

Ecological Colonialism

Jeremy Ritkin
Beyond Beet

1992

The modern era has been characterized by a relentless assault on the earth's ecosystems. Dams, canals, railroad beds, and more recently highways have cut deeply into the surface of the earth, severing vital ecological arteries and rerouting nature's flora and fauna. Petrochemicals have poisoned the interior of nature, seeping into animals and plants, soaking the organs and tissues with the tar of the carboniferous era. The spent energy of the industrial revolution has choked the skies with layers of gases—carbon monoxide, carbon dioxide, sulfuric acid, chlorofluorocarbons, nitrous oxide, methane, and the like—polluting the air, blocking the heat from escaping the planet, and exposing the biota of the earth to increased doses of deadly ultraviolet radiation.

The scientific community, the governments of the world, and the mass media have devoted a great deal of time and effort to studying and publicizing the impact of these induced human threats to the biosphere, warning of the dire consequences to the planet and civilization of ignoring the mounting entropic bill.

Still, in all of the ongoing public debates around the global environmental crisis, a curious silence surrounds the issue of cattle, one of the most destructive environmental threats of the modern era. Domesticated cattle are responsible for much of the soil erosion in

the temperate regions of the world. Cattle grazing is a primary cause of the spreading desertification process that is now enveloping whole continents. Cattle ranching is responsible for the destruction of much of the earth's remaining tropical rain forests. Cattle raising is partially responsible for the rapid depletion of fresh water on the planet, with some reservoirs and aquifers now at their lowest levels since the end of the last Ice Age. Cattle are a chief source of organic pollution; cow dung is poisoning the freshwater lakes, rivers, and streams of the world. Growing herds of cattle are exerting unprecedented pressure on the carrying capacity of natural ecosystems, edging entire species of wildlife to the brink of extinction. Cattle are a growing source of global warming, and their increasing numbers now threaten the very chemical dynamics of the biosphere.

This once-sacred animal of bygone years has taken on a pestilent guise, swarming over the great landmasses of Europe, the Americas, Africa, and Australia like hoofed locusts, devouring the endowment of millions of years of evolutionary history. Sequestered in artificially enclosed urban and suburban environments, most Americans and Europeans are simply unaware of the devastation wrought by the world's cattle. Now numbering over a billion, these ancient ungulates roam the countryside, trampling the soil, stripping the vegetation bare, laying waste to large tracts of the earth's biomass.

We have already traced the colonial partnership of people and cattle that helped subdue the Amerindian populations and harness the untapped energies of the Americas. The seeding of the Americas and other lands with cattle had another effect, every bit as far-reaching as the commercial one. While cattle were used to colonize the New World, transforming it into a pastureland to serve the beef and hide markets in Europe, another more profound kind of colonization took place, one destined to affect future generations long after the passage of the colonial moment in world history. The transplantation of cattle into the New World fundamentally transformed the ecology and topography of North, Central, and South America. Accompanying the bovine was an entire ecological complex made up of Old World grasses, weeds, cereal grains, and legumes. The European grasses, weeds, and grains flourished in the Americas, usurping habitat after habitat, successfully altering much of the indigenous ecology. Just as men and cattle colonized native populations and territories, European plants effectively colonized the biology of the new continents,

turning the Americas into an ecological stepchild of Old Europe.

As early as the sixteenth century, Friar Bartolomé de Las Casas wrote of large herds of European cattle devouring native vegetation in the West Indies and the spread of thistles, ferns, nettles, nightshades, sedge, and plantain of Castilian origin.¹ By 1555, European clover had spread across Mexico, providing a familiar carpet of Old World grass for Spanish cattle to graze on. The European plants spread across the New World landscape, usurping native grasses and providing a convenient ecological marker for the steady advance of European colonists and cattle. The familiar sight of wild oats, chess, bromes, Italian ryegrass, and common foxtail growing along the hillsides and valleys of northern Mexico and the California coast surprised later Spanish and English settlers.

