CHAPTER 1

Robinson Crusoe, Anthropology, and the Horizon of Technology

Thence emerged the story of Robinson, in the way a dream might occur. When this dream was published, however, all Europe realized that it had been dreaming it.

Octave Mannoni, Prospero and Caliban, *1950*

They would make their islands in their own image.

Greg Dening, Islands and Beaches, *1980*

ROBINSON CRUSOE AND THE IMPROVEMENT OF ISLANDS

Since its introduction to the reading public in 1719, Daniel Defoe's *The Life and Strange Surprizing Adventures of Robinson Crusoe, of York, Mariner* has worked its way through numerous additions, translations, and recastings, inspiring not only architects of grand theory but also small children, especially boys. From early best-seller and example of the English novel, it has become a cultural referent and childhood classic. Indeed, it is as deserving as any work of the label "modern myth," a fact pointed out by a number of the book's readers, including Virginia Woolf. And what readers it has had! This is, after all, the only volume Rousseau would give his ideal pupil, Emile, and the work that Marx invokes in crucial and biting fashion at the beginning of *Capital.* While few now know that the book had sequels (let alone read them), and not many recall much about its narrative beyond the protagonist's marooning on an island, that central image has reverberated far and wide: Crusoe, washed up on an unfamiliar shore, facing the world alone.[1]

Several facts are worth underlining before turning to the work itself. First, while *Robinson Crusoe* can be called fiction, it was written at a moment of transition in genre and presents itself as an authentic story, striving to evoke the believable over the fantastic. A number of historical accounts of marooned sailors surround Defoe's text (the most famous being that of Alexander Selkirk); the narration is focused on

Figure 2. Frontispiece to French *Robinson Crusoe,* 1720

everyday problems of Crusoe's condition, convincing in outline, if not in every detail; and the preface proclaims it a "just History of Fact" without "any Appearance of Fiction." Second, Crusoe has numerous adventures before arriving on the island, and has more after leaving; he is taken slave before he takes his own, and founds a plantation in Brazil before his fateful voyage. As a general portrait of an era his fictional biography represents something beyond the idiosyncratic; this is the morning of the great age of sugar production, of the painful triangle between Europe, Africa, and the Americas, and Defoe himself was quite interested in the colonialism of his day. Third, the work was immensely popular at the time of its appearance and was quickly translated into other languages (the first French edition appeared in 1720), even as its themes would be reworked and rewritten across the ensuing centuries.[2] Thus while *Robinson Crusoe* may be an English novel, one influential in reflecting and defining national character as well as the novel form, it also echoed throughout Europe. Eventually, in a twist particularly germane to this story, it inspired Jules Verne, the French father of science fiction, who in turn served as a hero to rocketeers.[3]

Taken as a literary work, *Robinson Crusoe* has been read in a number of ways. Two of the most influential traditions are those that treat his exile on the island as a spiritual or psychological trial and those that focus on his behavior as economic man, the classic bourgeois stripped of society.[4] Here I will move between these traditions to concentrate on an essential condition of the character salient to this study: Robinson Crusoe, at the center of his story, is a man out of place, learning to improvise. Marooned on a small tropical island, his horizons limited and surrounded by exotic flora and fauna, this nontechnical man (he has always traveled as a merchant) must rebuild his life. Alone for most of his years of exile, he lives with constant thoughts of elsewhere, repenting his past, dreaming of liberation, and dreading cannibals. And yet by the time he acquires his man Friday (not to mention his later retinue of Spanish and English sailors) he has become sovereign and—in an odd way—native, dictating not only the political terms of the island's administration but also the technical terms of its settlement. He builds himself a world, one between England and the tropics, one that bears the mark of his hand.

Here then is our key figure. To allow him something of the fullness of history I will continue reading the fiction where he found form, noting elements that bear on our theme. Crusoe marooned is a man painfully displaced. Yet he has, in some senses, always been so, a point

worth underscoring. As he tells us on the opening page of his tale his father was a "Foreigner of Bremen," and the very name "Crusoe" is a corruption of "Kreutznaer." Throughout his life he craves adventure, physical as well as economic. Robinson goes against his father's designs to place him in the "upper Station of *Low Life,*" that condition between labor and luxury "most suited to human Happiness."[5] Time and time again, when settled in one locale or another, he uproots himself and sails off. Yet his sojourn on the uncharted isle, his furthest displacement beyond the bounds of society, in the end brings him closest to home. Once wedded to his island, he can never leave it, returning at the end of the book to inspect it again and bearing everywhere its mark on him. For, when all is said and done, it is the central experience of his life, the one that defines him as a character.

