Introduction

This book charts the twentieth-century history of a community of rural artisans in Jiajiang county, halfway between Chengdu and Leshan in China’s Sichuan province. At its center is the slow and painful work of men and women who transform bamboo stalks and other fibrous matter into soft, supple sheets of paper. Papermaking is highly skilled work, and the theme of skill runs through this book in two connected strands. I am interested, first of all, in production-related skills, which may be technical (how to mix pulp, how to mold a sheet of paper) or social (how to find buyers for your product, how to get along with your neighbors). Beyond that, I am interested in what could be called the skills of everyday life: the quotidian strategies that have allowed Jiajiang papermakers to survive and sometimes prosper despite war, revolution, and extraordinarily rapid social and economic change. These types of skills are linked, and a focus on the concrete details of skilled work gives us insights into the lifeworlds of rural people, whose experiences might otherwise remain concealed.*

Although I focus on the material and the everyday in one concrete place and situate the book in the rich tradition of Chinese village studies,¹ I am pursuing a larger argument. Throughout the book, I argue that the Chinese revolution—understood as a series of interconnected political, social, and technological transformations—was

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*I provisionally define skill as “practical knowledge” or “knowledgeable practice,” the kind of tacit, subjective, context-dependent knowledge that guides practitioners in their daily activities. Such skills may or may not be production-related. See Ingold, Perception of the Environment, 316, 352–54. See also Chapter 1 for a more extensive discussion of skills in the paper industry.

¹I am pursuing a larger argument. Throughout the book, I argue that the Chinese revolution—understood as a series of interconnected political, social, and technological transformations—was
as much about the redistribution of skill, knowledge, and technical
control as it was about the redistribution of land and political power,
and that struggles over skill in twentieth-century China resulted in
a massive transfer of technical control from the villages to the
cities, from primary producers to managerial elites, and from women
to men.

The largest context for this study is what is known among stu-
dents of modern China as the rural-urban divide: an institutional,
social, and economic cleavage that separates China’s rural people
(including the millions who have moved to the cities but remain
linked, through the household registration system, to their rural
homes) from China’s urbanites. This gap is as large as that dividing
Chinese urban residents from residents of urban centers in the West,
and despite recent changes in the institutions that created it, it
shows no sign of closing. My argument in this book is that this rural-
urban gap is caused in part by changes in the distribution of knowl-
edge between rural and urban China that date to the beginning of
the twentieth century and intensified after the socialist revolution
of 1949. China, most historians now agree, underwent a long process
of proto-industrial development not unlike that documented for
Western Europe and Japan. In Qing (1644–1911) and Republican
(1911–49) China, as in Tokugawa Japan and in Europe before the
nineteenth century, most manufactured goods originated in the
countryside, in the households of farmers or semi-specialized farmer-
artisans. In contrast to Western Europe and Japan, where handmade
goods had largely been replaced by factory products by the end of
the nineteenth century, Chinese craft industries survived relatively
intact into the middle of the twentieth century. Maoist rhetoric
holds that China’s traditional industries collapsed under the on-
slaught of cheap foreign goods after the Opium War, but the avail-
able evidence suggests that “in absolute terms, handicraft output as a
whole held its own or even increased” in the Republican period,
though its relative share in the economy declined as China devel-
oped a modern industrial sector. In 1933—the last “normal” year
before China was hit by depression and war—handicrafts still ac-
counted for three-fourths of industrial output. Even as late as 1952,
Introduction

when China’s modern industrial sector had begun to recover from the effects of the war and the revolution, handicraft industries accounted for 42 percent of industrial output in current prices (heavily weighted in favor of heavy industry) and for an amazing 68 percent in prewar prices.6