Many of the plants arrived with the first cattle, as seeds lying dormant in their stomachs or netted in their hides. Spanish priests spread seeds on their journeys, planting small communities alongside streams and on the sides of hills. They seeded the Americas with Old World vegetation as far north as San Francisco and as far south as the Argentine pampas. Black mustard, for example, was introduced into California by the Franciscan friars as early as the sixteenth century. American explorer John Frémont was surprised to see red-stemmed filaree, a European weed, growing in the Sacramento Valley in 1844. He reported that it was "just now beginning to bloom, and covering the ground like a sword of grass." According to ecological historian Alfred Crosby, by 1860 over ninety species of European weeds had taken root in California alone.²

In his book *Ecological Imperialism*, Crosby gives an account of the symbiotic relationship between Old World cattle and grasses that led to the near-total Europeanization of New World ecosystems. Although there exist over 10,000 different species of grass, less than forty "account for 99 percent of the sown grass pastures of the world," notes Crosby.³ Most of these grasses are native to Europe, North Africa, and the Middle East and have been used as forage for domestic herds of cattle since the first millennia of the Neolithic revolution. These grasses developed in close consort with cattle, each adapting to the other over the long period of Western history.

When European colonists transported cattle to the New World, their grasses accompanied them. These grasses proved far more resilient than native grasses, because they were more tolerant of open

sunlight, bare soil, and close cropping and were used to being trampled by cattle. Often feral cattle swept into a new ecosystem, devouring everything in their path. In the process, they inadvertently cleared the way for their Old World plant companions, which took advantage of the stripped niches by taking root in the barren ground. Crosby explains the process:

They [the plants] possessed a number of means of propagation and spread. For instance, often their seeds were equipped with hooks to catch on the hides of passing livestock or were tough enough to survive the trip through their stomachs to be deposited somewhere further down the path. When the livestock returned for a meal the next season, it was there. When the stockmen went out in search of his stock, they were there, too, and healthy.⁴

Cattle, then, played a critical role in changing the ecology of the Americas. Even before the human invasion, cattle helped seed the new lands with Old World vegetation, paving the way for the "civilization" that followed. The bovine and its plant complex were, indeed, the original pioneers, the trailblazers of the New World.

In North America, the westward push across the Appalachian Mountains into the midwest was accompanied by the steady march of white clover and bluegrass, both of European origin. When the first English colonists arrived in Kentucky, they were greeted by the sight of European grass, which had arrived years earlier, having hitched a ride on the coats of traders, horses, and mules.⁵ The settlers called the European vegetation Kentucky bluegrass.⁶ Later, the wagon trains heading west also served as vehicles for the spread of European grasses, including common hemp, corn cockle, barberry, and Saint-John's-wort.⁷ A pioneer traveling through Illinois in 1818 recalled:

Where the little caravans have encamped as they crossed the prairies, and have given their cattle hay made of these perennial grasses, there remains ever after a spot of green turf for the introduction and encouragement of future improvers.⁸

From these oases European weeds spread out across the midwest, Europeanizing much of the Mississippi region. For a time, the Old World grasses were held up at the foot of the Great Plains. Like the

cowboys and the cattle, they had to wait for the government and military to rid the plains of the buffalo and the Indian before they could make their advance. Crosby points out that the buffalo grass and grama grass that were native to the plains were more resistant to invasion, having successfully adapted to another bovine species over the millennia.⁹ The extermination of the buffalo provided the ecological vacuum for the continued westward march of European cattle and grasses.

Today, of the 500 or so most important weeds found in North America, 258 are immigrants from the Old World—177 from Europe, the rest from the Mediterranean and North Africa.¹⁰

A similar seeding took place throughout South America. European cattle spread out over the grasslands, devouring the local flora, while simultaneously depositing European seeds in their droppings. Peru was overrun by a European clover called trébol in the sixteenth century. The clover provided ideal forage but spread so quickly that the Inca Indians found themselves "in competition with trébol for crop land."¹¹

On his famous trip to South America on the *Beagle*, Darwin visited the grasslands of Argentina, where he noticed an abrupt change from "coarse herbage" to "a carpet of fine green verdure." Darwin wrote: "The inhabitants assured me that . . . the whole was to be attributed to the manuring and grazing of the cattle."¹²

