The Anarchist Library
Anti-Copyright



M. Annette Jaimes
The Stone Age Revisited
1993

Originally published in *Anarchy: A Journal of Desire Armed* #35 —
Winter ’93

theanarchistlibrary.org

The Stone Age Revisited

M. Annette Jaimes

1993

Underlining this distinction is the claim that "upwards of 60% of the subsistence of most Native American societies came directly from agriculture," as opposed to the gatherer-hunter mode of Paleolithic times. Besides "sophisticated agricultural technologies," Jaimes cites calendars, paved roads, cities, property relations, and national sovereignty as examples of superior development in pre-Columbian North America. The contrast, or qualitative difference, for Jaimes, consists of the achievements of "traditional native societies" versus "their industrialized counterparts."

In respectful disagreement, I see domestication as the fundamental divide. The turning toward domination of the natural world, that Jaimes in effect applauds, began to reveal itself in hierarchy, religion, and warfare before European contact and long before industrialization.

It is obvious that Native American culture exhibits far less of this than does the modern cancer of high tech estrangement and destruction, and thus has much to teach us. Nonetheless, alienated life, in my view, is founded on domestication, the diseased fruits of which now threaten us all on every level.

Contents

An Indigenist View of Primitivism, Industrialism and the Labor Process 5
America's "Stone Age Savages" 11
American Indian Agriculture and Medicine 13
Native American Mathematics, Science, Architecture and Engineering. 18
Indigenous Governance in America 22
"Slaves to Subsistence"? 25
"Nomads" 26
"The Vacant Land" 29
"Paleolithic Drudges" 32
Conclusion 37
A brief comment by John Zerzan on "The Stone Age Revisited" 41

computers to the trees and live within instead of upon nature."[87] Only then will we be able to forge a multifaceted but collectively held world view which places materialism and spirituality in sustainable balance with one another. Only then will we be able to remove labor from its burdensome contemporary position as the descriptor of our essence, returning it to its rightful place as an integral but not over-determined aspect of our being.[88] Together, we must hammer out the intellectual methods by which we not only retain that which is useful in the matrix of Eurocentrism, but recapture that which most of us have lost in the process of being subordinated to it. Indigenous peoples are the primary repositories of the latter and thereby possess a major portion of the figurative road map to our common future. Hence, we must be asked to lead as well as follow. It is time we move toward a future marked by mutual understanding and respect.

M. Annette Jaimes is a lecturer in American Indian Studies with the Center for Studies in Ethnicity and Race in America at the University of Colorado, Boulder. She is an associate editor of New Studies on the Left, where this essay first appeared.

A brief comment by John Zerzan on "The Stone Age Revisited"

M.A. Jaimes tries to distance native North Americans from the Paleolithic Era and this is largely justified, if exaggerated in places. By the time humans peopled the continent — extremely recently by comparison with how far back Homo goes in Africa or Europe, for example — the Stone Age was giving way all over the world to the Neolithic Revolution (domestication of plants and animals).

[87] From a speech by Abbie Hoffman, Bradley University. November 23, 1970.

[88] This is not an altogether a new theme within the Eurocentric tradition itself. See Lafarge, Paul, *The Right to be Lazy*, Charles Kerr Publishers, Chicago, 1917.

ahead. Our next immediate task is the unification of human knowledge."[86]

Unfortunately, none of the aforementioned thinkers have approached their task in this manner. As yet, they have not begun to come to grips with the fact that many of the 'new' insights they seek already exist, imbedded in ongoing systems of indigenous knowledge the world over. Perhaps ironically, the conceptual key to liberation of native societies is thus also the key to liberating Eurocentrism from itself, unchaining it from the twin fetishes of materialism and production. In the most concrete possible terms, the reactualization of traditional indigenous socio-economic structures where they have been most severely suppressed — especially in North America, with its abundant juxtaposition of tradition-oriented native peoples and recently devised technologies — can provide practical living models of how other societies might begin to truly redefine and reorganize themselves in constructive ways. To this extent at least, the reemergence of a vibrant and functioning Native North America in the 21st century would offer vital prefiguration of what humanity as a whole might accomplish.

What is called for is not some "reconstitution of the Stone Age," but that the Fourth World be finally extended the proper recognition, understanding and respect it has always been due. Rather than its being arbitrarily and presumptuously consigned to the irrelevancy of 'archaicism', the wisdom and values all along retained by unrepentant "Stone Agers" of the modern indigenous world must at last be allowed to inform the other paradigms of knowledge within the human endeavor in such a way as to complete and perfect the whole.

Then, and probably only then, will we be able to create a human project in which, as Abbie Hoffman once put it, "we can strap our

[86] Deloria, Vine Jr., *The Metapltysics of Modern Existence*. Harper and Row Publishers, New York, 1979, p. 213.

An Indigenist View of Primitivism, Industrialism and the Labor Process

> "Those damned lazy Mexicans. You can't get 'em to work. Always takin' siestas during the best part of th' day. It's no wonder they end up livin' like dogs, th' way they lay around doin' nothin'. But that's th' way it's always been with them."
>
> — West Texas Farmer (1985)
>
> "All this fuss about Indian poverty and unemployment is just a bunch of bullshit. Hell, it's their own fault. You hire 'em to do a job; they work awhile, then just up and drift away. You can't depend on 'em to finish anything they start. There wouldn't be no Indian problem if their nature wasn't to be such a shiftless bunch."
>
> — South Dakota Rancher (1988)

The relationship of the labor process to the ways of life of indigenous peoples is a central issue in any attempt to conceive a positive alternative to the conditions under which they presently live. Although the term "indigenous peoples" has global appropriateness, encompassing the several thousand distinct cultural-nationalities known to hold aboriginal links with the land they occupy, usage in this essay will accrue primarily to two major groups within the 48 contiguous states of the United States. These are the members of the various American Indian nations located within this geographic area, and a significant portion of the Mexican/Mexican-American/ Chicano population residing within .the U.S. at any given moment. The latter group is understood as being composed of American Indians from nations mostly, but not exclusively, located south of the Rio Grande, within what are now the states of Chihuahua, Sonora, Coahuila,

Baja California Del Norte and Tamaulipas, in Mexico.[1] They are distinguished from their more northerly cousins by virtue of having undergone a Spanish rather than Anglo-Saxon originated process of colonization.[2]

Taken together, these groups make up the very poorest strata of North American society, and have done so throughout the 20th century.[3] In particular, those Indians whose homelands are recognized as lying north of the Rio Grande represent what may be accurately described as "the poorest of the poor" inside the U.S. Overall, according to the federal government's own statistics, they enjoy far and away the lowest annual and lifetime *per capita* incomes of any identifiable 'ethnic' aggregate. Their collective unemployment exceeds 65% each year, year after year; in some locales, such as the Pine Ridge Reservation in South Dakota, the unemployment rate has hovered in the upper 90th percentile for decades. Correspondingly, American Indians suffer the highest rates of infant mortality, death by malnutrition and exposure, tuberculosis and plague disease (to list but a few causes) of any population group on the continent. The current life expectancy of the average American In-

[1] The indigenous nations of Canada are not considered within the definition used here because, unlike their counterparts in northern Mexico, almost none of their populations have been displaced into the U.S., either transiently or permanently.

[2] A significant confusion attends this definition insofar as a substantial portion of the population in question attempts to identify itself with the tradition of its Spanish colonizers rather than the colonized indigenous nations from which it so obviously springs. Such identification by victims with the identity of their victimizers is a rather well known phenomenon in the psychology of individuals, and often marks the experience of entire peoples under sustained colonial rule. See Fanon Frantz. *Black Skin,White Masks*, Grove Press, New York, 1967.

[3] This is said in full knowledge of the fact that appreciable segments of the black population in the U.S. — in the Brownsville, Harlem and South Bronx sections of New York City, for example — experience a poverty every bit as pronounced as that which pertains on most Indian reservations or along the streams of Chicano migrants. Taken as a whole, however, the U.S. black population finds itself in a somewhat better economic position than the two indigenous groups.

be expected that many, if not most, progressive non-Indians will agree this is a worthy goal, at least in an abstract moral or 'idealistic' sense. But it is much more.

