

Preface

According to the U.S. Census Bureau, about 40 million people—or about 14 % of the U.S. population—relocate from one place to another in the course of a year. Of this number, 7.6 million move to a different state. The reasons for moving are many and varied, but often include seeking a better job, to be nearer their work or further from the city where it may be located, to be nearer to family, or to enjoy recreational amenities or a better climate. Increasingly articles have been written suggesting where people might go. For example, *America's Most Livable Cities* ranks such characteristics as unemployment, crime, income growth, cost of living, and arts & leisure. The magazine of the American Association of Retired People (AARP) recently published a review of “The best cities for people over 50” using similar criteria, but even a few related to sustainability or, more precisely, “greenness.”

But except for recent media coverage of the long-term potential for drought conditions in California, most people planning to move have no clue about how sustainable different cities or regions will be for themselves or their children in the coming decades, or even what sustainable means. This is a book written by people who have spent their lives examining large forces, or megatrends, at work, which we now apply to the understanding of American regionalism. Whether you want to know how your city or region will fare as these megatrends play out in this century, or gain greater insight into the consequences of moving to a location in the lower 48, this book will empower you with a whole new view of the forces that shaped our development and the American Dream, and will continue to drive our future prospects. The book focuses on the US, but the principles apply globally.

America is a big place stretching nearly 3500 miles from coast to coast. Its landscape is highly varied, with high mountains, broad prairies and forests, enormous deserts, a long and highly variable coastline, and the Mississippi—one of the largest river basins in the world. Superimposed on this natural diversity are a myriad of human systems. Sprawling cities and suburbs extend from coast to coast, and nearly a billion acres of farmland blanket the country. The cities are intimately connected to the natural systems through pathways that are mostly invisible and barely guessed at by those who live in cities.

Enormous changes have taken place in both human and natural systems in America since the arrival of European colonists, invaders some would call them, in the sixteenth century, and the founding of our republic in the late eighteenth century. The impact of Native Americans on the landscape was modest in pre-colonial America. But now, the human imprint is ubiquitous. Photos from space reveal pervasive nighttime light, which visually represent areas of high energy use. Although concentrated in large urban areas, some points of light can be seen almost everywhere.

In 1790, all ten of the largest cities in the new nation were on the east coast. No city had more than 60,000 people. The population of the nation was a scant four million. It has since increased almost 100-fold to nearly 320 million and is projected to be nearly 350 million by mid century. By 2010, almost 50 cities in the U.S. had over a million people. The population has shifted so that seven of the ten most populous cities are now west of the Mississippi. Roads cover the landscape, dams and their reservoirs proliferate everywhere but especially in the west, and most agriculture also takes place west of the Mississippi. Some of the most important farming areas of the country today did not exist, and could not have existed, in 1800, without the monumental re-plumbing of the rivers and draining of aquifers of the west.

What impelled these great changes? Many would argue that it was a vast continent rich in natural resources, a blank canvas, so to speak, and a young nation, newly independent, imbued with a sense of Manifest Destiny. Democratic ideals, hard work, and American ingenuity also comprised central roles in the national ethic. As an aside to this book, the canvas wasn't blank. There were people whose ancestors had lived on this land for more than ten millennia. But this hardly slowed the westward movement.

The word "resources" itself implies that humans know how to make productive use of such materials, and most histories focus on this aspect of human behavior, but societal patterns, changes, and survival are also shaped and determined by the available natural resources themselves and the immutable laws of nature. For example, the rich natural environment played

a central role in the populating of the continent in the first part of the nineteenth century. Fertile soils provided bountiful agriculture. Vast old growth forests yielded wood for fuel and building materials and, once cut, additional fertile soils. Waterways supported rich fisheries, energy from hydro-power when dammed, and pathways for commerce. Beginning in the second half of the nineteenth century, great stores of fossil fuels, first coal, then oil and natural gas, powered the industrial revolution in America. These fuels underwrote massive water projects in the west that allowed people to prosper in formally inhospitable environments. America took off, along with much of the rest of the world, in an orgy of growth and prosperity.

But the problems associated with all that growth and prosperity are starting to come home to roost, including global scale changes that are impacting society and natural systems alike. Stories fill today's news about climate change, the high cost of energy and impending shortages, degraded natural ecosystems, over-population, and associated problems. Are the fruits of a century of unbridled growth turning sour? We call these problems the megatrends of the twenty-first century. In this book we discuss how these trends will affect cities and regions in different parts of the country. Will some areas be better off than others? How can people in different regions adjust to these problems? Most people are familiar with the drought and fires in California, but the major media have shown you only the tip of the iceberg (to mix our metaphors!).

We take a journey, an odyssey of sorts, across the American landscape to consider the forces that shaped the development of different cities and regions from colonial times to the early twenty-first century, and discuss in detail how the great megatrends will affect the country. Finally, we look at how different cities and regions will fare in dealing with the megatrends. In doing so, we cover topics such as sustainability, the meaning of "green," the value of natural ecosystems, renewable energy sources, the role of technology, and the central role of energy in shaping our society. We show that the laws of nature shape and constrain both humans and nature. In doing so, we use an approach that has been called unified sensibility. This is a holistic perspective that, in the words of Professor Paul Strohm of Columbia University, is a refusal to accept conventional or arbitrary distinctions between different categories of knowledge, be they literary, philosophical, or scientific. Thus, economics is not independent of the natural world and the laws of nature. The result is an alternative history of the United States in terms of physical as well as social forces, and we think the story is all the more exciting and illuminating for it.

Baton Rouge, LA, USA
Polson, MT, USA

John W. Day
Charles Hall

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Day, J.W.; Hall, C.A.S.

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