Despite—or perhaps because of—their economic staying power, rural industries came to be seen as deeply problematic by the Western-educated elites who dominated China after 1900. Humiliated by Japan’s 1895 defeat of China and inspired by the example of the West and Japan, Chinese elites began to think of “the economy”—which in these years emerged as a distinct category separate from the social, cultural, and moral—as a staging ground for competition between nations.7 Looking toward Europe and Japan, they came to view national economies as composed of sharply delineated yet complementary sectors. Industry was the leading sector, since it alone propelled nations toward a better future; it was typically urban, at home not in peasant households but in large, mechanized factories. The countryside, by contrast, was the realm of farmers who produced food for the nation but could not or should not produce industrial goods to any significant degree.8 This view of an economy with distinct rural and urban sectors was inaccurate as a description of Chinese realities, but it was a powerful prescription for change. It is perhaps best seen, following James Scott, as a “state simplification”: modernizing states, Scott argues, tend to translate complex social facts into simplified representations—maps, statistics, population registers—that make society “legible” and thus easy to control. To some extent, such simplifications are necessary, but problems arise when the state confuses its abstractions with the facts on the ground, or even sees them as some higher form of order to which observed realities must conform.9 In China, this led to a prolonged process of sector-making, in which China’s villages and cities were made to conform ever more closely to imagined ideal types. The process began in the Nanjing decade (1927–37), under a Nationalist government that fervently believed in the necessity of a planned transformation of the Chinese economy.10 It reached its apogee in the 1960s and 1970s, when city and countryside had
evolved into administratively separate realms, governed by different sets of regulations; all rural people, regardless of occupation, were classified as peasants; and almost all remaining social and economic links between the spheres were severed. Two anecdotal observations from Sichuan illustrate the depth of the gap that emerged in these years: in the late 1980s, rural men at age 18 were on average eight cm shorter than their urban counterparts, due to poorer nutrition—a fact that marked them as people of a different type, immediately recognizable on the rare occasions they came to the cities.\textsuperscript{11} And in the 1990s, rural people in Jiajiang burned imitation urban household registration cards as offerings to their deceased relatives in the hope that this would save them from being reborn as peasants.

A quarter-century of market reforms has eroded some of the barriers that separate rural and urban worlds but left others in place. Rural-to-urban migration on a truly massive scale (estimated at 140 million in 2003, or 10 percent of China's population) coexists with the systematic exclusion of migrants from citizenship in the places where they live. The household registration (\textit{hukou}) system, originally conceived to prevent migration, now serves to keep migrants permanently uprooted in their new place of residence, denying them access to healthcare, education, and other services funded by their work.\textsuperscript{12} Since the mid-1990s, the central government has repeatedly announced its intention to abolish the \textit{hukou} system, but most municipalities have already issued their own blatantly discriminatory regulations in anticipation of the reform. As late as 2008, experts concluded that the "invisible walls" that divide rural and urban China are still in place.\textsuperscript{13} Moreover, the rural-urban separation no longer rests primarily on administrative rules but on the rhetorical construction of rural people as quasi-ethnic aliens, who must be tolerated in the cities for economic reasons but cannot be absorbed into the urban population. Central to this view is the discourse on \textit{suzhi}, or "quality"—defined, in a circular fashion, as the positive personal qualities that China's rural masses lack. The people who help build and sustain China's cities and whose labor underpins the lifestyles of the urban middle classes are thus permanently fixed at the bottom of the hierarchy of value.\textsuperscript{14}
The Skillful Peasant

The rural-urban gap is produced and sustained by a model of rural people as frog-in-the-well peasants who live essentially local lives, whose main bonds are with a territorially defined community and with the land they work, who do not participate in regional or national exchange networks, and who are therefore unqualified to participate in public life. This model can be traced to the antitradi-
tional and antipopulist iconoclasts of the May Fourth generation, for whom China’s rural population was “a culturally distinct and alien ‘other,’ passive, helpless, unenlightened, in the grip of ugly and funda-
mentally useless customs, desperately in need of education and cultural reform.” For the May Fourth reformers and their intellectual heirs, peasant lives were essentially reactive, adaptations to varying (but in-
variably harsh) local conditions. Commerce itself was a hostile force, alien to the mindset of self-sufficient peasants who were fearful and ignorant of the outside world and lost out in every encounter with wily urban merchants. Although never accurate as a description of rural reality, and totally inaccurate in post-reform China, when mil-
lions of rural people participate in the industrial and post-industrial economy of China, the model of the earthbound, rooted peasant per-
sists to the present day. Consider the following statement in a popular ethnography, published in 2004, of an unnamed village:

Peasants feel a strong attachment to the soil; the soil is their home; they themselves are like rice plants and the soil is the ground out of which they grow and the home to which they return. Old peasants find it difficult to get used to life in urban apartment blocks. The reason is curious: “We’re not used to living on the upper floors; we can’t soak up the qi [smell or life force] of the soil there”—in other words, they cannot live day after day di-
rectly on the soil and therefore want to leave. . . . In fact, peasants are plants; they are soil; they are a cyclical return outside time and history.

In calling peasants plants, the author does not mean to disparage them; quite to the contrary, he sees their “rootedness” as proof that they live more natural lives. In ways that echo nineteenth-century European depictions of the Occident, peasants are here used to represent a way of life less alienated but also more fixed and static
than that of city dwellers—a realm of necessity, contrasted with the urban realm of awkward freedom and problematic choice. This contrast, I insist, is an illusion. The link between a farmer and the land is no more direct and “organic” than that between any other skilled producer and the materials with which he or she works. It is necessarily mediated by skill and knowledge, which are essentially human, social categories. Land in itself has value only insofar as it can be made to yield products, a process that requires skill; these products in turn have value only insofar as they can be turned into consumable or marketable goods, and this, too, requires skill. Social life in the countryside (as anywhere else), I argue, is centrally concerned with the production and reproduction of economically useful skill, because economic activity—regardless of its location and resource base—is impossible without skill.

Social Organization and Skill-Producing Groups

François Sigaut, a French anthropologist of technology, argues forcefully that all social organization is at least partially about the production of skill:

From a technological point of view, the skill-producing group is a basic social unit present in all societies because a society without techniques is inconceivable. This unit can take a wide variety of forms and enter into extremely diverse combinations with other units such as the family, the residence group, the age-group, etc. All this is a function of such factors as the kinds of skills concerned, the social values placed on them, indigenous ideas on learning, the distribution of activities by rank and gender, and so on. Ideally, the morphology of all societies ought to be reconstructed from scratch, taking into account this necessary but, until now, unnoticed unit. We are obviously far off the mark.

Seeing skill reproduction as a central function of social groups can indeed alter our understanding of social organization. Take kinship, for example: Chinese kinship is often viewed as centrally concerned with the organization of agnates for ritual and political action and with the accumulation of corporate resources, typically land. A moment’s reflection will show that the protection of local bodies of knowledge, the transmission of such knowledge to younger generations, and the allocation of tasks by gender and generation are
among the more important activities of many Chinese kinship groups. As I show in Chapter 3, most Jiajiang papermakers live in communities composed of agnatically related men and their families. Kinship and technical competence overlap so much that people typically defined the skill-bearing community in kinship terms: “People of our family have been making paper for generations” (women jiazu zuzu beibei caoguo zhi). Yet the kinship that one encounters in the paper workshops differs markedly from Chinese kinship as described in the literature. Unconcerned with claims to land and status, practical kinship among papermakers centers on the establishment of work relations and the management of information flows within and among workshops. Rather than stressing vertical descent along patrilines, papermakers emphasize horizontal bonds between men of the same generation and mutual obligations between men of junior and senior generations. Inclusive kinship practices not only result in an easy flow of know-how among agnates but also reinforce boundaries between kin and non-kin, and thus keep knowledge in the hands of the kinship group.