Any coin has two sides, this one no less than any other. The very process of reconceiving the Stone Age inherently entails a simultaneous reconsideration of the Eurocentric notion of historical materialism in all its various guises. Such ideas as the "labor theory of value" will be called inevitably into question from progressive rather than reactionary standpoints. This is equally true of attempts to uncover conceptual remedies to the sorts of malaise — racism, sexism, classism, ageism, militarism, consumerism, alienation, reification and the like — besetting advanced industrial societies themselves. Already, such efforts have been undertaken, however tentatively, even by white male theorists such as Michael Albert, Robin Hahnel, Murray Bookchin and Rudolph Bahro.[85] Their collective quest to achieve a new synthesis of understanding is to be applauded, but must be carried far beyond its immediate, preliminary level if it is to prove successful. As the Lakota scholar Vine Deloria, Jr. framed the matter, more than a decade ago:

> "Western science must reintegrate human emotions and intuitions into its interpretation of phenomena…In the recreation of metaphysics as a continuing search for meaning which incorporates all aspects of science and historical experience, we can hasten the time when we will come to an integrated conception of how our species came to be, what it has accomplished, and where it can expect to go in the millennia

[85] See, as examples, Albert, Michael, and Robin Hahnel, *Unorthodox Marxism*, South End Press, Boston, 1978; Bookchin, Murray, *The Ecology of Freedom*, Cheshire Books, Palo Alto, CA, 1982; and Bahro, Rudolph, *From Red to Green*, Verso Publishers, London, 1980.

the great bulk of a given population, deteriorates in direct proportion to the degree of industrialization it has undergone. Such a process is, at best, a strange emblem by which to define "human progress."

Here, the dilemma experienced by contemporary North American Indians snaps into bold relief. While the colonially-induced physical circumstances under which they suffer — depicted at the outset of this essay — are plainly intolerable, the 'solutions' presented by all facets of the dominant culture are in many ways even worse. The option of embracing the industrial order might, as advertised, alleviate the magnitude of their material deprivation. Simultaneously, however, it would seal them into the surrounding pathos of Euroamerica, negating, perhaps irrevocably, those aspects of their own tradition which are unmistakably preferable to that which is offered as its replacement. American Indians are thereby trapped within a netherworld in which it is presently impossible either to abandon their socio-cultural heritage or to viably reconstitute its socio-economic forms.

The means to break this impasse lie within the broader society, particularly its more enlightened and progressive sectors. Only there does sufficient weight and mass exist to reshape the current social order in such ways as to allow North America's native people the 'space' they require to reconstitute themselves in meaningful fashion. Any broad based initiative to support the genuine liberation of Native North America will necessarily be predicated in a general and fundamental alteration in consciousness among the dominant population. Popular conceptions concerning the nature of and meaning assigned to the workings of traditional indigenous cultures will have to be recast far more accurately than has heretofore been the case. Only from such a reformed vantage point, of the sort barely sketched in this essay, can non-Indians hope to make decisions and undertake actions alleviating rather than perpetuating and even increasing the magnitude of the problems their society has imposed upon native people. At one level or another, it is to

dian male is barely 44.5 years. Females live an average of 3.5 years longer.[4]

These data readily suggest association with Third World contexts rather than with a subsection of what is reputedly "the world's most advanced industrial democracy," a matter which has led many critical observers to remark upon the existence of a *bona fide* "Third World at home" in the U.S. More accurately, such analysts might reflect upon the reality of a non-industrial and very much on going *Fourth World*, an indigenous world upon which each of the other three — First World (capitalist, industrialized), Second World (socialist, industrialized), Third World (either capitalist or socialist, and industrialized) — has been constructed and is now being maintained or developed.[5] It is instructive that the people of this Fourth World, or "Host World" as it is sometimes called, comprise the absolute poorest sector of the populations attributed to each of the assortment of nation-states making up all three industrial or industrializing venues[6] In other words, Fourth World People are as marginalized in Third World settings as they are within the U.S. or U.S.S.R.[7]

Conventional explanations of such circumstances, regardless of the relative degree of sophistication with which they are expressed,

[4] See U.S. Bureau of Census, Population Division, Statistics Branch, *A Statistical Profile of the American Indian Population*, Washington,D.C.,1984. Also see U.S. Department of Health and Human Services, *Chart Series Book*, Public Health Service, Washington,D.C.,1988. For detailed corroboration of the fact that things have not lately 'improved', see U.S. Department of Health, Education and Welfare, *A Statistical Portrait of the American Indian*, Washington,D.C.,1976.

[5] An interesting articulation of the Fourth World concept may be found in Weyler, Rex, *Blood of the Land: The Government and Corporate War Against the American Indian Movement*, Vintage Books, New York, 1984, pp. 212–50.

[6] Use of the "Host World" terminology may be found in Winona LaDuke's preface ("Natural to Synthetic and Back Again") in Churchill.Ward (ed.), *Marxism and Native Americans*, South End Press, Boston, 1983, pp.i-vii.

[7] An interesting elaboration on portions of this topic may be found in Connor, Walker, *The National Question in Marxist-Leninist Theory and Strategy*, Princeton University Press, 1984.

are reducible in their substance to echoes of the assertions tendered by the pair of "ignorant rednecks" quoted at the outset of this paper. This is to say it is a scholarly orthodoxy transcending ideological differentiation that native people, insofar as they retain the manifest genuine core attributes of their own "Stone Age" (or at least 'primitive') cultures, do so in ways which prevent their effective incorporation into 'modern' labor processes.[8] This inherent 'irrationality' consistently shows itself, for example, in their readiness to elevate the importance of their participation in the ceremonial life of their culture above that of involvement in the "organized work place"; when spiritual duty calls, native people simply fail to show up for work. Similarly, they often demonstrate a marked willingness to assign a higher priority to meeting familial obligations, engaging in social activities, hunting and fishing seasons, and a host of other factors — including an apparently insatiable desire for rest and recreation — than to insuring 'stability' in their "working lives."[9] Suffice it to say indigenous folk make it abundantly clear that sale of their labor power is not an essential preoccupation of their existence. Consequently, they are regarded as being among the least employable of all potential workers within any industrial or industrializing socio-economic system.

The sort of endemic poverty experienced by indigenous peoples is therefore, in the conventional view, directly correlated to their retention of certain 'retrograde' cultural characteristics. It follows that the route to solving the problem of native impoverishment is quite uniformly perceived among adherents to intellectual ortho-

[8] See, as examples, Dalton, George, "Economic Theory and Primitive Societies," *American Anthropologist*, No. 63, 1961, pp. 1–25; LeClair, Joseph E., Jr., "Economic Theory and Economic Activity," *American Anthropologist*, No. 64, 1962, pp. 1179–1203; and Hindless, Barry and Paul Q. Hirst, *Precapitalist Modes of Production*, Routledge and Kegan Paul Publishers, London, 1975.

[9] An excellent commentary on the sort of phenomenon at issue, and illustration of the ways in which it has been treated within Eurocentric anthropology, is H.G. Barnett's "The Nature of the Potlatch," *American Anthropologist*, No. 40,1938,pp. 349–58.

Audrey Richards has observed, "The whole bodily rhythm of [traditional indigenous people] differs completely from that of a peasant in Western Europe, let alone an industrial worker."[83]

Those who take for granted the superior quality of life attending industrial socio-economics would do well to seriously consider the implications of such things in comparison to the correlate indices of their own system, remarked upon by Andre Gorz and others: a base work week of 40–48 hours, exclusive of overtime, commuting time, time required for subsistence shopping and food preparation, as well as time consumed in sundry other domestic chores. The average *per capita* labor-time expenditure in advanced industrial societies exceeds 80 hours per week, more than 530% of the average for Dobe society.[84] Additionally, the imposition of such massive quantities of labor-time in even the most liberal industrialized context is far more regimented and arbitrary than that evidenced in the most rigidly structured indigenous society. The result is a vastly more stressful, less leisurely environment .under conditions of industrialization than appears to be the case in even the most primitive of Stone Age cultures.

Conclusion

While it is undoubtedly true that industrial society generates a much greater abundance of material items than do traditional native societies, axiomatic correlations between this fact and living standards are questionable in the extreme. Indeed, it is plainly arguable that — in genuine human terms such as senses of personal fulfillment, control over one's time and general peace of mind — the quality of life realized within traditional native societies greatly outstrips that of their industrialized counterparts. Viewed from this perspective, one can only conclude that quality of life, at least for

[83] Richards, *op. cit.*, p. 393.

[84] Gorz, Andre, *Ecology As Politics*, South End Press, Boston, 1983.

> "regain lost power and health." This monotonous fluctuation of leisure and work is made more appealing to the Kapauku by inserting into their schedule periods of prolonged holidays… Consequently, we usually find only some people departing for their gardens in the morning, the others are taking their "day off." However, many individuals do not rigidly conform to this ideal. The more conscientious cultivators often work intensively for several days in order to complete clearing a plot, making a fence, or digging a ditch. After such a task is accomplished, they relax for a period of several days, thus compensating for the 'missed' days of rest."[81]

The same sorts of observations have been made in connection with the Maori of New Zealand, the Lozi and other Bantu groups in Azania (South Africa), the Siuai of Bougainville (Solomon Islands), and many other peoples in varying locales.[82] It is worth noting that, by-and-large, such labor-related demands on time as commuting, and domestic forms of work, have been lumped into the labor time totals attributed to the various traditional indigenous socio-economic contexts studied. Hence, the uniformly abundant "off work" periods involved represent truly free time which can be devoted entirely to recreation and creativity. Resultingly, as

[81] Pospisil, Leopold, *Kapauku Papuans and Their Law*, Yale University Publications in Anthropology, No. 54, New Haven, CT, 1958.