Crusoe, despite his taste for adventure, does not remain an explorer; he becomes, however unwillingly, a colonist. This condition separates his account from many earlier travel tales of adventurers and merchants, Odysseus to Sinbad.[6] Our Englishman not only encounters the exotic but must learn to live with it on a daily basis, in a state of uneasy mastery. The explorer has come to rest, and in proving himself cosmopolitan, he reworks his body and soul: the island inspires Crusoe to his closest encounter with both spiritual anguish and the material conditions of life. It is here that he (who has never been a religious paragon) begins again to pray, here that he (who has never been a skilled worker) learns, slowly and awkwardly, to husband the land and to make all he needs. Following his shipwreck he is initially beset with the terror of his predicament, and his condition of isolation leads him to refer to his setting as the "Island of Despair."[7] Sick, he loses track of time, even as he relentlessly calculates it, and his attempt to flee the place only leads him to embrace it more fully. Yet he takes heart in his work, in his improvements. Defoe devotes pages to consider (if occasionally in haste) the technical aspects of Crusoe's struggle to reconstitute a familiar life. When the fatal footprint shatters Crusoe's sense of solitude, he finds new fears in the shape of cannibals and eventually gains a servant companion, rescued from their midst. Throughout he oscillates between faith and doubt, fear and hope, salvation and doom. His island is both kingdom and prison, and his presence on it reign or captivity, depending on his mood.[8]

Yet, for all that his shipwreck strands him in unfamiliar surroundings, bereft of human company, it simultaneously provides him with initial provisions and the means to reestablish technical mastery, in-

cluding seeds as well as the essential Carpenter's Chest and Ammunition and Arms. Crusoe lands with a chest of tools as well as a rudimentary knowledge of their use. And for all that the island is exotic, an initially mysterious and threatening environment, it provides him with empty ground to claim for his own; its tropical climate supports game animals and allows the practice of agriculture.[9] Thus his efforts to civilize the island rest on imported elements both technical and natural. These are things he recognizes and holds onto, tools and ways of being that he will pass on to others, first his servant Friday and then the Spaniards and English mutineers who take his place. To live on his island is to live *as* Crusoe, to adopt his ways and habits, as well as to walk the same ground. However relentlessly focused on individuality, *Robinson Crusoe* revolves around a discovery of social order through its lack and the necessary conditions of its reimposition.

And what is this social order? Before us we have a single male, a European traveler aware of his national origin, language, and religion, categorizing others and himself, alternately certain and uncertain where sovereignty lies. He judges; he defers judgment; he calculates; he weeps. Born between high and low, he is placed by fate where he can act as both lord and bondsman. Separated from England, detached from his plantation in Brazil, he can imagine and experience himself beyond the edge of one identity or at the center of a new one. He learns to work, even while he learns to rule. He learns old techniques, even while he confronts a new and wild land. When he does acquire a servant he names him, while renaming himself as master. Social mobility and hierarchy emerge in tandem: one commoner becomes king, and another acquires the debt of life that will make him a slave. Furthermore, Crusoe is a man in a world of men; women hover only at the edges of his story.[10] His tools do not depend on women, and he has moved beyond them to construct his kingdom. The island creates a gender of absence; the terrifying prospect of his independence obscures sex and sensuality, and no other flesh impedes his path to God. For all his fear and doubt, Robinson is an eminently rational man. Thus when he returns to visit his island and his successors, he not only brings them additional tools, but, noting the "Improvement" they have made on the island and new children born of women captured from the mainland, apportions parts of the island to them. After binding others to his realm, Crusoe sails away again. The order he reasserts is that of the local sovereign, redistributing property and encouraging its material enlargement, preaching self-reliance, while dividing his subjects by rank and religion.[11]

Defoe's memoir for a marooned adventurer overflows with irrepressible and singular detail. Yet it also provides us with key elements of the settler myth:

- The land is empty and waiting.
- Wilderness must be tamed into familiarity.
- Individuals are isolated and self-sufficient.
- Industry displays morality.
- Servants arrive afterward and are secondary.
- Attachment to homeland becomes defined through distance.
- Frontier masculinity is expressed in separation.
- Technical solutions conquer natural problems.
- Engagement with everyday problems underwrites independence.
- The goal of settlement is improvement, leaving more of value than one finds.

Amid these overlapping, interrelated points we find an emerging figure for modernization: the mobile man, a displaced agent carrying technical knowledge to transform his surroundings. The most significant actions of this agent occur in imagined isolation; they represent confrontations between technology and nature *before* any confrontations between people. The existence of others obscured by a storm and an empty horizon, Crusoe's first fears are of "ravenous Beasts," not cannibals, and before he has a servant he labors for himself.[12] Defoe's figure is a fiction, but an important one when considering castaways, colonists, and the worlds and histories they have made. Robinson Crusoe, richly, imperfectly—mythically—is a "relentlessly 'modern' man."[13] And descendants of this "modern man," together with the universal space generated in his name, occupy many islands across the globe.

A RETURN TO OUR TOPIC

Before us now we have hints of the central themes of this work: technology, nature, and development, amid the human experience of space and place. Defoe's Crusoe, attempting to reestablish order in alien surroundings and caught between spiritual anguish and material desire, finds himself through adventure, experiencing the fortunes of misfortune and rewriting mistakes. He does this apart from others, at a dis-

tance from the center of the place he sees as his origin, against the wilderness, and with the help of imported tools and improvised techniques. Refashioning his island, he builds a home and finds himself by tracing the margins of his world and becoming stranded at its very edge. It is there that he finds value in his life, even as he has acquired capital far from his birthplace, and it is there that he locates the site of his reconstruction. A northern man in the tropics, he lands in an exotic zone of possibility, a geographic space that strips away his everyday norms, exposing them through their absence. The island, then, is the land of displacement, its development the assertion of mobile cultural space over fixed location.