Although the practices I observed in Jiajiang can be shown to serve useful functions in the context of the paper industry, I am not certain that they evolved in response to concrete technical needs, or even that kinship practices among papermakers differ from those of their farming neighbors. It may be that practices that encourage cooperation and knowledge sharing among relatives are widespread but often go unnoticed because they do not fit the view of Chinese kinship as concerned chiefly with juridical claims to land and power and as characterized by competition among different descent lines. Looking through the lens of skill may help us to see patterns of social organization that remain hidden as long as we think of rural people as land-based peasants.

**Models of Peasantness**

The argument that social integration arises from functional differentiation has been made most clearly by Émile Durkheim, but it can be traced to Aristotle: “The state consists not merely of a plurality of persons, but of persons who differ in type; for a state does not come from people who are alike.” The division of labor,
interdependence, and exchange create community; “fixity and same-
ness of conditions”—Marx’s description of peasant life—isolates
people from one another and renders them unfit for public life. Spe-
cialization and exchange were widespread in late imperial China,
where most industrial goods were produced in the countryside by
specialized or semi-specialized artisans. In recognition of this fact,
late imperial and early Republican governments were generally sup-
portive of rural craft industries. Specialization was seen as a neces-
sary element in a mixed rural economy; crafts and sidelines were
seen as contributing to a stable social order, because they generated
income that allowed land-poor farmers to stay on the land. Speciali-
zation was to be discouraged only when it interfered with the agrar-
ian economy by drawing labor off the farm or when it led to danger-
ous concentrations of unruly male wage workers—and even this
could be tolerated if the fiscal or commercial payoff was large
enough. Madeleine Zelin estimated that the great saltyards of Zigong,
about one hundred kilometers from Jiajiang, employed between
68,000 and 98,000 workers, which made them one of the largest
concentrations of industrial workers in the nineteenth-century
world.

Specialization did not create “citizenship”—the notion did not
gain currency in China until the 1890s, and even ardent republicans
thought of rural people as citizens only in the most abstract sense.
However, specialization linked rural people to an economy of goods
and signs that stretched from remote villages to the centers of
power. Papermakers in Jiajiang were always aware that they pro-
duced not just a useful good but a symbol of China’s literary and bu-
reaucratic culture. For over three hundred years, their tribute paper
(gongzhi) was used in the provincial civil service examinations, and
even after the abolition of the examination system in 1905, national
and provincial governments took an active interest in the industry
because they needed paper. Paper, of course, lends itself to the con-
struction of cultural ties better than many other goods, but all goods
are to some extent imbued with meaning and can be used as vehicles
for social or cultural claims. Weaving, for example—by far the most
important rural craft—was associated with gendered divisions of la-
bor, the moral order, and social stability, and craft producers could
invoke such norms in defense of their craft. As we shall see in Chapter 4, papermakers in Jiajiang used cultural claims to attract the attention of provincial and sometimes national elites and to lobby for tax breaks.

The vision of local specialization as normal, necessary, and positive began to change in the first decades of the twentieth century, due largely to the conviction among Western-educated elites that China needed to industrialize rapidly in order to defend itself against the West and Japan. In the early twentieth century, industry came to be seen as a means to “save the nation” (yi shiye jiu guo) in its Darwinian struggle for survival. At the same time, urban elites came to think of rural people as peasants who were too short-sighted or ignorant to be left in charge of crucial national resources. As Henrietta Harrison shows in her study of Shanxi in the closing years of the Qing and under the Republic, Western-educated elites were so intent on promoting “Industry” (in the sense of mechanized factory production) that they overlooked the vibrant industries that actually existed, and at times even actively suppressed them in favor of (often less successful) modern-style operations. Government hostility to small-scale industry led to the concentration of manufacturing in the cities and the agrarianization of a previously mixed rural economy.27