[82] Concerning the Maoris, see Firth, Raymond, *Economics of the New Zealand Maori*, R.E. Owen, Government Printer, Wellington, New Zealand, (2nd edition), 1959, p. 192f. On the Bantus, see Gluckman, Max, *Essays on Lozi Land and Royal Property*, Rhodes-Livingston Papers, No. 10, London, 1943; also see Leacock, Eleanor, *The Montagnais "Hunting Territory" and the Fur Trade*, American Anthropological Association Memoir No. 78, 1954, p. 7. With regard to the Siuai, see Oliver, Douglas, *Studies in the Anthropology of Bougainville, Solomon Islands*, Papers of the Peabody Museum of American Archaeology and Ethnology, Harvard University, Vol. 29, Nos. 1–4, 1949.

doxy as lying in the obliteration of the final residues of 'savagery' imbedded in the indigenous mind, assimilating the natives ever more perfectly and completely into the "advanced civilizations" which have come to dominate and in many cases subsume their societies.[10] Implicit to this notion — once described as "the white man's burden" by Rudyard Kipling — is the assumption that the physical well-being of any indigenous people is possible only in direct correspondence to the extent to with its cultural integrity is destroyed, its world view extinguished. Although the genocidal content of such thinking and action, intended as it is to foster the disappearance of entire human groups *as such*, is quite recognizable under contemporary international legal definitions, it is invariably presented as "the humane alternative" to what are seen as being the range of other 'realistic' possibilities.[11] Ultimately, these last add up to only a pair of options: either letting the frustration of less patient sectors of the dominant population vent themselves by physically exterminating indigenous obstructions to the "path of progress," or allowing indigenous people to continue as they are, until their deteriorating material situation accomplishes the same result.

A difficulty typically encountered by "Friends of the Indian," "Hispanic Bootstrappers" and others who would engage in cultural rather than physical forms of genocide is (and has been) the resistance mounted by native populations when it comes to cooperating in the liquidation of their ways of living and understanding the would.[12] Even worse, some among the subjects

[10] The classic discourse in this vein is, of course, Graham Clark's *From Savagery to Civilization*, Schuman Publishers, New York, 1953.

[11] The complete text of the United Nations 1948 Convention on Prevention and Punishment of the Crime of Genocide may be found in Brownlie, Ian, *Basic Documents on Human Rights*, Clarendon Press, Oxford, 1981, pp. 31–4.

[12] The terminology used here is commonplace, the intercultural dynamics consistent; see Prucha, Francis Paul, *Americanizing the American Indian: Writings of the "Friends of the Indian,"* 1880–1900. University of Nebraska Press, 1978.

of the Friends' benevolence have been known to counter that they feel they themselves hold visions of how things might be which are different, root and branch, from those held within the dominant culture. These insights, the "Fourth Worlders" or 'indigenists' argue, could serve to save not only their own nations from the predicaments in which they are now mired, but those of the Friends as well.[13]

A singular basis for this 'ingratitude' or 'recalcitrance' is discerned in the continuing attachment of indigenous peoples to their heritage of 'primitivism'. Having never really experienced the benefits of material affluence — the essence of their cultures being predicated in perpetual scarcity rather than surplus — they do not comprehend the fact of their poverty. In sum, they have achieved no capacity to truly "understand what's good for them. "The task confronting those who would better their miserable lot is thus fundamentally educational, to acquaint them with all they are 'missing' through their obstinate insistence on remaining "outside of history."[14] Properly coached and oriented, it is widely believed, the consciousness of the natives can and will 'evolve' to the point where they will be willing to harness themselves to the wheel of production in exchange for their proper share of otherwise unavailable goods and services. It is even possible, in certain of the more radical elaborations on this theme, that they may become "as good as we are" (albeit, quite tardily and after the fashion of petulant children).[15]

[13] See, as one example, Editors of Akwesasne Notes, *A Basic Call to Consciousness*, Mohawk Nation via Rooseveltown, NY, 1977. I

[14] For a lucid exposition on this theme, see Wolf, Eric R., *Europe and the People Without History*, University of California Press, Berkeley, 1982.

[15] Such posturing is common not only to capitalist thinking and literature, but that of the marxian variety as well. See, for example, Phil Reno's *Navajo Resources and Economic Development*, University of New Mexico Press, Albuquerque, 1981.

young men seven; while at [the village of] Kampamba in the busier season, the men of all ages worked an average of 8 out of 9 working days [Sunday not included]. The average working day in the first instance was 2.75 hours for men and two hours gardening plus 4 hours domestic work for women, but the figures vary from 0 to 6 hours per day. In the second case the average was 4 hours for men and 6 for women, and the figures showed the same variation."[78] The work patterns of the Bemba are quite similar to those of the Toupouri of North Cameroon, where 105.5 days per year are devoted to agricultural labor, 87.5 days to work of other sorts, 161.5 to leisure, and an annual average of 9.5 sick days are reported to be normative.[79]

Such circumstances are hardly restricted to Australia and Africa. Among the Kuikuru people of the Amazon Basin, "a man spends about 3.5 hours a day on subsistence — 2 hours on horticulture, and 1.5 hours on fishing. Of the remaining 10 or 12 waking hours of the day the Kuikuru men spend a great deal of time dancing, wrestling, in some form of informal recreation, and in loafing."[80] And again, with regards to the Kapauku of Papua (New Guinea):

> "Since the Kapauku have a conception of balance in life, only every other day is supposed to be a working day. Such a day is followed by a day of rest in order to

[78] Richards, Audrey I., *Land, Labour and Diet in Northern Rhodesia*, Oxford University Press, London, (2nd edition) 1962, pp. 393–4. Richards did not record time spent by men in manufacture of farm implements and the like, a matter which would have raised the quantity for male labor to a level comparable to that attributed to women.

[79] Guillard, J., "Essai de mesure de 1' activite d'un paysan Africain: le Toupouri," L' *Agronoie Tropicale*, No. 13, pp. 415–28. Also see Clark, Colin, and Margaret Haswell, *The Economics of Subsistence Agriculture*, Macmillan Publishers, New York, 1964, p. 117.

[80] Carniero, Robert L., "Slash-and-burn Cultivation among the Kuikuru and its Implications for Cultural Development in the Amazon Basin," in Y. Cohen (ed.), *Man in Adaptation: The Cultural Present*, Aldine Publishers, Chicago, 1968, p. 134.

ically or mentally.[71] Consequently, those engaged in the labor process "do not approach it as an unpleasant job to be got over as soon as possible, or a necessary evil to be postponed as long as possible."[72] To the contrary, some aboriginal groups, such as the Yir-Yiront, make no linguistic distinction between work and play.[73] Yet all basic subsistence needs are more than minimally satisfied on a consistent rather than erratic basis.[74]

Among the Dobe portion of the IKung Bushmen of Botswana, another true hunting and gathering culture, the data are even more striking. Only about two-thirds of the potential Dobe work force is deployed as labor at any given moment, leaving the other third free to engage in other pursuits.[75] Of those engaged in labor, the average work week is approximately fifteen hours, or two hours, nine minutes per day. In other words, "each productive individual supporting herself or himself and dependents still has 3.5 to 5.5 days [per week] available for other activities."[76] All subsistence needs are nonetheless met, and an appreciable surplus generated; "the Bushmen do not lead a substandard existence on the edge of starvation as has been commonly supposed."[77]

Concerning peoples for whom agriculture augmented by hunting and gathering is the mode, the figures are comparable. Among the Bemba of Zimbabwe, for example, "at [the village of] Kasaka, in a slack season, the old men worked 14 days out of 20 and the

[71] *Ibid.*, p. 150f.

[72] McArthur, Margaret, "Food Consumption and Dietary Levels of Groups of Aborigines Living on Naturally Occurring Foods," in Mountford, op. cit., p. 92.

[73] Sharp, Lauriston, "People Without Politics," in V.F. Ray (ed.), *Systems of Political Control and Bureaucracy in Human Societies*, University of Washington Press, Seattle, 1958, p. 6.

[74] McArthur, *op. cit.*

[75] Lee, Richard, "IKung Bushman Subsistence: An Input-Output Analysis," in A. Vayda (ed.), *Environment and Cultural Behavior*, Natural History Press, Garden City, NY, 1969, p. 67.

[76] *Ibid.*

[77] *Ibid.*, p. 73.

There are, to be sure, a number of objectionable aspects to the thesis at hand, not least being the liberal doses of smug arrogance and cultural chauvinism with which its proponents, whatever their ideological guise, habitually adorn it. Beyond these, the entire conceptualization which places industrialism in a superior position *vis a vis* other socio-cultural systems is grounded in a series of profoundly mistaken assumptions, erroneous conclusions and sheer falsehoods concerning the functional and structural realities of both industrial and non-industrial societies. It is to these that we now turn.