In 1877, Carlos Berg reported some 153 European plants flourishing in Patagonia. The wild artichoke became so ubiquitous and dense in Argentina, Uruguay, and Chile that it often made hundreds of square miles impenetrable by horse or foot. Darwin wrote, "I doubt whether any case is on record of invasion on so grand a scale of one plant over the Aborigines."¹³ The giant thistle, a Mediterranean biennial, grew up to seven feet tall and flourished everywhere, eliminating much of the natural flora. When it dried, it was often prone to fire. W. H. Hudson, a British naturalist, remembers massive fires raging out of control when he was a young child living in Argentina. By 1920, less than one-quarter of the wild plants growing on the Argentine pampas were native.¹⁴

Old World plants accompanied the cattle complex into colonial territories around the world. The British navy set anchor in Australian waters in 1788, unloading two bulls and six cows.¹⁵ By 1830, the herds exceeded 371,000. A generation later, Australia was pop-

ulated with millions of cattle, many of them feral, running wild on the frontier.¹⁶ In 1836, the explorer Thomas T. Mitchell was surprised to see cattle trails so wide and hard-packed around frontier water holes that they "resembled roads." The feral cattle were as surprised to see people. Mitchell recalls their first encounter: "We were soon surrounded by a staring herd of at least 800 head of wild animals." Meeting up with the descendants of their own European herds out on the frontier was a quite unexpected yet comforting experience. Mitchell recalls that "the welcome sight of the cattle themselves delighted our longing eyes, not to mention our stomachs."¹⁷

The British brought hundreds of Old World plants with them, seeding every available ecological niche. White clover flourished in the moist climate of Melbourne, "often destroying other vegetation." Other grasses, including knotgrass and red sorrel, were such aggressive colonizers that they pushed native flora out of many pastures. Wild oats, a common weed in Europe, took up residence along the Australian Alps. In Tasmania, European snakeweed accompanied the colonists and their cattle.¹⁸ In New Zealand, Old World weeds leaped ahead of the colonists, preparing the settlers with a ready-made European landscape. William Colonso, a naturalist, recalled his shock at stumbling across a specimen of burdock in a remote region of the island. He "gazed on it with astonishment, much like Robinson Crusoe on seeing the print of a European foot in the sand."¹⁹

By the middle of the nineteenth century, 139 plants of Old World origin were growing wild in Australia. One hundred years later, Australia was populated by 381 immigrant plants. As in the Americas, many native grasses were unable to survive the heavy grazing and trampling of the European bovine. The Australian kangaroo grass, which once grew so tall that it reached to the "very flaps of the saddle," was virtually wiped out by the plant invaders of Europe, and now survives only in small clumps around railroad embankments, cemeteries, and other man-made refuges.²⁰ By the 1930s, according to the botanist A. J. Ervart, European plant species were establishing themselves in Victoria "at the rate of two per month." Today, according to Crosby, "most of the weeds of the southern third of Australia, where most of the continent's population lives, are of European origin."²¹

The European cattle complex has transformed much of the ecol-

ogy of the planet. The steady westward march, which began thousands of years ago on the Eurasian steppes, has changed forever the natural evolutionary history of whole continents. Mounted horsemen, cattle, and Old World plants have invaded the great landmasses of the Western world, colonizing native people, subduing and exterminating native flora and fauna, and seriously undermining the genetic diversity on several continents. The invaders have Europeanized whole ecosystems and enclosed vast areas of the global commons in pursuit of commercial gain.

Now the pressure of increased cattle against both natural and artificially imposed ecosystems, as well as the growing reliance on feed grains to support a burgeoning livestock population, is spawning still another environmental change, this time on an even grander scale. Whereas earlier invasions devastated native plants and animals and introduced nonnative species into New World habitats, today's assaults are destroying the very biosphere itself, threatening the future stability and viability of entire bioregions of the world. Cattle are among the major environmental threats facing the planet today. Their role in undermining the earth's biosphere needs to be examined and assessed if humanity is to have any hope of restoring the health and well-being of the planet's ecosystems in the twenty-first century.