

Assess full ground rent, worldwide, for value received, ethical revenue, free land, surplus jobs, equal trades, natural order, infinite benefits, consensus government.

ENTROPY - A NEW WORLD VIEW
- Jeremy Rifkin, with Ted Howard

The ENTROPY LAW is the second law of thermodynamics. It states that matter and energy can be changed only from the usable to the unusable. Technologies speed up the process, causing world disorders. Hunter-gatherer societies work 12 - 20 hours a week, none some months, living well on nutritious diets, without modern medicine, enjoying ample leisure. In Greek mythology history is progressive degradation. Progress is now geared toward the perfection of the machine. We can't save time by using energy, as less energy will remain, in which anything can occur. Living things store energy in themselves by consuming their surroundings. Some advanced, such as the Greek, and all primitive societies have existed with little environmental change. World population doubles every forty years. It becomes harder to find energy, and space for wastes. Official colonialism is over (although South Africa is a slave state, there are 750,000 slaves in Arab countries, western hemisphere Indians are virtual serfs, developed countries control most Third World resources - the U. S. 85 % of Latin American, and sharing in Indonesian - and non landholders are no more than thanes of larger landholders and resource owners, until they pay the full ground rent for the unearned value they enjoy). All must become self sufficient.

Improved plows, windmills and waterfalls added to cultivable areas, crops per acre, population, loss of forests and fertility, causing severe shortages. Henry II permitted coal mining, to keep Newcastle people from freezing. Coal is dirtier, more polluting, more difficult to process than trees; oil more so; atoms infinitely more so. The steam engine was invented, to lift coal up mine shafts, and remove water from deep mines; then to transport coal. Hides became scarce; used wool for clothes. No room for sheep; used imported cotton, then synthetics. Each change used more energy. Technology is a transformer of energy from available to dissipated forms. Paraphrasing "1984," we believe that disorder is order, waste is value, work is nonwork. "every technology creates a temporary island of order at the expense of greater disorder to the surroundings." "every technical application...presents certain unforeseeable secondary effects ...more disastrous than the lack of the technique would have been." Colonies secure new energy source; require even more energy for army suppression and administration. (45 % of Portuguese budget to suppress African colonies) Giant corporations and bureaucracies cost more, produce less, and civilizations fall. This will continue until we move from exploitation to stable energy use, through small, decentralized institutions. Overspecialization, complexity, centralization, interdependence, inadaptability, vulnerability. NE power blackout from 1 relay failure; strikes affect many unrelated industries. 17th and 18th centuries shifted from renewable to nonrenewable energy; moved from cycles and flows to quantities and stocks. We believed ourselves independent of nature. U. S., with 6 % of world population, uses 1/3 of energy. Parts of western Europe, with equal living standard, use less than half the energy we do. U. S., 1970, produced 1.7 trillion kilowatt hours of electricity; more than used by the Soviet Union, Japan, West Germany and Great Britain together. U. S. energy "needs" expected to double in 20 years; worldwide, quadruple by year 2000. In next 20 years we'll need new construction of all facilities, almost equal to all previous construction in history.

Synfuels, Nuclear Fission, Nuclear Fusion: 3 chapters describe utter asininity. Many extractable non-renewables will be gone in 100 years or less. Many renewables also declining. Projected demand will absorb new-found resources. Recycling efficiency of most metals averages about 30 %; saves storage, but uses energy, causes pollution; can delay depletion no more than 50 years. In 13 years there was an 18 % reduction "in the productivity of capital in energy production." "Inflation, then, is ultimately a measure of the entropy state of the environment." (increased by money supply, professional and trade monopoly exactions, and unbalanced budgets) \$ 361 billion in pollution control over next 10 years. 16 % of U. S. work force in government. 20 % of food energy used for growing; 80 % to process, package, distribute and prepare. 1963 - 1971, U. S. food consumption up 2.3 %; packaging tonnage up 33.3 %. \$ 500 million a year for synthetic chemicals, for color, scent, flavor, texture; 2500 additives. 9 lb. of additives per person in

"Last Days of Manhood" "Death of Zorovov"
"The Closing Circle"

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1979 - twice that of 1970. 4 million lb. of dyes; 16 times that of 1940. Kitchen saving time less than work time to pay for it. Concentrated power, poorer health, less remaining energy; typical of technologies. Each American uses 1400 tons of minerals, fossil fuels and wood in a lifetime, and lives off the labor equivalent of 200 slaves; uses 200,000 calories energy a day.