America's "Stone Age Savages"

The first question which must be posed in this connection is whether the indigenous peoples of North America actually lived in what might be reasonably categorized as a "Stone Age" prior to the European invasion. In framing such a query, it is important to observe that the term itself derives from orthodox anthropological/archaeological conceptions of the socio-economic conditions prevailing in Europe some 15,000–40,000 years ago, an extended period during which stone tools were the normative material expression of culture on that continent. It is generally believed that this "cave man" stage of material development in the evolution of European societies intersected with only the most feeble sorts of human accomplishment: economies were restricted to those of the pre-agricultural subsistence ("hunting and gathering") variety, all but the most rudimentary suggestions of abstract thought were entirely absent. It is apparent that the early Europeans led a rather squalid existence, doomed to spend every waking moment laboriously pursuing the nutrients required to stave off the ever-present specter of imminent starvation, plagued throughout the genera-

tions of their consistently brief life spans by a chronic scarcity induced by their grossly inefficient economic structure.[16]

Only with the acquisition of certain "great discoveries" from the Middle East — agriculture, animal domestication and, eventually, metallurgy — was Europe able to free itself from the constrictions of human potential inherent to its Stone Age. To put it in simplest terms, as alterations in material circumstance allowed increasing economic efficiency, the proportion of human time necessarily devoted to the quest for sustenance correspondingly diminished. Time was, in other words, increasingly available for devotion to all the "other things" which are taken as constituting true culture: superstition was transcended by complex systems of theology, philosophical and mathematical thinking emerged, as did the practice of medicine, science and engineering, written language, art and architecture, codes of law and concepts of enlightened governance. Each step along this route of 'advancement' is seen as being coupled to a level of technological innovation making it possible. Conversely, none of this is possible for a people whose technology is indicative of the Stone Age.[17]

Since the implements and utensils employed by American Indians at the point of first contact with Europeans were made mainly of stone, Eurocentric orthodoxy — both popular and scholarly — has always decreed that their station in life *must* have equalled that of Europe during its Stone Age. To be blunt about it, the assumption is that not only were the indigenous peoples of America retarded at least ten millennia behind the levels of material and other sorts of

[16] For a classic articulation of this theses, see Braidwood, Robert J., *Prehistoric Man*, Chicago Museum of Natural History Popular Series, Anthropology, Number 37, (3rd Edition), 1957. Also see Bordes, Francois, *The Old Stone Age*, McGraw-Hill, New York, 1968.

[17] See, for example, Redfield, Robert, *The Primitive World and Its Transformation*, Cornell University Press, Ithaca, NY, 1953. Also see Braidwood, Robert J., *The Near East and the Foundations of Civilization*, Oregon State System of Public Education, 1952; and Loring, Brace G, *The Stages of Human Evolution*, Prentice-Hall, Englewood Cliffs, NJ, 1979.

cultures. One of the cardinal signifiers of the conceptual gulf separating orthodox anthropological classifications of pre-contact socio-economic forms and actual indigenous realities rests in the quantity of labor supposedly required to meet subsistence and other material needs.

It is taken as a given of mainstream scholarship that at both paleolithic and neolithic levels of development, work was/is a virtual constant, a necessity precluding the leisure time marking "quality of life" and the concomitant creativity leading to cultural refinement. As has been noted, such sweeping quantitative assessments derive in large part from the fact that the case studies forming the predicate of anthropological wisdom were gleaned almost exclusively among peoples undergoing geographical dislocation and other radical disruptions of their traditional socio-economic structures as the result of European invasion, conquest and colonization during the 19th century. By contrast to these wildly skewed examples, the invading culture has always made itself appear vastly superior in terms of relieving its members of most of the drudgery thus associated with 'primitive' societies.

More recent evidence, however, obtained among those indigenous peoples who have been able to maintain or reconstitute (however imperfectly) their pre-contact socio-economic forms, has begun to tell a very different story. For instance, studies conducted among the aboriginal population of Arnhem Land, Australia, during the late 1950s concluded that the workday among these true hunter-gatherers averages five hours, eight minutes, all told.[70] Further, the work load seems not to be especially tiresome, either phys-

[70] For those interested, the apportionment of labor along gender lines was virtually equal: five hours, none minutes per day for men, five hours, seven minutes per day for women. See McCarthy, Frederick D., and Margaret McArthur, "The Food Quest and Time Factor in Aboriginal Life," In C.P. Mountford (ed.), *Records of tlte Australian-American Scientific Expedition to Amhem Land, Vol. II: Anthropology and Nutrition*, Melbourne University Press, Melbourne, Australia, 1960.

Ohio River Valley had supported a somewhat larger number.[66] Ultimately, Dobyns estimated that the aggregate Native North American population may have been as great as 18.5 million at the time of Columbus' arrival in the New World,[67] while more conservative researchers such as Russell Thornton have concluded that a pre-contact indigenous population of ten million or more is entirely probable.[68] Ecological demographers such as William Catton have concurred, suggesting that North America was saturated with human population in terms of the natural carrying capacity of the land long before 1500, and that indigenous peoples had quite deliberately held their numbers at or below this level in order to not unbalance the proportional equations of nature.[69]

"Paleolithic Drudges"

As should by now be abundantly clear, the normative standard of pre-contact Native American life, material and otherwise, did not devolve upon the hunting and gathering activities indicative of 'paleolithic' socio-economic organization. In purely materialist terms, 'neolithic' would perhaps be a more appropriate descriptor, although it too is conspicuously lacking in its ability to convey the range of non-material attainments evidenced by traditional native

[66] See Dobyns, Henry F., "Estimating American Aboriginal Population: An Appraisal of Techniques with a New Hemispheric Estimate," *Current Anthropology*, No. 7, pp. 395–416.

[67] The estimate is made in Dobyns' culminative work. See Dobyns, Henry F., *Their Numbers Become Thinned: Native American Population Dynamics in Eastern North America*, University of Tennessee Press, Nashville, 1983.

[68] See Thornton, Russell, "American Indian Historical Demography: A Review Essay with Suggestions for Future Research," *American Indian Culture and Research Journal*. No. 3, 1979, pp. 69–74. Also see Thornton, Russell, *American Indian Holocaust and Suivival: A Population History Since 1492*, University of Oklahoma Press, Norman, 1987.

[69] Cation, William, *Overshoot: The Ecological Bass of Revolutionaiy Change*, University of Illinois Press, Urbana, 1982.

cultural attainment already reached in Europe, but they were physically and intellectually incapable of favorably altering this situation without the intervention of Europeans. The conventional portrait painted of those living north of the Rio Grande in particular has been that of tiny, extremely dispersed populations wandering endlessly across huge and vacant expanses of land, grubbing out the most meager possible livelihood through the perpetual toil of hunting, fishing and the gathering of wild nuts, fruits and berries.[18]

American Indian Agriculture and Medicine

In actuality, fully two-thirds of all the vegetal foodstuffs now consumed by humanity were under cultivation in Native America — and nowhere else — at the moment Columbus first set foot on Hispaniola.[19] An instructive, but by no means exhaustive list of these crops includes corn, potatoes, yams, sweet potatoes, tomatoes, squash, pumpkins, most varieties of beans, all varieties of pepper except black, amaranth, manioc (tapioca), mustard and a number of other greens, sunflowers, cassava, some types of rice, artichokes, avocados, okra, chayotes, peanuts, cashews, walnuts, hickory nuts, pecans, pineapples, bread fruit, passion fruit, many mel-

[18] The classic in this genre is James M. Mooney's *The Aboriginal Population of America North of Mexico*, edited by John R. Stanton, Smithsonian Miscellaneous Collections, LXXX, No. 7, Washington, D.C., 1928. Mooney's grotesquely inaccurate conclusions were canonized in American anthropology by Alfred Louis Kroeber in an essay entitled "Native American Population" published in American Anthropologist, N.S., XXXVI, 1934, pp. 1–25. The essay is also included in Kroeber's *Cultural and Natural Areas of Native North America*, University of California Publications in American Archeology and Ethnology, XXXVIII, 1939.

[19] This has been well known for some time, as is revealed in certain of the less public pronouncements of the anthropological establishment. In 1929, for instance, H.J. Spinden, a Smithsonian scholar, quietly observed that "about four-sevenths of the agricultural production of the United States are in economic plants domesticated by the American Indian and taken over by the white man" ("Population of Ancient America," *Anthropological Report*, Smithsonian Institution, Washington, D.C., 1929, p. 465n.).

ons, persimmons, choke cherries, papayas, cranberries, blueberries, blackberries, coffee, sassafras, vanilla, chocolate, and cocoa.[20] In order to raise this proliferation of food items, American Indians had perfected elaborate and sophisticated agricultural technologies throughout the hemisphere long before the arrival of the first European. This included intricate and highly effective irrigation systems, ecologically integrated and highly effective planting methods such as *milpa* and *comico*, and the refinement of what amounted to botanical experimentation facilities, among other things.[21]

Upwards of 60% of the subsistence of most Native American societies came directly from agriculture, with hunting and gathering providing a decidedly supplemental source of nutrients (just as fishing did and does, throughout the world).[22] This highly developed agricultural base was greatly enhanced by extensive

[20] See Farb, Peter, and George Armelagos, Consuming Passions: The Anthropology of Eating, Washington Square Books, New York, 1980. Also see Weatherford, Jack, *Indian Givers: How the Indians of the Americas Transformed the World*, Crown Publishers, New York, 1988. It is also important to note that literally hundreds of foodstuffs being grown by Native Americans at the point of first contact — tuber and root crops such as *oca*, *ami*, *achiia*, *papa liza*, *liki* and *maza* — were never adopted by the conquerors, and in many cases forced out of production. Another interesting overview of native agriculture may be found in Sale, Kirkpatrick, *The Conquest of Paradise: Christopher Columbus and the Columbian Legacy*, Alfred A. Knopf Publishers, New York, 1990.

