber could hardly be possible. That certain unfortunate racist passages – three according to Blaut [29] – can be found in Weber's extensive writings is beyond dispute, and so can similar remarks be found in Kant, Hegel, Marx, Darwin, and other great thinkers who grew up when our anthropological knowledge of, and our personal contact with, non-Europeans was minimal. But these
remarks in Weber are strictly speculative and marginal and are in no way at the root of his comparative historical sociology.

Blaut also misinterprets Weber's concept of "rationality," as if it were a rational-choice theory that aimed to explain action by reference to the costs and benefits to individuals. This is not an understandable simplification, but a distortion. Within Weber's overarching theme – the rationalization of the modern world in the context of universal history – are recognized three types of rationality: value-rationality, theoretical rationality, and means-end rationality [Kalberg 1980].

These types of rationality are not limited to the West: they are found in all cultures. Value rationality refers to orientations guided by a belief in the intrinsic value of some aesthetic, religious, or ethical idea independently of its likelihood for success. Theoretical rationality refers to a type of reasoning which intellectuals employ when they seek to find (religious, ethical, or scientific) meaning in the chaotic/random events of everyday life, and to find symmetry, consistency, or purpose in the world. Means-end rationality involves calculation of alternate means to a given end. When such calculation is performed in reference to pragmatic self-interests, Weber calls it "practical rationality". When done in reference to universally applied rules, laws or regulations (that is, when practical rationality is "rationalized") he calls it "formal rationality."

Now, for Weber, the distinctive character of western rationality lies in the degree to which rationalization processes based upon means-end rational action, and rationalization processes based upon theoretical rationality, have been developed. Among the many areas of social life where means-end actions were rationalized, he argued, the economy and the state were critical. While Weber recognized – Blaut's assertions to the contrary – that some Asian cultures exhibited "a calculative attitude in commercial intercourse," and were highly pragmatic in the pursuit of the best means to attain greater returns, he felt that Europeans had rationalized those actions to a higher degree. Some of these rationalizations involved the creation of joint liability, the separation of business and personal property, the creation of capital assets in the form of private ownership of the means of production and of wage labor, and double-entry bookkeeping [Weber 1981].

In the area of law and administration (or the state), Weber also recognized that China, in particular, had a relatively centralized, large-scale bureaucratic administration managed by an official class trained through formalized examinations. Nonetheless he noted that this administration remained conditioned by personal and kinship relations, and by
a Confucian ideology that promoted a pious conformism to concrete familial and political virtues rather than to abstract formalized categories [Love 2000]. The West carried this rationalization process further through the creation of bureaucracies managed primarily by specialized and trained officials in accordance with impersonal and universal statuses and regulations, and the creation of more integrated and codified systems of law [Weber 1981].

Weber also observed a "specific and peculiar" western path toward greater theoretical rationalization in such cultural areas as religion and science. The rise of universal gods and of ethical salvation religions, and the rationalization of values advocated by prophets into internally consistent doctrines by theologians, were early instances of this process [Schluchter 1985, Kalberg 1994]. Calvinism took this process further by abandoning, for example, the "other-worldly" asceticism of early Christianity (and Hinduism), and promoting instead a "this-worldly" religion that celebrated the rational mastery of the world as an ideal. Weber also appreciated the achievements of Chinese science and technology, particularly in the period before 1500, when it was arguably superior to European science. But, as the work of Joseph Needham (1969) later validated, Chinese science remained too empirical in its orientation and did not formulate a conception of a mathematical and mechanistic universe operating according to universal rules and regularities.

The above is a simplification, but hopefully not a straw image, of a historical sociology too rich in ideas, suggestions, and concepts to be reduced to trivial formulas about western "rationality" and eastern "irrationality." Many as the critiques of Weber have been, the literature supporting and furthering his work is truly impressive. Huff's, Crosby's and Jacob's books are testimony to this richness, and to the continuing ability of Weberian sociology to cultivate new areas of historical research and generate different forms of explanation.

Although Crosby's Measure of Reality is not framed in explicit Weberian terms, it reads indeed like a substantiation of Weber's famous "Author's Introduction," which is a synopsis of the rationalizations of all areas of western culture. Crosby detects a profound change during the late Middle Ages and Renaissance in the mentality of Europe from qualitative to quantitative thinking. He cites a new conception of time as a succession of quanta, a homogeneous conception of space with no limit, "no center, up or down," an algebra using symbols of quantities devoid of any qualities; a new polyphonic music where sound could be seen as...
a phenomenon moving through time, written in a paper using a codified and standardized system of notation for all sounds and rests; in perspective painting, in geometrically precise maps; and in double-entry bookkeeping.

Jacob, for her part, shows in scholarly detail that what made England absorb the mechanical philosophy of the seventeenth century, and invent a culture of practical science in the eighteenth century, was due in no small part to a Protestant ethic which worshipped self-improvement, utility and merit, frugality and saving. This outlook permeated deeply into the general population in England, and dominated the upbringing and education of prominent 18th century inventors such as Mathew Boulton and James Watt.