As the image of Crusoe on his lonely island suggests, nature and culture meet at their poles. Against unfamiliar wilderness the normal requires active definition; poised on the edge of the abyss, the castaway takes form by means of practical universality and a story of transcendence. From his experience we can distill twin languages of modernity, one economic and one moral. The first is more familiar under names such as *industry,* the second as *civilization.* In the late twentieth century these languages overlap and blur in the key term *development,* as well as twist into a variety of discourses surrounding it and opposing it.

Nevertheless, it would be a mistake to forget that within this general, floating, symbolic geography, Crusoe's shipwreck occurs at a most precise, earthly point. As Peter Hulme reminds us, *Robinson Crusoe* not only narrates colonial encounters, it does so within the context of the Caribbean, the raw entryway of the New World.[14] In Defoe's telling, Crusoe's island lies off the northeast coast of South America, just beyond the mouth of the Orinoco River, near Trinidad. Stretching to the south and east we find the long, flat expanse of the Guianas, the land passed by Crusoe on his voyage to shipwreck, the land to which we will shortly turn.

First, however, I will mimic our marooned protagonist and survey the pieces of the ship that brought me here. A chest of tools, definitions, and traditions will prove indispensable on our own analytic island. At any point language may falter, collapsing beneath the weight of other expectations. If we look closely we may also find footprints on our pristine beach and take fear and comfort, wondering who else may walk this shore. Before moving from the myth and theory of Crusoe to more historic Robinsons, let us sketch a chart before us on the sand, remembering other voyages and taking stock of received possessions.

OF METHODS AND DISCIPLINES

A particular problem arises when, instead of being a discourse on other discourses, as is usually the case, theory has to advance over an area where there are no longer any discourses. There is a sudden unevenness of the terrain: the ground on which the verbal language rests begins to fail. The theorizing operation finds itself at the limits of the terrain where it normally functions, like an automobile at the edge of a cliff. Beyond and below lies the ocean.

Michel de Certeau,
The Practice of Everyday Life, *1979*

Since this work takes shape along the rough edge of academic traditions, rather than smoothly within a single one, some genealogical orientation is in order. I am by training an anthropologist and by inclination sympathetic to neighboring domains of history, geography, and philosophy. Relations between nature and culture constitute a longstanding concern for American anthropology, and in this sense I claim ancestry within that lineage. However, the problem chosen and the approach taken vary from certain disciplinary conventions in both content and form: this is a study of displaced elements of modern life, and one that is historical as well as ethnographic. All these points merit elaboration.

ANTHROPOLOGY AND THE PROBLEM OF MODERNITY

The philosophic traveller, sailing to the ends of the earth, is in fact travelling in time; he is exploring the past; every step he makes is the passage of an age.

Joseph Marie de Gérando,
The Observation of Savage Peoples, *1800*

American anthropology has long been an undisciplined discipline, unsure of its parameters as well as its parts and careening between the sciences and humanities in pursuit of the human.[15] Indeed, in an effort to see the world whole, anthropology has done its best to sail over every possible edge in space and time, pursuing overlapping questions of

human origins, human nature, and human difference. Yet amid this pursuit of the farthest facts, certain areas of the resulting map remain sketchy at best. Despite the legacy of many of its early and prominent practitioners, until relatively recently anthropological discussions tended to avoid direct confrontations with modern life, discreetly editing its effects.[16] When they have addressed what was once called "civilization," they treated it either as a larger and newer variant on traditional patterns or as a kind of terrifying, undiagnosed cancer eating them away. The point is not new, but its implications remain cogent. Even as the era of neglecting "uncivilized" cultures has partly passed in the university amid a remarkable expansion of historical and literary canons over the last two decades, and even as categorizations of "traditional" and "modern" have been called into question, studies of modern phenomena—particularly modern material culture—have until recently focused on a generalized and highly abstract "West." By examining the boundary of this West, this study seeks to follow those within and without anthropology who have attempted to trace modern life through place and time and a world framed by legacies of empire.[17] In contrast to anthropological tradition, here the relevant intersections between nature and culture stem less from human adaptation to particular environments and more from human perception of particular environments together with active efforts to reconstruct them.

Since the adoption of Bronislaw Malinowski and Franz Boas as totemic figures, the practice of social and cultural anthropology has centered on fieldwork and the production of ethnographies—monographs written on the basis of direct experience with a particular group of people—a focus that recent debates over the status of ethnography as written genre have in many ways only served to underline.[18] Essentially, anthropology sought to solve methodological issues through sharply defined communities, by anchoring knowledge of a people in the knowledge of a place, by choosing a site and "being there." To know a community, went the logic, is to know its language and customs. In practice this principle translated into knowledge of a community in geographic terms, to locate it and map its boundaries within a larger area. Particularly with the vast expansion and increasing degree of specialization within anthropology following World War II and the rise of area studies, one was expected to master one's village and report back from it into a greater surrounding literature, becoming an Africanist, or a Latin Americanist, amid a community of scholars.