[21] See Josephy, Alvin, The Indian Heritage of America, American Heritage, New York, 1968. Also see Holmes, G.K., "Aboriginal Agriculture — The American Indians," in L.H. Bailey (ed.), *Cyclopedia of American Agriculture: A Popular Survey of Agricultural Conditions, Practices, and Ideals in the United States and Canada* (Volume IV), New York, 1909. Concerning more southerly practices, see Gliessman, S.R.R. Garcia, and M.F. Amador, "The Ecological Basis for the Application of Traditional Agriculture Technology in the Management of Tropical Agroecosystems," *Agro-Ecosystems*, No. 7, 1981.

[22] A number of studies are relevant here. As a sample, see Herndon, G. Melvin, "Indian Agriculture in the Southern Colonies," *North Carolina Historical Review*, XLVI, 1967, pp. 283–97; Russell, Howard S., "New England Indian Agriculture," *Bulletin of the Massachusetts Archaeological Society*, XXII, April-July 1961, pp. 58–91; Vayda, A.P., "A Re-Examination of Northwest Coast Economic Systems," *Transactions of the New York Academy of Sciences*, Series 2, No. 23, 1961, pp.

sought to impose upon the forms and levels of cultural attainment they had achieved. Also at issue is an apparent desire on the part of the *status quo* to diminish the magnitude of indigenous population reduction associated with the Euroamerican 'civilization' of North America. Using Kroeber's maximum estimate of one million in comparison to the U.S. Census Bureau's finding in 1890 that only about 227,000 American Indians remained alive in the United States one is led to conclude that some 78% of the native population was wiped out during the course of the invasion and conquest.[64] While this figure places the extermination of Indians on par with the history's worst genocides, more accurate estimates of pre-contact population serve to drive the rate of attrition into the upper 90th percentile, a matter which is simply unparalleled. The distinction is not insignificant, as official insistence upon the accuracy of Kroeber's spectacularly low count readily demonstrates.

Even as the Mooney/Kroeber numbers were being entrenched as dogma, much lesser known, but far more solidly researched estimates were being reached by scholars such as Lesley B. Simpson, Sherburne F. Cook and Woodrow Borah.[65] By the late 1960s, the work of Henry F. Dobyns had revealed that the population of what is now the state of Florida alone very nearly equaled that attributed to all of North America by Mooney and Kroeber, while the

[64] U.S. Bureau of Census, *Abstract of the Eleventh Census: 1890*, U.S. Government Printing Office, Washington, D.C., 1896.

[65] See, as examples, Cook, Sherburne F., and Leslie B. Simpson, "The Population of Central Mexico in the Sixteenth Century" (*Ibero-Americana*, No. 31, University of California Press, Berkeley, 1948); Borah, Woodrow W., "The Historical Demography of Aboriginal and Colonial America: An Attempt at Perspective" (in William E. Denevan [ed.], *The Native Population of the Americas in 1942*. University of Wisconsin Press, Madison, 1976); and Borah's "America as Model: The Demographic Impact of European Expansion Upon the Non-European World" (*In Actos Memorias del XXXV Congreso International de Americanistas*, Institute de Anthropologia, Mexico City, 1964).

Mooney's "provisional detailed estimates" were immediately adopted by his successor as leading U.S. anthropologist, Alfred Louis Kroeber, seemingly without so much as a cursory glance at their merits. For some time, Kroeber devoted much time and energy, as well as the luster of his academic prestige, to discrediting anyone brash enough to suggest that his and Mooney's rearward demographic projections might have been cast too low, overall or at least with regard to specific locales.[62] Then, on the basis of no discernable factual evidence whatsoever, Kroeber announced he had concluded Mooney had overestimated, and effected yet another across-the-board reduction of 10%. The resulting 'definitive' tally, which came to "not more than 1,000,000" indigenous people living in all of North America prior to 1492, was entrenched as "scholarly truth" for some forty years after its publication in 1939, and is still widely believed today.[63]

The placement of an arbitrary ceiling upon the number of native people who lived in pre-contact North America corresponds quite well with the equally arbitrary limits orthodox anthropology has

[62] For instance, Kroeber took great care to 'rebut' the argument advanced by archaeologist H.J. Spinden that Mooney's estimate of a total native population of 150,000 having lived in the Ohio River Valley was grossly inadequate, based upon the results — suggesting a pre-contact population of "several millions" — Spinden obtained by excavating some of the area's vast burial mounds. Kroeber dismissed Spinden as a 'romantic'. He took the same approach with critiques of Mooney's overall population estimates advanced by C.O. Sauer and others. See Kroeber, Alfred L., *Cultural and Natural Areas of Native North America*, University of California Publications in American Archaeology and Ethnology, XXXVIII, Berkeley and Los Angeles, 1939.

[63] Kroeber's 1,000,000 figure was first published in an essay entitled "Native American Population. *American Anthropologist*, N.S., XXXVI, 1934, pp. 1–25. Subsequently it was incorporated into the above-cited *Cultural and Natural Areas of Native North America*, which quickly became (and has remained) a centerpiece of the American anthropological canon. Tellingly, its conclusions have been as acceptable to self-proclaimed "revolutionary marxists" among the Euroamerican population as they have to the most arcane and reactionary of "bourgeois academics"; see, for example, Revolutionary Communist Party, U.S.A., "Searching for the Second Harvest," in Churchill; *op. dr.*, pp. 35–58.

trade networks[23] and food storage techniques[24] which afforded pre-contact American Indians what was (and might well still be, if reconstituted) far and away the most diversified and balanced diet on earth. This undoubtedly figured heavily in their generalized state of healthiness,[25] while allowing them to create a vast range of distinctive and quite lively regional cuisines, many dishes from which — tacos, potato chips and clam chowder, to name but three — have subsequently been attributed to conquering groups.[26]

618–24; and Sahlins, Marshall D., "Economic Anthropology and Anthropological Economics," *Social Science Information*, Vol. 8, No. 5, 1969, pp. 13–33.

[23] It is estimated that peoples in highly productive agricultural areas devoted as much as half their annual crops to trade with peoples in less or differently productive locales, either for different crop items, for meat and/or fish, or for non-food commodities. Trade networks were quite extensive, with the indigenous peoples of New England known to have regularly engaged in commerce with those of the Arctic Circle, the peoples of the Great Plains region of the U.S. interacting with those of present-day Guatemala. See Jennings, Francis, *The Invasion of America: Indians, Colonialism and the Cant of Conquest*, University of North Carolina Press, Chapel Hill, 1975 (Chapter 5, "Savage Form for Peasant Function," esp. pp. 61–7). Also see Wallace, Ernest, and E.A. Hoebel, *Comanches: Lords of the Southern Plains*, University of Oklahoma Press, Norman, 1952.

[24] American Indian methods of food preservation centered on drying ('jerking'), freeze drying, and smoking, all more efficient, palatable and nutritional than the European convention of salting food for storage. See Russell, Howard S., "How Aboriginal Planters Stored Food," *Bulletin of the Massachusetts Archaeological Society*, XXIII, April-July 1962, pp. 47–9. Also see Weatherford, *op. si.*, p.64

[25] Most nutritionally-related diseases were virtually unknown in pre-contact Native America. See Wissler, Clark, Wilton M. Krogman and Walter Krickerberg. *Medicine Among the American Indians*, Acoma Press, Ramona, CA, 1939.

[26] Consider 'Irish' potatoes and 'Italian' tomatoes as but two examples of entire food items being attributed to the conquerors rather than the original domesticators of the foodstuffs in question. Consider also the implications for so-called Italian cuisine had the tomato never been acquired from Native Americans. By the same token, several cuisines of China (Szechuan, for example) would be nonexistent without the varieties of pepper developed by American Indians. The same might be said for the curries of India itself. See Bryant, Carol A., Anita Courtney, Barbara A. Markesbery and Kathleen M. DeWalt, *The Cultural Feast*, West Publishers, St. Paul, MN, 1985. Also see Crosby, Alfred W. Jr., *The Columbian Exchange*, Greenwood Press, Westport, CT, 1972.