As much recent research shows, there was a basic continuity between pre- and post-1949 development strategies.28 Like their Republican predecessors, the Chinese Communist Party (CCP) pursued a strategy of “commanding heights” industrialization, in which all efforts were concentrated on large-scale, modern, and predominantly urban industries, in particular defense industries. Operating in a hostile international environment and under conditions of great scarcity, CCP economic planners created a bifurcated economy in which the rural sector was subordinate to an encapsulated and protected urban sector. The features of this system are well known: from 1953 on, a system of compulsory purchases at state-fixed prices pumped cheap grain, cotton, and other inputs into the urban sector, while prices for farm inputs and consumer goods were kept high, ensuring steady profits for state factories. In order to prevent rural people from migrating to the cities and thus diluting the gains of modernization, the state tied rural populations to their natal or (in the
case of women) marital villages. Migration and diversification, common routes to economic success until the 1950s, were curtailed and eventually banned. In contrast to urban residents, who had access to state-guaranteed subsistence and sometimes substantial welfare packets through the danwei (work unit) system, the livelihood of rural people depended on local resource endowments and the vagaries of the weather. Much has been made of the Maoist policy of “walking on two legs,” that is, the parallel pursuit of agriculture and small-scale industry. Yet the objective of this policy was to enhance, not to reduce, rural self-sufficiency. The Maoist ideal for the countryside was the self-reliant, insular collective that produced surplus grain and other inputs for cities but required nothing from the urban sector. The commune and brigade enterprises of the 1970s, precursors of the post-Mao rural industrial boom, were designed to “serve agriculture” and were expressly forbidden to compete with state-owned enterprises for raw materials, capital, or markets.

My point here is not simply that rural people were materially disadvantaged relative to urban people—although of course they were, with urban incomes and consumption levels in the Maoist years two to three times higher than rural levels—but that they were differently integrated into the body politic. Most urban people belonged to work units that were highly specialized and firmly incorporated into territorial and functional hierarchies. Since the state planning system kept duplication to a minimum, most work units were unique within a given territory: each province or prefecture had one, and only one, ball-bearing plant or construction company. Work units were also integrated along functional “lines” (tiaotiao, as opposed to territorial “blocks,” kuaikuai), in such a way that each unit depended on upstream and downstream units in the same administrative system. In this complex and rigid structure, problems in one place could easily reverberate throughout the entire system. Each stoppage or slowdown because of problems somewhere in the supply chain was an object lesson in interdependency that must have brought home to workers a sense of their own indispensability. By contrast, by suppressing specialization and turning villages into self-sufficient cells, Maoism removed rural people from the web of mutual dependency and exchange of which they had been part. Peasants as a class
were still needed and in an abstract sense “revolutionary,” but each individual peasant stood in the same unspecific relationship to the whole: unconnected to people outside the village community, he or she faced only in two directions, down to the soil and up to the state. If peasants differed from one another, it was only because they adapted to different local conditions, in the same way that a cabbage grown on sandy soil differs from one grown on loam. This view of rural people as self-sufficient peasants continues to shape the perception of them among urban people and is used to justify their exclusion from full citizenship rights.

Two Types of Deskilling

Like other resources—land, water, factories—skill is contested and subject to distribution struggles. Although it cannot be expropriated in quite the same way as tangible assets, it can be monopolized—or, to the contrary, lost, stolen, or destroyed. A tradition stretching back to Charles Babbage and Karl Marx links the advance of capitalism to the breaking up of complex production processes into shorter, simpler ones that can be carried out by unskilled (typically female or child) labor or machines. In a craft workshop, most work is performed by skilled labor. Capitalist factories, by contrast, save costs by dividing the production process and purchasing exactly the quantity of skill needed for a given task: skilled labor for machine set-up, unskilled women for milling, child labor for cleaning, and so on. This, rather than the increased efficiency and speed that results from repeating the same action all day, is the motive for the minute subdivision of tasks in capitalist industry. Marx’s comments on deskilling were amended by Harry Braverman, who focused on the progressive separation of creative tasks (design, planning, and the like) from execution. The result, Braverman argued, is the inexorable “degradation of work” under capitalism.