100 million are starving; another 1-1/2 billion (1/3) are malnourished. A U. S. mechanized farm is the least efficient ever; uses 10 calories of energy to produce 1. A peasant uses 1 to produce 10. Nitrate fertilizer pollution runoff creates 1/2 of water pollution, 2/3 of solid wastes. 1976 pesticide use 8 times that of 1950. Pest damage unchanged - 1/3 of crops for 30 years. 305 pests are resistant to one or more pesticides. Inorganic fertilizers and pesticides destroy valuable soil organisms, causing nutritional deficiencies and erosion. Yearly loss of 4 billion tons of topsoil. 1/3 of cropland seriously endangered. 1/3 of topsoil already lost. Transportation uses 41 % of energy. 8100 BTUs per passenger mile, by car; 3800 by mass transit. 2800 BTUs per ton mile of freight, by truck; 670 by train. Autos greatest consumer of raw materials; cost 25 % of consumer income. They save no time, as we live further from work. Auto accidents kill 55,000, maim 5 million a year. 1 mile of road per square mile of land. Roads use 30 % of land in 53 central cities. 2/3 of downtown L. A. in roads and parking; 1/2 in some others. 100,000 a year uprooted by new roads; disruption causing unemployment, crime, mental illness. 60 % of air pollution in most cities caused by auto exhaust; damages property, causes heart disease, cancer, brain and behavioral problems. Most large ancient cities were under 50,000. Larger cities have great economic and social costs, mental and physical illness, crime, dissipation and suicides. N. Y. C. municipal workers tripled in 10 years, as population dropped. Cities must be supported by countryside and colonies. Rome went from 1 million to 30,000, after its fall. Taxes in cities of 1 million or more are triple those of 50,000. Average per capita revenue in large cities is \$ 426.90; cost of services \$ 1,052. Larger cities are unaffordable.

43 % of federal budget is for past, present and future wars. 6 % of energy to military. \$ 124 billion 1979 military budget cost 1,440,000 jobs. (and more in consumer goods, inflation and social problems) World military \$ 400 billion; 10 % of all production - obscene. Windblown radiation and destruction of ozone make nuclear war survivable only by cockroaches. Military budgets largely pork barrels. Our education is to a more complex, dissipating state. It collects and sorts, stores and exploits vast information, largely useless. Millions of computers, to convert energy into disorder. Information overload increases mental illness - 1/5 in U. S. More mental health workers than policemen. 15 % functionally illiterate. Health care 9 % of GNP - much for complex, sophisticated technological gadgetry. Per capita health cost rose from \$ 76 to \$ 552 a year between 1950 and 1976. Illness escalated. Drugs usually have long-range ill effects. Antibiotics kill essential body organisms. Senate subcommittee, 1962: nearly half of 4,000 legal drugs marketed in U. S., in previous 24 years, had no value.

Solar power, highly desirable as it is, as a clean renewable, requires huge amounts of non-renewables for construction, and cannot be concentrated sufficiently to supply large cities. For many material and social reasons, we must commit ourselves to lives based upon necessities, in smaller communities. What can't be made by low-entropy won't be made. Organic farms use 6800 BTUs to produce \$ 1 of output; others 18,400. The former costs \$ 31 acre, with more nutrition, less pollution; the latter \$ 47 acre. Technological collapse could come at any time; 20 to 30 years at most. Decentralized, participatory democracy would minimize the flow-through of energy. (Grass roots ombudsmen should supervise everything in government, advising activists on boycotts, to end our many injustices, and the many favoritisms which create monopolies; especially underassessment of ground rent. Assessment of the full rental would leave no basis for sale price; free land assuring surplus jobs, ending an infinity of evils, and facilitating necessary adjustments, by enabling one to leave undesirable work or environment. Worldwide, this would leave no possibility of exploitation, no incentive for emigration or conquest.) Entropy, limiting our exploitation of the universe, will free us from a clutter of useless things and wasted time, which now enslave us, and help us to exercise our faculties more fully, in production and government, improving the lifestyles of the world's peoples. It is up to us all everywhere to recognize the finite nature of the world, and to cooperate, politically and individually, in slowing down our progress toward chaos. We need everything yesterday.

"Koonsday: 1999 A.D." (Pandora's Box - natural, manmade)

No free land - no justice, humanity. Transition could dwarf India's slaughtered migrants.

60 minutes, 8-9: 25-30 yrs. natural gas here.

Major slaves victims of predatory monopolists, legislators, judges, guards.