Despite historical and political questions one might well raise about the structure of such a system as a whole and about the effects of knowledge in relations of power, the move was a strong one from a technical and methodological standpoint.[19] Detail makes the everyday convincing, and localized knowledge comes from the ground. As its increasing diffusion into other domains suggests, the practice of ethnography retains a vital allure, the promise that if well done, it will offer rich rewards: moments of experience, an echo of different voices, and the crucial reminder that things could be otherwise.

Thus for the anthropological tradition, exotic islands (literal or otherwise) represent a natural habitat. In the metaphor of Defoe's adventurer, ethnographers sought an audience with Friday, pursuing his earlier "cannibal" experience. Their labor was the opposite of Crusoe's, concentrated on comprehension rather than conversion, on abandoning home rather than rebuilding it, and on learning language rather than teaching it. If they became governors, it was of textual atolls, their pages cleared of irregularities and defended by theoretical fortifications.

And yet a hallmark of modern experience is that it appears in mobile, shifting form, difficult to pin down.[20] The speed of migrations and the exactness of their recording limit the process of historical amnesia upon which "timeless" cultures are built, while the centrality of machines and standardization shifts focus away from human groups and their particular horizons. Documentation disenchants traditions, even as it registers individuals. Cities and suburbs have a different topography than villages or islands, and they group together disparate humans and tangle the webs of their relations. "Community" becomes a slippery object, sometimes a neighborhood, or a region, or an ethnic group. Even worse (from the perspective of a categorical purist), boundaries grow even more permeable as the number of people living between stable entities increases. To know a modern individual in any sort of convincing social detail, one must consider that person's position relative to a wide range of categories (race, ethnic affiliation, class, profession, education, gender, sexuality, and citizenship, to name a few) and an individual biography that may cross several divides. Furthermore, many of these categories are consciously invoked in everyday language by the actors themselves and are well documented, through writing, photography, and ever increasingly efficient technologies of preservation. The problem for anthropology at the end of the twentieth century is less frequently a lack of information than a determination of what informa-

tion within an overwhelming deluge might be significant relative to the questions at hand.

Not a few attempts have been made to bring ethnographic methods to bear on modern experience, both within and outside the boundaries of academic anthropology. Yet even explicitly urban studies frequently work most successfully around metaphors of the village, rarely transcending them; after all, participant observation requires direct encounters and limited numbers. Having no direct recourse to the exotic, studies in urban settings labor under the double burden of having to represent both a personal transformative experience and an identifiable, locatable group in an "ordinary" setting, without an obvious literal or symbolic journey. In order to lay full claim on the Anglo-American ethnographic legacy, one must displace oneself, personally and culturally.[21] Thus direct attempts to find "the field" in the city often appear secondary activities, and both prestige and insight in ethnography tend to lie away from the center. Exceptions to this generalization certainly exist, but often in the form of works focused on internal margins, studies of the poor, of minority populations, of tightly woven neighborhoods, or of rural communities in industrial societies. Without the challenge posed by bridging physical and conceptual distance, the intellectual significance of the ethnographic act per se wears thin. To suggest at the beginning of the twentieth century that distant savages are as fundamentally human as the denizens of a London drawing room was a startling act. To remind someone at the end of the century that people in a New York subway or Paris metro have something in common with savages is much less surprising or, in itself, compelling. Life outside the academy has only become a more open tangle of partly crossed cultures since the critical months Malinowski spent stranded on the Trobriands. Bringing anthropology to bear on the West, like studying "up" the scale of social influence, involves more than merely reversing the direction of inquiry; it requires a more conscious selection of site and subject matter, questions and methods. For "ethnography," like "archaeology," properly names an approach to understanding, an activity, what practitioners do.[22] While the intellectual effort involved may not be simply reducible to technique, it depends on a significant set of techniques, and by very definition takes place on the ground and not in a vacuum. One crucial aspect of any empirical technique is finding a significant where and when in which to apply it.

COLONIAL HISTORY, GLOBALIZATION, AND SCIENCE STUDIES

Three current trends in anthropology have engaged modernity in distinct but significant ways, together framing this study. The first, which I will describe with the term *colonial history,* stems from the latest rapprochement between anthropology and history. Here the ethnographic project is reframed in the past, concentrating on colonial interactions in nineteenth-century European empires. Documents take precedence over oral testimony, but the analysis remains consciously cultural, and the scope both locally framed and implicitly comparative. Such an approach reveals the "modern" world as the product of overlapping imperial systems, with a vocabulary of concepts and practices emerging between metropoles and colonies. History no longer flows in one direction, because key categories of contemporary life—from nationalism to urban planning—evolve as much "overseas" as in Europe.[23]

The second trend recognizes the interconnectedness of human affairs captured in the term *globalization.* Growing out of earlier studies of world systems, this work adds a focus on electronic media, concentrating on cultural dimensions of international networks. Placing connections in the foreground weakens the force of immobile cultural geographies, allowing into view entities between nation-states: borders, migrants, and hybrid experience. Acknowledging the speed and range of cultural influences allows even remote areas an active present. In a new world order that prefers voyages to islands, and video to maps, ethnographies can witness the plurality of present. Far from representing a uniform norm, "modern" life incorporates ceaseless variation. Indeed, for all that shared systems of exchange may exist, one might better conceive of multiple modernities, intertwining paths rather than a smooth highway to the future.[24]