Braverman’s work spawned a large number of studies, most of which found a much more complex relation linking capitalism, technical change, and the labor process. On one hand, critics argued that deskilling cannot have been as dramatic as Braverman contended, because there is little skill to begin with. In this view, skill in
the sense of individual competence or control does not exist or is irrelevant to both industrial and preindustrial work. As feminist historians have long pointed out, skill is at least in part a social construct: a claim made by powerful groups of workers (often male, unionized, and white) to exclude competitors (typically women and migrant workers). Which work counts as skilled often has more to do with who performs it than with the complexity of the work itself, and what appears as deskilling may in many cases have been a simple leveling of the playing field. In direct opposition to this view, some critics argued that deskilling is less grave than Braverman thought, because skill is constantly reproduced in the labor process. Workers, it can be shown, resist deskilling, and their resistance shapes managerial decisions. More generally, technological progress creates new skills at the same time as it destroys old ones. Sigaut even argued for a general “law of the irreducibility of skills,” because the “constantly renewed attempt to build skills into machines . . . is constantly foiled because other skills . . . develop around the new machines.”

“Bravermanian” deskilling in the capitalist factory can be contrasted with what could be called “Scottian” deskilling, after James Scott, its most astute analyst. Scott and other students of the post-colonial global South have focused on deskilling among subaltern groups—peasant farmers, small artisans, and indigenous peoples—rather than on the factory proletariat. The agents of deskilling in this case are not capitalists but intellectual visionaries, state technocrats, colonial administrators, and other agents of modernizing states. The dispossession of subaltern groups is the result not of the capitalist profit motive, although this may also play a role, but of the pursuit of a modern vision of a world liberated from material want. This process began in Enlightenment Europe, when new information-processing technologies made it possible to extract “blind” knowledge from “the ateliers and the hands of the artists,” where it lay buried, and to circulate it in print. Cynthia Koepp has shown how the careful reconstruction of artisanal knowledge in Diderot and d’Alembert’s Encyclopédie hid a “subtle and comprehensive expropriation of nonliterate knowledge by the literate culture, an attempt, largely successful, to remove the inefficient and inarticulate world of
work from the hands and mouths of the workers and to place it in printed form before the eyes of an enlightened 'management' whose ordered purposes it would serve.”

The French encyclopédistes mark the beginning of a growing concern with the world of work as the key to greater prosperity and thus greater happiness for all. Productivism—the notion that a better world can be achieved by unleashing mankind's almost infinite potential for increased production of material goods—inform liberal, socialist, and fascist policies in Europe and America. Nineteenth- and early twentieth-century industrial reformers saw social ills as the result of ignorance, inefficiency, and waste, rather than of injustice, and aimed to restore social harmony through the systematic reorganization of work along rational, scientific lines. On both sides of the Atlantic, scientists and managers looked at the human body as a machine capable of vastly improved output, if only properly supervised and instructed (the concern of F. W. Taylor’s “scientific management”) or properly fed and rested (the concern of the European “science of work”). The same utopian belief in the necessity and possibility of a planned reorganization of work can be found in the “Soviet Taylorism” of Aleksei Gastev's Central Labor Institute, in the radical antitradiationalism of postcolonial regimes in Africa and Asia, and in the impact of Taylorism and Fordism on Chinese management, both before and after 1949.

Jiajiang papermakers fought over skill at many different levels. In household workshops, men excluded women—including their own wives and daughters—from certain operations to prevent them from acquiring crucial skills. In the large proto-capitalist workshops that sprang up during times of expansion, employers kept a tight grip on production technology. My focus in this book is on a process of state-led skill expropriation that began tentatively in the 1920s and culminated in the campaigns and struggles of the 1950s and 1960s. “Socialist deskilling”—the massive onslaught on traditional handicrafts during the Maoist years—bears the imprint of both forms of skill expropriation that I outline here. A rationalizing, profit-maximizing impulse—to get “more for less”—is present in attempts by socialist managers to reorganize the paper industry. Yet, more important, we are dealing here with state actors and elites that sought
to impose a radically new regime of knowledge, one in which technological control lay in the hands not of “unenlightened,” “fractious,” “selfish” local people but of experts who spoke and acted in the name of the nation. Even though skill extraction and redistribution were pursued in the name of science and rationality, they were not necessarily rational. As William Kirby has argued in a different context, such policies were motivated by a belief in the profound irrationality of all historically grown structures (“remnants of the feudal past”) and an almost religious belief in “scientific” planning.44