In contrast, the European agriculture of the same period revolved almost entirely around a narrow range of cereal grains — primarily wheat, barley, oats and rye — accompanied by a few vegetables such as onions, beets, turnips and cabbage.[27] These were combined with large proportions of domesticated meat and dairy products, producing a diet which was at once almost total lacking in spices, and unbalanced to the point of inducing an assortment of endemic diseases extending from gout to scurvy.[28] Simply put, indigenous American agriculture and its concomitants were considerably more developed than those of the allegedly superior European civilization by the 16th century and, in many respects, have arguably remained so through the present day.[29]

Much the same might be said with regard to medicine. At a time when the cutting edge of European knowledge decreed that the application of leeches to drain off "tainted blood" was an effective treatment for all manner of ailments, and that causing the sick to be stung by hornets would cure bubonic plague, American Indians were widely utilizing holistic and preventative approaches

[27] For the best exposition on this topic, see Salaman, Redcliffe N., *The History and Social Influence of the Potato*, Cambridge University Press, Cambridge, England, 1949. Also see Weatherford, Jack M., "Millennium of Modernization: A Changing German Village," in Priscilla Copeland Reining and Barbara Lenkard (eds.), *Village Viability in Contemporary Society*, AAAS Selected Symposium Series 34, Westview Press. Boulder, 1980.

[28] An excellent survey of this may be found in Drummond, J.C., and Anne Wilbraham, *The Englishman's Food*, Cape Publishers, London, 1957. Also see Salaman, *op. cit.*

[29] This is true not only in terms of the ecological modes of agriculture developed by indigenous peoples of the New World, but also in terms of relative crop yield and efficiency. More than 3,000 varieties of potato wee under cultivation in the Americas at the point of arrival; fewer than 250 remain in production today, with fewer than twenty comprising at least 75% of the world crop (Weatherford, 1988, op. cit., pp. 63–4; also see Gumpert, Anita von Kahler, "One Potato, Two Potato," *Americas*, May 1986). Another perspective on the high efficiency of traditional American Indian agriculture maybe found in Stea, Vikki, "High-Yield Corn from Ancient Seed Strains," *Christian Science Monitor*, August 20, 1985.

was pronounced. The meaning of this can be accurately understood only from the vantage point of a perspective tendered elsewhere: "The Indian did not wander; [s]he commuted."[59]

"The Vacant Land"

Another core tenet of Eurocentric doctrine is that the invading European population didn't really displace anyone in North America because the land was largely an uninhabited vacuum, vacant and open for the taking. The 'scientific' foundation upon which this assertion rests is the contention of a "giant of American anthropology," James M. Mooney, who posited that the pre-contact population of the continent north of the Rio Grande totaled "approximately 1,100,000 persons."[60] The methods Mooney employed in determining that this number was in any way accurate are quite ambiguous, given that his study of the matter was published posthumously and without footnotes. It is apparent, however, that they consisted of nothing so much as a compilation and arbitrary, across-the-board reduction — by an average of more than 50% — of earlier regional and subregional estimates. The sources he used consisted, in turn, mainly of equally arbitrary reductions of still earlier first hand accounts regarding the size of given native groups at or shortly after first contact.[61]

[59] Jennings, *op. cit.*, p. 71.

[60] Mooney, J.M., *The Aboriginal Population of America North of Mexico*, John R. Swanton (ed.), Smithsonian Miscellaneous Collections, LXXX, No. 7, Washington, D.C. 1928.

[61] For example,. Mooney sliced by half earlier estimates concerning aggregate New England Indian population tendered by the notoriously anti-Indian historian John Gorham Palfrey. No evidential basis at all was cited to justify this downward revision. Palfrey himself had already engaged in a process of systematically discounting by as much as 80% the initial estimates of indigenous population in the region, contained in original settler accounts, for equally unexplained reasons. See Palfrey, John Gorham, *History of New England*, 5 Volumes, Boston, 1858–1890.

> est…In nearly every case the European colonists built a city that eventually stretched to hundreds and even thousands of times the size and population of the original Indian settlement, but nevertheless they built on top of a previous settlement rather than starting a new one. Even the Puritans took over fields already cleared by the Indians but abandoned when European diseases decimated the native population."[57]

Weatherford goes on to note that thousands of contemporary place names in North America — Chicago, Nantucket, Milwaukee, Roanoke, Tallahassee, Minneapolis, Poughkeepsie and Oswego among them — are lifted directly from those already bestowed by native occupants before the first Europeans arrived. Others, like Seattle, result from the Euroamerican practice of renaming village sites after indigenous leaders who resided in them at the point each was taken away. Even the U.S. capitol, the location for which legend has George Washington selecting amidst a virgin tract of forest, was really the site of Naconhtake, a major trade center of the Conoy Indians. The present Washington, D.C. suburb of Anacostia gained its name via a Latinized corruption of the original indigenous word. The Potomac River, astride which the capitol now sits, was so designated through a comparable corruption of the name of Patawomeke, a principal Conoy leader.[58]

Despite the 'sedentary' constant of pre-contact native existence, the travel quotient for most societies, especially for young adult males, was undoubtedly rather high. Hunting and fishing, which were integral to (though not preponderant within) virtually all indigenous economies, demanded it, as did engaging in the extensive inter-regional commerce which fleshed out the inventories of commodities available in each local. Hence, it is fair to say that the degree of mobility evident among pre-contact American Indians

[57] Weatherford, *op. cit.*, pp. 231–2.

[58] *Ibid.*

to health care. Hygiene and sanitation were conspicuous elements of native life in the Americas, even while the absence of sewers in European cities gave rise to devastating epidemics, and bathing was considered a crime against god and king.[30] Native American pharmacology already contained a veritable cornucopia of "wonder drugs" including quinine, a close equivalent to aspirin, assorted vitamin compounds, anesthetics, analgesics, astringents, stimulants, antispasmodics, and a wide array of creams and ointments developed to facilitate the healing of every sort of wound, burn and abrasion.[31] A number of native peoples are also known to have established the procedures necessary to allow their performance of such operations as tumor removal, amputation of limbs, and brain surgery.[32] In this connection, it is worth noting that steel instruments never yielded the precision obtained by pre-contact indigenous practitioners with the obsidian blades they designed for use in their surgical activities; it was not until the advent of laser tech-

[30] On the impact of disease, see McNeill, William H., *Plagues and Peoples*, Anchor/Doubleday. Garden City, NY.. 1976. Of additional interest, see Creighton, Charles, *A History of Epidemics in Britain*, Cambridge University Press, Cambridge, England, 1891.

[31] Concerning native pharmacology, see Taylor, Norman, *Plant Drugs That Changed the World*, Dodd, Mead 'Publishers, New York, 1965. Also see Vogel, Virgil, *American Indian Medicine*, University of Oklahoma Press, Norman, 1970; and Hutchins, Alma R., Indian Herbology of North America, Merco Publishers, Toronto, Canada, 1969. On the impact of quinine in particular, see Laderman, Carol, "Malaria and Progress: Some Historical and Ecological Considerations," *Social Science and Medicine*, No. 9, November-December 1975, pp. 587–94.

[32] On indigenous surgical techniques, see Guzman, Peredo, *Medical Practices in Ancient America*, Ediciones Euroamericanas, Mexico City, Mexico, 1985. Also see Wissler, *et al., op. cit.* An interesting related reading is Kidwell, Clara Sue, "Science and Ethnoscience: Native American World Views as a Factor in the Development of Native Technologies," in Dendall

E. Bailes (ed.), *Environmental History: Critical Issues in Comparative Perspective*, University Press of America, Lanham, MD., 1985, pp. 277–87.

nologies during the 1970s that western science came to rival the accuracy inherent to traditional American Indian surgical tools.[33]

Native American Mathematics, Science, Architecture and Engineering.

In terms of mathematical and related forms of abstract thinking, the accomplishments of pre-contact indigenous peoples provide an ample accompaniment to the achievements already discussed, centering mainly in the sciences of botany, horticulture, anatomy and pharmacology. It is appropriate to observe that the concept of zero originated among the Mayan peoples of Central America.[34] The Mexicanos (Aztecs) of the central Mexican highlands had, well before the first Spaniard set foot on their plateau, computed a calendar extending some 500 years into the future and with a degree of accuracy several decimal places greater than that of the 'Julian' calendar still in general use by Eurocentric societies.[35] The existence of the Mexicano calendar can be understood only within the context of a body of astronomical knowledge markedly superior to that current to Europe — where heated debates on the probable flatness of the earth were not especially uncommon — at the time. Nor is there reason to suspect that such astute awareness of the

[33] See Weatherford, *op.cit*., p. 188. The author also notes that the concepts of the syringe, rubber hose and plaster cast for setting broken bones also originated in the Americas well before first European contact. Interesting commentary on the incorporation of these technologies into European medical practice may be found in Bakeless, John, *The Eyes of Discovery*, Dover Books, New York, 1961.