The third trend involves a direct engagement with the heart of modern practice: science and technology. Focused studies on laboratory life have located highly charged sites within much vaster networks of knowledge. Within the walls of the Salk Institute or the Stanford Linear Accelerator walk identifiable, frail humans. The very power of such inquiries reveals a critical point: they succeed by grounding the abstractions of science in localized action, reversing assumptions about the transcendent qualities of the white coat. By transforming the laboratory into a community subject to ethnographic study, they reveal a space that can only be understood with reference to other spaces, a local node along a global network. Such a space does not merely de-

mand context; it is, in a sense, made up of context, of mixtures and hybrids, people, machines, texts, and places, blends of technology and humanity. Thus a concentration on elements of science, technology, and medicine quickly leads beyond laboratory walls.[25]

Collectively, these three strands of influence—colonial history, globalization, and science studies—carry one common message for anthropology: links have become unavoidable. The turmoil of the last few decades over ethnography and the boundaries of anthropology's domain can be understood as a struggle over which links will be permitted, and which denied, as well as the means through which an object of study should be delimited. Disciplinary tension emerges between rival impulses to maintain competing analytic traditions (and their accompanying bodies of literature) and to account for the observable features of contemporary reality.

COMPARISONS AND SHADOW HISTORIES

Debates over the direction of anthropology circle issues of comparison. At stake is the degree to which the diversity of human experience can be resolved into overarching principles. Simplified characterizations usually identify two camps: on one side stand proponents of greater universalism, often championing the extension of biological understanding, and on the other stand proponents of greater particularism, often championing the demonstrable variation of cultural forms. While the sympathies of this work lie more on the side of diversity than principles, it acknowledges the importance of comparison to any effort to situate present experience. The real promise of work involving colonial history and global forms is that its scope becomes more than particular but less than universal in scale, allowing for partial and shifting comparisons. The additional promise of interpretive studies involving science and technology is that human bodies and tools no longer become visible only in general laws; interpretation can confront the physicality of life in all its concrete, disruptive plurality, recognizing the active landscape that surrounds speaking subjects and the shifting winds of discourse.

Such a perspective recalls anthropology's variegated heritage even while confronting the disorientation of the present. Anthropology flows not through clean laboratories but through unkempt fields, following no certain texts or archives, only bits and pieces left by others and a faint, vast shadow of humanism. It is, in essence, a tropical discipline, ever

disrupted by local conditions and threatened with unexpected breakdowns. It constitutes the only corner of the academic court where personal experience has long been admissible as evidence and where the contingency of life is partially incorporated in the formulation of knowledge. Rather than constitute an impediment, this fluidity can itself represent a critical resource.[26]

Beyond ethnography, a key task for any anthropology concerned with modern life involves the writing of what I call "shadow histories," accounts of the very real alternatives to the primary ways things have been done or understood. A shadow is an offset imprint of varying shape and intensity. The realm of shadows contains partial differences, similarities, and overlaps, and it is in this world that we find reflections between interconnected varieties of human experience. The greatest illusion of history proper lies in the implication that past actions have singular roots or consequences, clearly visible under the proper light. The rigid architecture of defined expertise within the academic discipline of history rarely permits its practitioners to follow the edges of actions or to trace influences spanning centuries and continents, let alone to linger on insignificant islands. Anthropology's inheritance includes the freedom to define parameters of relevance, to ask impossible questions, and to provide partial answers. As well as documenting an ever-shifting geography of human activity in the present, its practitioners can confront modernity in reverse, sketching shadows of industry and reason filtering between places and times. In doing so they contribute a sense of motion to the study of humanity, destabilizing the balance of evolutionary models with disconcerting accumulations of historical fact.

THE HORIZON OF TECHNOLOGY

> A boundary is not that at which something stops but, as the Greeks recognized, the boundary is that from which something *begins its essential unfolding*. That is why the concept is that of *horismos*, that is, the horizon.
>
> *Martin Heidegger,* Basic Writings, *1954*

Yet the most telling justification for anthropological attention to comparative history is also the most nominal: disciplines are composed not only by what practitioners "do" but also by the stories they recount and those recounted around them. Generalist projects of the sort com-

mon to the postwar era may no longer dominate the academic agenda of anthropology at elite institutions, but a sense of greater human history and motion pervades statements of ultimate ends in other disciplines and outside academic walls. Professional anthropologists have no monopoly on anthropological tales. They are told all the time at the beginning and end of stories, from student essays and scholarly studies through corporate promotions and government documents, including, as we shall see, in the context of prisons and rockets.

Here technology again proves particularly significant. Naive anthropologies—general stories about a human condition—flow especially around technologies, key symbolic markers in defining modern chronology. In positioning past and present, the definition of an "Age" plays a crucial role. Prehistory marches from Stone to Bronze to Iron; the nineteenth century rides on Steam, Railroads, and Electricity; and the twentieth century accelerates through Atoms, Space, and Computers.[27] When facing such a series of Ages—whole units that exclude by virtue of their inclusivity—critics tend to focus either on flaws in their parts or on excesses in their narration. While these strategies work well within defined frameworks, they underestimate the ghostly power of whole stories and the figures that operate within them, as well as the material shadow of technical systems. The romantic holism of anthropology's legacy here comprises a critical resource, if transformed from end goal into opening strategy. Rather than ignore naive vision, one can take its questions seriously so as to transform and redirect them. A particularly naive empiricism, faithfully recording both forests and trees, can produce the analytic restlessness requisite to unsettling the certainty of the present, and with it the Age.