The Nature of Skill

Skill matters because most societies distribute income, wealth, and power on the basis of real or assumed competence, in other words, of skill. Yet there is surprisingly little agreement on what skill is and where it is located. Skill has been seen as a “thing,” a property or possession of the skilled artisan or worker, but it has also been described as little more than a discursive claim. Skill has, with good reason, been characterized as a form of “personal knowledge,” securely and inalienably inscribed in individual bodies. At the same time, it has been depicted as a property of social groups rather than individual actors. These views of skill as “real” or discursively constructed, physically embodied or socially embedded, are not mutually exclusive, yet some conceptual clarity is needed if we want to understand what happens when individuals or communities are de-skilled.

My understanding of skill is shaped by two bodies of literature—phenomenological philosophy and cognitive science research—that appear quite remote from the concerns of social historians. Phenomenologists such as Martin Heidegger and Maurice Merleau-Ponty have long argued that skill is central to the human condition. Our primary mode of being in the world is not ratiocination but skilled, active, bodily engagement with our immediate surroundings. We do not usually contemplate external objects as detached subjects but respond spontaneously to the opportunities for action that our environment affords. It is only when the flow of activity breaks down (in Heidegger’s well-known example, because the hammer
that we are using to drive a nail into the wall breaks) that we be-

come aware of the “objective” qualities of our environment—say, of

the hammer as a hard object of a certain size and shape—and of our

own existence as detached subjects.45

What Heidegger intuited but did not prove has been fleshed out

by scientists working at the interface of neuroscience, robotics, arti-
ficial intelligence, and philosophy.46 Intelligent action does not re-

quire central processing taking place in a bounded mind but emerges

from distributed “cognitive and computational processes that are

busily criss-crossing the boundaries of skin and skull.”47 By building

ever more extended feedback loops that extend from our brains

through our bodies to body extensions (tools) and the external

world, we literally think with and through our bodies and the envi-

ronment. Most mental processes involve “scaffolding”—the use of

external features in the physical or social world that augment and

constrain the problem-solving capabilities of the biological brain

and enable it to solve problems that cannot easily be solved by the

unaugmented brain.48 We “scaffold,” for example, when we arrange

tools on a workbench in such a way that they serve as prompts for

action, or when we use pen and paper to multiply large numbers.49

More generally, language, culture, and institutions can be seen as

scaffolding devices that reduce computational demands on the brain

by “offloading” information onto the external world, from which it is

accessed in ready-made form whenever it is needed.

The feedback loops we build can include other people; in fact,

much cognitive work is socially distributed, resulting from the struc-
tured interactions of people with one another and with artifacts in

the world.50 As the anthropologist and cognitive scientist Edwin

Hutchins has argued, we give too much epistemological credit to the

individual mind. Cognition “in the wild” (Hutchins’s example is the
determination of the position of a naval vessel) is often distributed
across networks of actors, and intelligent performance emerges not
simply from minds or groups of minds but also from the culturally
constructed ways these minds are linked into flexible and robust sys-
tems: in his example, from the spatial positioning of officers on the
bridge, the division of tasks among those officers, the use of stan-
dardized signals, and so forth. In a similar vein, Jean Lave and
Etienne Wenger have argued that the proper sites for understanding the production of practical, everyday knowledge are “communities of practice”—small, informal groups held together by the sustained pursuit of a shared enterprise.51