[34] Probably the best elaboration on this topic may be found in Morley, Syvanus G., and George W. Bainerd, *The Ancient Maya*, Stanford University Press, Stanford, Ca, (4th edition) 1983. Also see Carmack, Robert M., *Quichean Civilization*, University of California Press, Berkeley, 1973.

[35] See Tompkins, Peter, *Mysteries of the Mexican Pyramids*, Harper and Row, New York, 1976. Additional information may be found in Borah, Woodrow Wilson, *The Aboriginal Population of Central Mexico on the Eve of Spanish Conquest*, Ibero-America 45, University of California Press, Berkeley, 1963.

cultural and socio-economic activity, generation after generation, allowing not only the development of highly efficient surplus and trade economies, but the sort of long-term social stability which lent itself to the realization of well-polished forms of governance, property relations and the like. Such consistency in land use and occupancy also fostered clear understandings as to the national territoralities of given peoples, not in the European sense of precisely-defined national borders, but from a more fluid, interactive and co-operative posture of international affairs.[56]

The urban centers of Native American life were not few and far between, as is typically claimed by proponents of Eurocentric orthodoxy. As Jack Weatherford had observed:

> "Even though the European settlers imposed new architectural styles and new ideas of urban planning on America, they usually built over existing Indian settlements rather than clearing out new areas of settlement. Subsequent generations of Americans usually forgot that their towns and cities had been founded by Indians. Myths arose about how the colonists literally carved their settlements out of the uninhabited for-

New York, 1986. It is interesting to note that indigenous settlement patterns were such as to concentrate population along both coasts of the present continental United States, as well as along major inland waterways such as the St. Lawrence, Mississippi and Ohio Rivers. Tellingly, this is the same settlement pattern evidenced by the Euroamerican population through the present day.

[56] Although little weight is placed on this important point in contemporary Eurocentric scholarship, this is not because the matter is mysterious. Indeed, the issue of defined and preexisting native territoralities is addressed with a great deal of precision in each of the treaties entered into by the U.S. with various indigenous nations (this comes to at least 371 ratified documents and as many as 1,000 more which went unratified). On this basis, and through numerous other sources of information, it remains entirely possible to reconstruct to general boundaries of each indigenous nation. For detailed explanation of methodologies applicable to this end, see Sutton, Imre (ed.), *Irredeemable America: The Indians' Estate and Land Claims*, University of New Mexico Press, Albuquerque, 1985.

> and they could transport little of what they might manufacture in spare moments. To them, adequacy of production meant physical survival, and they rarely had surplus of either products or time."[53]

Although such misconceptions may have been implicitly corrected through even limited examination of such phenomena as native agriculture and architecture, it would be well to discuss each issue more directly.

"Nomads"

It is an article of faith within the Eurocentric vision that traditional American Indians "wandered the land," driven to perpetual motion by their utter dependence upon access to migrating animal herds and the seasonal ripenings of an array of wild fruits, nuts and berries.[54] In actuality, every pre-contact indigenous society in North America was organized around fixed villages, towns and, in some cases, cities.[55] These constituted the focal points for

[53] Sahlins, Marshall, *Stone Age Economics*, Aldine Publishing Co., Chicago, 1972, p. 3. Sahlins assembled this conventional anthropological summary by utilizing a series of juxtaposed quotes drawn from the standard literature: Stewart, Julian H., and Louis C. Faron, *The Native Peoples of North America* (McGraw-Hill Publishers, New York, 1959, p. 60); Clark, Graham, *From Savagery to Civilization* (Schuman Publishers, New York, 1953, p.27); Haury, Emil W., "The Greater American Southwest" (in J. Braidwood and G.R. Willey [eds.], *Courses Toward Urban Life*, Aldine Publishers, Chicago, 1962, p. 113); Hoebel, E. Adamson, *Man in the Primitive World* (McGraw-Hill Publishers, New York [2nd ed.] 1958, p. 188): Redfield, Robert, *The Primitive World and Its Transformations* (Cornell University Press, Ithaca, NY, 1953, p.5); and White, Leslie A., *The Evolution of Culture* (McGraw-Hill Publishers, New York, 1959, p. 31).

[54] For solid analysis of this stereotype, see Berkhofer, Robert F.,Jr., *The Wlute Man's Indian*, Alfred A. Knopf Publishers, New York, 1978. A more standard anthropological treatment may be found in Spicer, Edward H., *A Short History of the Indians of the United States*, Van Nostrum Reinhold, New York, 1969.

[55] A comprehensive survey of known sites may be found in Coe, Michael, Deand Snow and Elizabeth Benson, *Atlas of Ancient America*, Facts on File Books,

heavens' functioning was unique to Mesoamerica, as examination of the belief systems indigenous to areas as geographically diverse as Tierra del Fuego in the south, or the Arctic tundra in the north, readily reveals.[36]

Beyond calendars and astronomy, American Indian mathematical and scientific thought manifested itself in a proliferation of forms of architecture and engineering. Throughout Mesoamerica, indigenous people mastered the principles involved in constructing earthquake-proof buildings on both residential and monumental scales hundreds of years before Columbus. Many of their efforts remain the tallest and/or largest structures by volume in their locales, having continued to stand while subsequently erected buildings — based in supposedly superior European architectural concepts — have collapsed all around them. In the process of creating their edifices, these native peoples developed ways and means of quarrying and perfectly squaring huge stones without the use of steel tools of any sort. The cut stones, many weighing ten tons or more, were then moved — often uphill and over great distances — to construction sites where they were lifted into place.[37] All this was accomplished as a matter of course, without resort to draught animals and, supposedly, without wheeled vehicles.[38] Needless to

[36] On the most southerly portion of the Americas, see Lothrup, Samuel K., *The Indians of Tierra del Fuego*, Museum of the American Indian, Heye Foundation, New York, 1929. Concerning the Arctic area, see Weyer, E.M., *The Eskimos*, Yale University Press, New Haven, CT, 1932.

[37] See Cespedes, Gauillermo, *America Indigena*, Alianza Publishers Madrid, Spain, 1985. Also see Helms, Mary W., *Middle America*, University of America Press, Boston, 1982.

[38] Much has been made of the 'fact' that American Indians "failed to invent" the wheel. This is categorically untrue. Wheeled toys were rather common throughout the Americas prior to 1492. Similarly, a variety o wheels, pulleys and the like were undoubtedly used in the construction techniques of a variety of peoples in diverse geographic settings. That the wheel may not have been deployed as a transportation device seems due primarily to the reality that no animal suitable for pulling large wheeled vehicles existed anywhere in the hemisphere until importation of horses mules and oxen began with the arrival of Europeans. Thus,

say, certain of these feats could not be duplicated today, even with application of the most "space age" technologies.

The Incas of the Andean highlands and, to a lesser extent, the Mexicanos further north also constructed lengthy complexes of leveled, graded and paved roads — just one of which, Capac Nan, stretches more than 2,500 miles — complete with curbs, guttered drainage systems, retaining walls, rest areas, and road signs posted at regular intervals. Substantial portions of these roads, most of them built at a uniform 24' width, are still in use, most notably in Ecuador and Peru. To complete their roadways, the Incas perfected the design and construction of suspension bridges long before the relevant engineering concepts saw common usage in Europe.[39]

North of the Rio Grande; the Anasazis had by the year 1200 completed construction of their cities at Mesa Verde (Colorado) and Chaco Canyon (New Mexico). These complicated socio-architectural endeavors remained the largest apartment complexes built in North America until well into the 20th century.[40] They also incorporated engineering elements concerning insulating characteristics and use of solar energy which are appreciably sounder than those employed by most Eurocentric architects and engineers right up through the present. In the same vein, the Hidatsas, Arikaras, Pawnees and other peoples of the Great Plains region developed comfortable, spacious and durable 'underground' housing techniques which were both extremely energy efficient and ideally suited to the tornado-ridden climate

it appears that while the wheel was known to the indigenous peoples of America, it was considered a largely useless contraption, at least in many of the ways in which it was applied in "The Old World."

[39] On this topic, see Von Hagen, Victor Wolfgang, *The Royal Road of the Inca*, Gordon and Cremonesi Publishers, London, 1976. Interesting side bar readings may be found in Mariategui, Jose Carlos, *Seven Interpretive Essay on Peruvian Reality*, University of Texas Press, Austin, 1971.

[40] For illuminating discussion, see Mays, Buddy, *Ancient Cities of the Southwest*, Chronicle Books, San Francisco, 1982.

might be given by which to illustrate the rarified political acumen attained by pre-contact indigenous peoples on this continent. The best testimony to this effect, however, may well be the fact that, during the course of its westward expansion, the U.S. government found occasion to formally recognize the pre-existing full national sovereignty of various native peoples at least 371 times between 1778 and 1871.[52]

"Slaves to Subsistence"?