THE LOCATION OF THIS WORK

What follows lies somewhere between colonial history and a study of a distinctly globalizing technology, amid a shadowy field at the margins of significance. It does not seek to be an ethnography per se, in the sense of maintaining a constant anchor in a singular and present life-world of a particular bounded human community. Instead, it adopts an ethnographic sensibility, and works along a particular seam of more general histories of the present. An older order within anthropology placed its villages minutely and pedantically, considered culture in terms of custom, symbol, and artifact, and acknowledged folk categories such as "civilized" and "primitive." In recalling this tradition I do not advocate

nostalgic return to either imperial collecting or evolutionary thought. Rather, I would remember that people can be known through their things and the places they inhabit as well as through their words, and I suggest that crucial aspects of modernity involve space and tools as much as language and action.[28]

Following a particular variant of a universalizing culture through time, I seek to retain elements of the empirical force of the ethnographic tradition, while allowing for an account that addresses a wider range of mixed subjects and objects, living and dead: people, plants, machines, rain, myths, and bureaucratic files. If a problem of the modern is constantly one of framing, then a key, if sometimes forgotten, element in the narrative tradition of an older generation of ethnography—the crossed axes of history and geography against which the present moment is laid—becomes simultaneously complicated and crucial. As the local has become more obviously mobile and quickly reinvented, the limits of the community stretch around numerous sites and weave together a greater number of stories. Within a context such as contemporary French Guiana, to study even a "traditional" population in a careful way involves an expanded definition of the field, and a mobile ethnographer.[29] For this project I have chosen to concentrate on those crucial framing axes in order to both describe one frontier of the modern and explore the ramifications of modernity and its spatial technologies for the tradition of ethnography. The general strategy is a focus on a particular locale in order to describe the shifting cultural topographies of people passing through it.[30] The work thus constitutes an ethnographic prologue, extended and expanded to emphasize its significance, engaging history, ecology, and material culture. The subject of the work remains ever partly offstage, while the spotlight trains on the scenery. What most distinguishes Crusoe's heirs is not their peculiar customs but rather the mobile island they inhabit.

My methodology can be summed up by Lévi-Strauss's well-worn invocation of the humbler end of French technical expertise, the *bricoleur,* an amateur handyman found building structures from the "remains and debris of events," following problems between the joints and crevices to improvised solutions, and focusing on the available more than the appropriate.[31] I offer an account between empiricism and theory, based partly on fieldwork, partly on archival research, and partly on the work and thought of others: an assemblage constructed from notes taken on trips to French Guiana between 1990 and 1994, from notes taken in archives in both France and French Guiana, and

from research conducted in a number of public and private libraries.[32] These are all familiar academic tools; what is less conventional is the manner of their combination and application in relation to the subject matter, and the elements they patch together. The result represents a mix of planning and improvisation undertaken within the concrete and changing circumstances of my life rather than a scripted adherence to a clear and universal technical standard. In addition to suggesting that such an approach is increasingly unavoidable in the contemporary world (both despite and because of relentless pressures toward standardization and specialization), I also contend that anthropology's most hopeful legacy lies in its resistance to a singularity of method and in a continuing, questioning search through every toolbox for the bits and fragments saved because "they may always come in handy." As these pages hope to suggest, bricolage is an essential element of life in the tropics (and in all environments other than those where things are designed)—one that even engineers have to learn. Indeed, in French Guiana, where small edges of life often go awry, *bricolage* is a relatively common term in everyday speech. After all, at the end of supply networks, a *bricoleur* can repair more than a technician.

TOOLS FOR THE READER

To be sure, it would still remain to be asked if the anthropologist considers himself "engineer" or "bricoleur."

Jacques Derrida,
Of Grammatology, *1967*

To take the metaphor of the *bricoleur* seriously—and further extend that of Crusoe—I must arrange the contents of our chest before us. Beyond disciplinary heritage and methodological practice, the improvising tinker requires a bag of resources, full of odds and ends of thought. It is this motley collection, not the clear plans of an engineer, that define the particular problem. Washed up with us from the sea of history are bits of language and earlier thought. The selection is not random—any more than the contents of any worker's bag—but it derives as much from context as from principle. This fact creates a problem of coherence and tautology: the general statements involved depend on particular history and experience, but narrating that history and experience requires the use and reworking of general terms to be comprehensible. In

the face of this problem, I lay out a number of pieces and partial explanations and then draw a quick map before proceeding to describe the situation at hand. When on his island, Crusoe learned to mingle engineering and bricolage, to both plan and improvise; over the course of our narrative voyage we will do the same. Thus I offer a glossary of key concepts, adapted for a forgiving climate.