6. Environmental Factors

I also think it is a grave mistake on Blaut's part to dismiss all arguments that look to environmental factors. One can certainly sympathize with his impatience at half-baked theories that would have Europeans favored in almost everything: their "warm winds and gentle rain" [Landes], their "deep and productive clay soils fed by rainfall" [Hall], their uniquely indented coastline with its peninsulas and its archipelagos favoring seafaring [Mann]. These are contrasted with the semi-arid climes of Asians and their need to use "despotic" forces to irrigate the land, the higher frequency of natural disasters in Asia and Africa, and the disease-ridden tropical and sub-tropical regions.

But Blaut is way off the mark when he categorizes Jared Diamond's book, *Guns, Germs, and Steel: The Fates of Human Societies* (1997), as just another, even cruder (culture-less) version of Eurocentric environmentalism. Diamond's "strict" environmentalist theory is far more sophisticated and compelling than anything argued before. It is a theory thoroughly based on new research findings in genetics, molecular biology, bio-geography, behavioral ecology, epidemiology, linguistics, archaeological studies, and history.

It is a theory which, in its effort to explain the ultimate causes for the different rates of development of human societies on different continents, looks at the environment in all its complexity and diversity. It surveys the continental variations in the wild plant and animal species available as starting materials for domestication, and the axis orientation (east-west and north-south) of the continents, including the size, location, and geographic barriers within and between continents. It explores how these factors affected the rate of diffusion and migration of domesticated crops and animals, the spread of genes for resistance to
germs, and of writing and other inventions.

But Blaut misleadingly evaluates this theory as if it consisted of isolated strands, each comprehensible on its own. Thus, for example, Diamond's argument that domesticates spread with greater ease and speed along the east-west axis is turned in Blaut's hands into a simple claim about the superiority of diffusion in temperate climates "in a belt stretching across Eurasia from Europe in the west to Japan in the east" [154]. Having reduced the argument this way, he easily counters "much of this zone is inhospitable desert and high mountains" [154].

Diamond's argument about the axes makes sense only within the context of his initial claim that the Fertile Crescent's flora "afforded the first farmers...an unusually high percentage of wild plants (and animal species) suitable for domestication." About "32 of the world's 56 prize wild grasses" were concentrated in the Mediterranean zone of western Eurasia [Diamond: 138-140]. In addition, thirteen of the fourteen wild ancestral domesticated animals were located in Eurasia, seven in Southwest Asia [160-163]. Sub-Sahara Africa and Mesoamerica, on the other hand, did not have a single indigenous mammalian candidate suitable for domestication.

Besides, Diamond's emphasis is on the spread of Fertile Crescent species "to Europe, Egypt and North Africa, Ethiopia, Central Asia, and the Indus valley." He explicitly writes that the "temperate areas of China were isolated from western Eurasian areas with similar climates by the combination of the Central Asian desert, Tibetan plateau, and Himalayas" [189]. The barriers between China and western Eurasia were partly transcended during the second millennium BC when China's own domesticates moved westward, and west Asian domesticates spread eastward [330].

Moreover, the main reason diffusion tended to occur along east-west axes was not the temperate climate per se, but that such movement was between regions sharing the same latitude and thus the same day length and seasons. This meant plants and animals "were already well adapted (genetically) to the climates of the regions to which they were spreading" [185]. Diffusion northward or southward occurred at a slower pace, or not at all, because plants and animals were faced with wider ecological variations requiring greater genetic changes [183-191]. The point is not, as Blaut counters, that plants and animals are capable of adapting to a wide range of environments across latitudes [Blaut, 158], since this is already part of Diamond's explanation, but that the rate and the number of species domesticated along these two axes, as he metic-
Blaut is more convincing when he tackles Diamond's answer to why Europe, and not China, rose to become the major industrial force within Eurasia. In the four pages Diamond devotes to this question at the end of the book, he basically restates old arguments about how Europe's "indentated coastline" encouraged seafaring, and how China's relative lack of topographic barriers and long navigable rivers facilitated the formation of despotic states. But why reject out of hand any environmental comparison or contrast between China and Europe as Eurocentric?

Blaut, a professor of geography, believes that all parts of the world have the same environmental potential for economic modernization. He disallows any suggestion that sub-Saharan Africa, for example, may have encountered multiple and formidable geographical barriers to its economic and cultural development as "unsupported myths from colonial times" [104]. Yet it was Fernand Braudel, hardly a scholar to be accused of colonial prejudices, who wrote that, perhaps, "in understanding Black Africa, geography is more important than history" [1995: 120].

The obstacles were difficult indeed. This central region of Africa is surrounded by the Sahara desert in the north, the Kalahari Desert in the south, the Atlantic Ocean on the west, and the Indian Ocean on the east. As Thomas Sowell further specifies, the shallow coastline of this region provides few harbors where ships can dock, and few navigable rivers [Sowell 1998: 99-109]. "A serious handicap," writes Braudel, "because all progress in civilization is made easier by mutual contact and influence" [1995:124]. And there were other difficulties: long dry spells followed by torrential rains, limits on the number of days land could be worked, intrinsically poorer soils, more deadly (tropical) diseases, and a serious lack of draft animals in farming [Jones 1981, Landes 1998].