While the preceding information should have done much to counter certain standard assumptions concerning the style and quality of living which prevailed in North America prior to the conquest, it addresses several important questions only obliquely. These center upon the ideas that the pre-contact population on this continent was quite tiny and largely nomadic, and that its time was almost wholly consumed in the drudgery of pecking out a most meager subsistence. As Marshall Sahlins has framed the perception:

> "The nomadic hunters and gatherers barely met minimum subsistence needs and often fell far short of them. Their population of 1 person to 10 or 20 square miles reflects this. Constantly on the move in search of food, they clearly lacked the leisure hours for non-subsistence activities of any significance,

[52] The federal government of the United States is constitutionally prohibited (under the first and sixth articles) from entering into a treaty relationship with any entity other than another fully sovereign national government. The ratification of any treaty by the U.S. senate is therefore *de facto* formal recognition by the United States of the other party's sovereign status. The texts of 371 duly ratified treaties between the U.S. and various American Indian nations may be found in Kappler, Charles J., *Indian Treaties*, 1778–1883, Interland Publishers, New York, 1972.

intermingling ideas drawn from ancient Greece and Rome, as well as those of such more topical thinkers as Voltaire and Rousseau, with those of the Iroquois. The result was a unmistakable and unqualified diminution of basic Haudenosaunee libertarianism within its Euroamerican counterpart.[49]

The "Iroquois League" was by no means the only example of its sort. From at least as early as 1350, the powerful Creek Confederacy in what are now the southeastern states of Georgia, Florida and Alabama also governed itself through an elected council structure. Like the Haudenosaunee, it later engaged quite successfully and over an extended period in high level diplomacy with European nation-states. After contact with Old World peoples, the Creeks also displayed an unparalleled interracial openness, marrying, adopting and otherwise naturalizing both European immigrants and large numbers of escaped African slaves as full citizens within their society.[50] Far to the west, in the central Sonoran desert, the Yaqui federation exhibited many of the same democratic characteristics as the Creeks, and waged a protracted war first against Spain, and then the Republic of Mexico, in an effort to forestall the erosion of their fundamental liberties through imposition of Eurocentric forms of governance.[51] Many further examples

Notes on the State of Virginia, University of North Carolina Press, Chapel Hill, 1955; and Paine, Thomas, *Rights of Man*, Penguin Books, New York, 1969. Quotes from Franklin and an interesting overview may be found in Parrington, Vernon L., *The Colonial Mind, 1620–1800*, Harcourt, Brace & World, New York, 1927.

[49] An illuminating, if unintended, commentary on this score is offered in Commager, Henry Steele, *The Empire of Reason: How Europe Imagined and America Realized the Enlightenment*, Anchor Books, Garden City, NY., 1978.

[50] On Creek governance, diplomacy and race relations, see Nash, Gary B., *Red, Wltite and Black: The Early Peoples of America*, Prentice-Hall, Engelwood Cliffs, NJ, 1974. Also see Halbert, H.S., and T.H. Ball, *The Creek War of 1813 and 1814*, University of Alabama Press, Tuscaloosa, 1969.

[51] See Hu-DeHart, Evelyn, *Yaqui Resistance and Survival*, University of Wisconsin Press, Madison, 1984. Also see Harris, Fred R., "Mexico: Historical Foundations," in Jan Kippers Black (ed.), *Latin America: Its Problems and Promise*, Westview Press, Boulder, CO., 1984.

in which they lived.[41] Today, after a long hiatus brought about by these conquerors' insistence that grossly inefficient and vulnerable above-ground construction represented a superior mode of building on the plains, subsurface or "partially submerged" building designs are making a comeback at the hands of some of the more 'radical' and 'innovative' Eurocentric architects. Although these 'new' conceptions are precisely similar in principle to those long ago implemented by native builders, acknowledgment of and attribution to the actual inventors has been sorely missing.

Meanwhile, like the peoples of Mesoamerica, the Anasazis constructed a paved road system, this one radiating outward from Chaco Canyon and extending for hundreds of miles in virtually straight lines across the Arizona /New Mexico desert. Far to the southwest, the Hohokams had, during the same period, built more than 3,000 miles of irrigation canals, each running quite straight and exhibiting a uniform width. The Hohokam canals were also engineered to effect a neatly consistent gradient drop of about 5" per quarter mile to insure maximally efficient water flow. Europe knew no counterpart in terms of sustained architectural precision at this point in its history. Suffice it to observe that the present-day cities of Phoenix and Tucson have opted to incorporate large segments of — this ancient indigenous water transportation system into their own, and have done so without substantial modification to the original engineering.[42]

[41] A good exposition on these building techniques may be found i Driver, Harold E., *Indians of North America*, University of Chicago Pres Chicago, (2nd. edition) 1969. Also see Nabokov, Peter, and Robert Easton *Native American Architecture*, Oxford University Press, New York, 1988.

[42] Mays, *op.cit.* Also see Weatherford, *op. cit.* (p. 246), concerning the Anasazi roadways. The author goes on to point out that many model highways trace the routes laid out along unpaved but well established trails already in place in North America long before the first white man came. Many of these extended for hundreds of miles, and some for thousands, being the infrastructure of the abovementioned system of international commerce actualized by American Indians prior to the European invasion.

Indigenous Governance in America

Typical Eurocentric notions of how the societies of North America's indigenous peoples were traditionally organized is that they were grouped into 'tribes', ruled by an assortment of 'chiefs'. Nowhere is the fallacy of this idea better demonstrated than with the Haudenosaunee, or Five (later Six) Nations Iroquois Confederacy, as it is more commonly known. Assembled in present-day New York state and southeastern Canada on the basis of the *Kaianerekowa* ("Great Law of Peace") promulgated by an indigenous philosopher named Deganwidah at least three centuries before Columbus, the Haudenosaunee may well have been the first functioning model of real democracy, and was an essential practical precursor to the contemporary aspirations for international harmony expressed through the United Nations.[43]

At a time when even the most enlightened European nation-states were still afflicted with a firm belief in the "divine rights of kings," the Haudenosaunee had been living under a highly effective form of representative government for hundreds of years.[44] As contrasted to the chronic bias against females still displayed by Eurocentric societies, the Haudenosaunee had institutionalized gender balance by vesting all power to select and recall governmental delegates among women. Further safeguards to genuine egalitarianism were built into such socio-economic arenas as property relations, age-based organizational mandates, and the matrilineal/matrilocal nature of kinship bonding.[45]

Nor was all this possible because the Iroquois amounted to only a small, 'backwatered' or powerless amalgamation. To the contrary, the record shows them to have been consummate diplomats who entered as equals into bilateral agreements with the European powers, held the balance of military power in their area for more than a century and a half after first contact with the invaders, and tipped the scales of victory to Great Britain during the so-called French and Indian Wars.[46] It was a Haudenosaunee leader named Canassatego who, in the course of a meeting between colonists and British officials in 1744, first suggested that the thirteen English colonies of the eastern seaboard be organized into a federation similar to that created by his own people.[47] Benjamin Franklin, Tom Paine, John Adams, Thomas Jefferson, and others among the "founding fathers" of the United States candidly acknowledged in their personal papers that they drew great conceptual inspiration from the Haudenosaunee in their quest to establish the "first modern republic."[48] They insisted, of course, on

[43] See Brandon, William, *New Worlds for Old: Reports from the New World and Their Effect on the Development of Social Thought in Europe, 1500–1800*, Ohio University Press, Athens, 1986. Also see Wilson, Edmund, *Apologies to the Iroquois*, Farrar, Strauss & Giroux, New York, 1959.

[44] Considerable detail on this assertion is contained in Johansen, Bruce, *Forgotten Founders*, Gambit Books, Ipswich, MA, 1982. Also see Burton, Bruce A., "Iroquois Confederate Law and the Origins of the U.S. Constitution," *Northeast Indian Quarterly*, Vol. 3, No. 2, Fall 1986, pp. 4–9.

[45] These dimensions of Haudenosaunee life are covered in Goldenheiser, Alexander A., "Iroquois Social Organization," in Roger C. Owen, James J.F. Deetz and Anthony D. Fisher (eds.), *The North American Indians*, Macmillan, New York, 1967. Also see Morgan, Lewis Henry, *League of the Iroquois*, Sage Publishers, Rochester, NY, 1851.

[46] See Aquila, Richard, *The Iroquois Restoration: Iroquois Diplomacy on the Colonial Frontier*, 1701–1754, Wayne State University Press, Detroit, 1983. It should be noted that the "French and Indian Wars" consisted of four separate conflicts during the course of nearly a century: King William's War (1689–97), Queen Anne's War (1702–13), King George's War (1744–8), and The Great War of Empire (1754–63).

[47] See Grinde, Donald A., *The Iroquois and the Founding of the American Nation*, Indian Historian Press, San Francisco, 1977. Also see Graymont, Barbara, *The Iroquois in the American Revolution*, Syracuse University Press, Syracuse, NY, 1972; and Johansen, *op.cit.*

[48] For direct quotations, see Cappon, Lester J., *The Adams-Jefferson Letters*, Vol II, University of North Carolina Press, Chapel Hill, 1959; Jefferson, Thomas,