SPACE

Two senses of the term concern us: one involving the realm of rockets and satellites and the other involving the geometry of human experience. This unavoidable double meaning draws together "outer" space and the preoccupations of geographers and architects, suggesting that they may be connected. When speaking of space on the ground, I oppose it to *place,* the former suggesting neutral abstraction, and the latter localized specificity. This opposition, like others in this work, is far from stable.[33]

COLONIALISM

The sense of *colony* crucial here is that of a social extension in space, as suggested by the etymological roots of the term in settlement.[34] Most critical work on colonialism in recent decades focuses on the age of European empire in the late nineteenth and early twentieth century and on relationships of domination between colonizing and colonized populations. Following the vocabulary of biology and Crusoe, I concentrate on the ways that habitats are constructed and the work that goes into maintaining them. This shift in emphasis seeks not to erase histories of oppression but to recall two contextual facts about colonial practice: first, that colonies involve craft and nature as well as culture (that is to say, animals, plants, and machines as well as people), and second, that colonial projects, whatever their intentions, can fail.

NATURE

Nature here describes nonhuman flora and fauna, as conceived by humans. Because the setting involved is on the wild side, *civilization* constitutes an opposed term in addition to *culture* (with its ties to agricultural landscapes). Nature, like culture, is taken to be simultaneously real, historical, and interpreted. Humans are all natural, even modern

ones, but they also live within technological environments and view and interact with nature differently depending on their location. Although French Guiana contains a number of biogeographical zones, this work will frequently blur them into one: the symbolically potent "rain forest."

TROPICS

As in common speech, *the tropics* here refers generally to the middle regions of the globe, especially their humid, forested sections. On a metaphorical level this phrase partially substitutes for *the third world*—that is to say, "developing" regions, largely composed of former colonies. While not always geographically accurate (any more than the terms *the Non-West* or *the South*), it serves as a reminder that people live and machines operate in different natural and cultural environments, even as it recalls a telling complex of metaphors inherited from empire.

TECHNOLOGY

Here I maintain some distinctions between *technology* and *technique,* with the former term restricted to complex systems associated with industrial manufacture, planning, and coordinated expertise, and the latter operating more loosely to describe all instrumental intervention in the world.[35] Material tools represent only the most visible part of any technical operation, the remainder being composed of knowledge, social relations, and sensibilities. While much of modern technology is increasingly aligned with various fields of science, the focus here rests less on invention or production of knowledge than on the other end of the future—the way grand things become normal and once-extraordinary notions shrink into everyday expectations. In this context the symbolic dimensions of material action, as well as its limits, inconsistencies, and breakdowns, are of particular concern.

MODERNITY

Much of what comes under the term *modernity* might also be described by the terms *capitalism* and *the state*—market exchange, industrial production, bureaucratic regulation, secular reason, social welfare, and compound machinery. However, *modernity* has advantages in this

context, where profit is not always clear, where fields of political control overlap, and where the opposition involved is frequently as much to nature as to other forms of human organization understood as tradition. Modernity also suggests technology as the key marker of distinction and the defining agent of reality, underscoring the general artifice of neutrality. While this work compares contrasting modern systems, it also emphasizes their common characteristic of displacement.

PLACE AND PEOPLE

Most ethnographic accounts make explicit reference to a particular group of people, usually bounded by those hallmarks of culture, language and custom, or by descent. In the language of empire such groups are "native"—that is to say, composed of people in place. In French Guiana, a product of several colonial layers, the issue of who can claim such status grows complex.[36] For rhetorical ease in describing a setting that fits awkwardly into international norms, I move between the terms *French Guiana* and *Guyane* to describe the geographic region in question, and I follow local practice in using the male French adjective form *Guyanais*. The local terms *Métro* and *Créole* (without their diacritical marks) respectively name descendants of Europeans and mixed descendants of Africans, and the more scholarly terms *Maroons* and *Amerindians* respectively name the descendants of rebel slaves and the descendants of Native South Americans. *Metropolitan* designates the center of a political system, in this case usually meaning European France. Here I use the term *Guyanais* loosely, describing all those who might claim a home there, primarily Creoles, Amerindians, and Maroons.

Local vocabulary divides the "non-Guyanais" population into two general groups: people of European extraction and other immigrants (defined by their nation-state of origin, primarily Brazil, Haiti, and Suriname). This work concentrates on the former group, using the latter as a cautionary shadow against overly simple classification in a region of overlapping colonizations, displaced classes, and multiple (if unequal) Metropoles. Of interest here are people accepted as "moderns" in social interactions, and who expressly *lack* unquestioned attachment to their surroundings, living as outsiders with constant reference to elsewhere.[37] Figures cast in the role of agents of change play a particularly significant role in tracing bureaucratic and technical tendencies. While the majority of the Europeans involved are French, and

the general peculiarities of colonial heritage involved derive distinctively from that national experience, I focus part of the time on mutual Anglo-French influences and part of the time on French-Euro tensions. Just as the category "native" here remains open, so too does the category "foreign."

SURVEYING THE TERRAIN

To clarify the material contained in the following pages, I provide the reader with two final tools: a thesis and a conceptual map.