Instead of looking for uniformity in the world, we should praise the talent and perseverance that have enabled humans of different races, languages, and religions to adapt to so many different environments [Fernandez-Armesto 2000]. China, the world's oldest continuous civilization and the dominant cultural center of East Asia, occupies today 7% of the world's land surface but makes up 25% of the world's population. India has a higher population density, but the amount of arable land in India is much higher at 57%, whereas the amount in China is only 11% [Reader 1990: 183]).

Not just today, but throughout history, China has managed to feed more people per area of land than any region. During Han times
(206BC-220AD), when settlement to the still-to-be-cultivated wet rice fields of the Lower Yangtzi was in the very early stages, and the inhabitants were concentrated in the central and lower valleys of the Yellow River, the official census of AD 2 recorded a population of 58 million [Ebrey 2000: 73]. The population of Europe to the Ural Mountains, by contrast, was 26 million in AD 600. The Aztecs had an empire of five million people, which was probably twice the population of Ancient Egypt.

China's population did not rise above a maximum of 60 to 70 million in the millennium before the Sung period (960-1279), but as wet-rice agriculture expanded steadily in the Yangzi Delta during this era, and new varieties of early ripening rice were introduced, it doubled to 120 million. In the 16th century, despite cycles of decline, it reached about 150 million, and then 150 to 200 million in 1700, and 430 million in 1840 [Feuerwerker 1990: 227-228]. Why was China able to support such a high number of people with such a low percentage of arable land?

An answer to this question, and the whole question of why China did not industrialize before Europe, will require an integrated examination of many sets of environmental variables. Allow me to close this review with what I think are the key contrasting variables.

First, China benefited from the easy-to-work, organically-rich loessland of the north with its exceptional porosity and its ability to remain fertile, only requiring enough water.

Second, China enjoyed the Yellow River, which is the heaviest carrier of silt in the world, and the development of hydraulic works could be a blessing to intensive agriculture.

Third, wet rice was a plant which, by contrast with other grains, could be cultivated on the same land every year indefinitely, and could produce two or sometimes three harvests every year (Braudel 1981). 6

Fourth, wet rice fields could yield more than any other grain in a constant area of land through the intensification of labor use and land use (or land-saving technologies), without substantial capital (or labor-saving) investments (Bray 1985).

Fifth, China's economy might have been "locked-in" to a labor-using pattern of growth due to the manner in which its hydraulic technology interacted with the environment. Dealing with recurrent tasks and problems such as flooding, sediment clogging, dyking, and levelling, together with the pressure of population growth and the search for military and political supremacy, required continuous maintenance and
further expansion of hydraulic systems if the original investment was not to be lost (Elvin 1993).

Blaut's advice that we drop the unqualified certainty that Europe had a uniquely favorable environment should be welcomed. We need a historical balance-sheet of the environmental pluses and minuses of the western and the eastern extremities of the great plain of Eurasia. The variety and the contrasts are endless. There is no simple answer, but the question - Eurocentric or Sinocentric - cannot be avoided.

Endnotes
1. For a critical empirical assessment of Frank's *Re-Orient*, including Wong's *China Transformed, Historical Change and the Limits of the European Experience*, see Ricardo Duchesne (2001-2002).

2. A recent anthology of pre-twentieth theories about race is: Bernasconi and Lott (2000).

3. Goody's *The East in the West* is also a misleading critique of Weberian "culturalist" explanations of the rise of the West which ignores the distinction Weber makes between three types of rationality. In the first chapter of this book, *Rationality in Review*, he wrongly employs a general definition of rationality (to be contrasted with irrationality) as the basis from which he then evaluates three examples of rationality (syllogistic reasoning, double entry accounting, and mercantile profit-making) which are in fact instances of different types of rationality: theoretical, formal, and practical respectively.

4. In his masterful, 800-page study, *Africa, A Biography of the Continent* (1999), John Reader writes: "Parasites and disease affecting humans are uniquely prevalent in Africa. The afflictions are numerous; the means of infection bewildering and various" [241].

5. Although Japan did not practice intensive farming as early as China, one should keep in mind the following observation by Braudel: "Japan has a population almost twice that of France in an area only half as large (300,000 against 550,000 square kilometres); while its arable land is only 15% of the total compared with 84% in France" [1995, 298].

6. In a highly suggestive but disproportionately neglected section of Braudel's work, Chapter 2, "Daily Bread" of *The Structures of Everyday Life, Volume 1 of Civilization and Capitalism 15th-18th Century*, Braudel examines how three little grains -- wheat, rice, and maize -- "have profoundly organized man's material and some-
times his spiritual life, to the point where they have become almost ineradicable structures. Their history and the 'determinism of civilization' they have exercised over the world's peasantry and human life in general are the subjects of the present chapter" [107].

Works Cited:


Ricardo Duchesne