THESIS

At its core this work addresses the greater ecology of modern expertise. The thesis is that modern categories of nature and technology can only be understood in relation to each other, and, further, that neither can be adequately understood without recourse to spatial terms. By focusing on a marginal case of colonial history and tracing the operation of two grand plans within it, key elements of different historical moments of a world system (here glossed as "Empire" and "Globe") come into view. Between them we witness a practical redefinition of human limits, one that shifts symbolic understandings and experiences of the world amid continuities of historical power. The labor of colonization involves dislocation and attempts to reorder nature as bodies are repositioned and landscapes altered. In partial contrast, the work of high technology involves continued mobility, as well as a profound spatial reconfiguration around dislocated expertise and standardized material culture. Both colonization and technological systems need to be understood through metaphors of ecology and architecture as well as through metaphors of society and culture. The human subject of technology inhabits an inherently cosmopolitan and active environment, amid inherited inequities and incomplete transformations wrought by prior systems. Thus whether or not people may be "modern," certain spaces clearly are, and amid their imperfect limits and small details the historical geography of the present comes into view.

A CHART OF THE WORK

The text is divided into four parts. The first includes introduction and background material, the second offers a case study of the penal

colony, and the third presents a case study of the space center. The fourth part compares the penal colony and the space center, concentrating on intersections between nature, technology, and the work of development. Within these four sections are nine chapters, organized as follows.

Chapter 1 presents our key figure, Robinson Crusoe, and lays the terminological and disciplinary groundwork for the study.

Chapter 2 offers a historical sketch of development in French Guiana, beginning with El Dorado and continuing on through competing European settlements, early plantations, the disastrous attempt at a settler colony in 1763, deportation during the French Revolution, a return of a slave society, final emancipation, efforts to find alternate labor, the founding of the penal colony, a gold rush, two world wars, the end of transportation, the end of official colonial status, the founding of the space center, and other development projects. Around these particulars I sketch a frame within the context of the Caribbean and the New World, providing the essential setting of the case.

Chapter 3 returns to the early nineteenth century to examine the background to the founding of the penal colony in 1852, surveying prison debates, the model of Australia, the shifting background of emancipation and labor questions in French Guiana's plantation system against dilemmas of criminality in urbanizing France, and the reintroduction of deportation following the 1848 revolution. The latter part of the chapter covers the establishment of the penal colony and the techniques of its early administration, including the search for a successful site within French Guiana and the establishment of a rival institution in New Caledonia.

Chapter 4 addresses the later penal colony and issues of representation related to it, covering the Dreyfus Affair and sensational accounts of the early twentieth century, focusing on their international context. Nature here becomes destiny, and the tropics a site of degeneration rather than improvement, with the governmental norms deferred and racial, sexual, and environmental norms inverted relative to civilized Europe. The penal colony becomes a colonial site of terror, dislocated from its coordinates, even as it enters a long, uneasy equilibrium with the rest of French Guiana.

Chapter 5 shifts the focus to the establishment of the space center, covering the realization of outer space, the move from World War II to the Space Race, and France's search for a substitute launch site after the

Algerian War. Key to the story is the repositioning of the equator within a frame of reference of satellite technology. The chapter continues to sketch Kourou's first development in the 1960s and the basic structure of the contemporary space center.

Chapter 6 addresses the later space center and related issues of representation. It focuses on the successful Ariane program and the symbolism associated with rocketry and the Space Age, as well as local development and the ritual of launches. Technology here becomes destiny, and the tropics turn into a site of aesthetic pleasure. The space center, having served as a catalyst in the transformation of French Guiana, with unintended consequences, seeks to rewrite the area's past and reposition itself at various points as both a development project and an environmentally concerned agency. At the same time, it becomes a lightning rod for protest on the part of elements of the local population.

As a first step in bringing the penal colony and space center together, chapter 7 examines what "place" means in each context, tracing nineteenth-century climatic theories and obsessions with race, disease, death rates, and reproduction in the penal colony against the twentieth-century rise of ecological discourse and immigration concerns in French Guiana. It also addresses the aestheticization of nature surrounding the contemporary space center, focusing on ways of marking time in the tropics, from prison sentences to jungle tours, and comparing a search for authenticity to one for survival.

Chapter 8 moves from questions of nature back to related ones of technology and development, comparing ecologies of work in the penal colony and the space center and the place of improvisation within each design, as well as their status as separate states within states relative to the rest of French Guiana. Construction of a large dam at Petit Saut and debates over two roads in the summer of 1994 brought oppositions within Guyanais society to the surface, even while revealing the greater transformatory environment of the space enterprise. The shift from the rural settlements envisioned in the penal colony to the urban professional norms of the space center reflects wider trends of material culture and a new scale of mobility and connection affecting thought and practice.

Finally, chapter 9 returns to issues of colonial technology, the figure of Robinson Crusoe, and the importance of margins. Modernity, I suggest, is a spatial condition as well as a temporal one, its magic of speed and scale experienced from several directions. Reading Crusoe against

Hegel's master and slave, we see the significance of a working, mobile master; comparing moments of empire and global experimentation, we can identify both a proliferating impurity of categories and a continuing heritage of technological imbalance. The technical spaces and natural places at the edge of things provide testing grounds, room for mistakes, leftovers, and visions of the past and future; they thus give us reflective sites from which to glimpse the imperfect present. One such site lies at a juncture of the Caribbean and the Amazon, along a natural horizon of technology. There space and the tropics meet, between the foot of a launch tower and the ruins of a cell, alternate legacies of Crusoe's bold adventure.