Skill, then, is located not in the encapsulated mind, not even in the body as a repository of “embodied knowledge,” but at the interface between the skilled person and his or her surroundings. It is “a property not of the individual human body as a biophysical entity . . . but of the total field of relations constituted by the presence of the organism-person, indissolubly body and mind, in a richly structured environment.”52 This view of skill as distributed across a field of relations, rather than safely stored in individual persons, has implications that become clear later in this study. It explains, for example, how Jiajiang papermakers could recreate their craft in the 1980s, after a hiatus of almost twenty years, from information dispersed throughout their natural, social, and symbolic environment: among other things, from the bodily memory of aging practitioners; from the layout of bamboo forests, sheds, and tools; from shared assumptions about who does what kind of work, how to organize work teams, how to allocate tasks by gender and generation, and how to cooperate with kin and neighbors. All this was underpinned by a shared, unarticulated, matter-of-fact understanding of the social and symbolic world, which guided papermakers in the re-creation of their trade. This wide dispersal of information across heterogeneous media also explains why the state never succeeded in transplanting Jiajiang papermaking skills to places outside Jiajiang: despite active support from papermakers, their skills could not be reproduced outside the social, cultural, and material support structure that existed in Jiajiang.

Skill as I understand it shares many features with Pierre Bourdieu’s concept of habitus, defined as an ensemble of acquired, durably installed bodily dispositions that guides our everyday practices and enables us to act in accordance with what is objectively possible under the specific social and historical conditions that generate a specific habitus. Habitus—described by Bourdieu in terms of expertise, virtuosity, improvisation and, indeed, skill—is the “generative principle” that makes it possible for us to think and act in ways that are
“as remote from creation of unpredictable novelty as . . . from simple mechanical reproduction.” Like skill, *habitus* is simultaneously knowledge and practice, a form of spontaneous mastery in which the virtuoso practitioner “carries and is being carried” by his or her performance, “like a train laying its own rails.” Like skill, *habitus* is not the possession of any one individual: although individually embodied, it is generated through collective practice and instantiated only in social practice, when a similarly engendered *habitus* causes people to act in mutually comprehensible and compatible ways.

For historians, of course, skill is a useful concept only to the extent that it helps elucidate historical change. To what extent is skill a historical category, and what do we gain by looking at historical processes through the lens of skill? The answer is, I believe, that skill constitutes a sort of meeting ground between “big” historical processes—war, revolution, industrialization—and the concrete experience of everyday life. Routine skillful coping with the world around us forms both the silent backdrop from which all conscious thought and action spring and the ground of all individual or collective agency. Jiajiang papermakers did engage with the revolution at a conceptual level, for example, by learning to speak the language of land reform and class struggle (despite the fact that such terms as “landlord” and “poor peasant” were ill-adapted to their situation), but their engagement was primarily as involved actors drawing on a repertoire of previously acquired skills to react to concrete changes in their daily life. Like *habitus*, skill can be seen as “embodied history, internalized as second nature”—a structure of dispositions that enables one to act with a great degree of freedom in certain ways while precluding actions outside one’s acquired social and practical competence.

In Jiajiang, too, skill, as a system of embodied orientations, can limit opportunities and fix people “in their place”; this is particularly the case for
women, whose embodiment of skill is complicated by harsh demonstrations of male power that make it difficult for them to develop a sense of competence and control. Yet more often, rapid, state-induced change throws up material and cultural fragments—production techniques, organizational formats, ideological justifications—and people, acting from a background of previously acquired skills, incorporate these fragments into existing repertoires in ways that extend their material and social reach. For example, former wage workers learned to speak in public, organize meetings, and direct work teams, skills that dramatically lengthened the feedback loops linking them to their material environment and other people. At the same time, previously privileged groups experienced a dramatic shortening of their social and physical reach and a concomitant loss of competence, autonomy, and power.

**Fieldwork and Sources**

The data for this book were collected between 1995 and 2004, with the bulk of the field research taking place in 1995–96 and 1998, with shorter return visits in 2001 and 2004. Most interviews were conducted in the village of Shiyan, where I lived in the guesthouse of a village-owned factory for three months and visited on a daily basis for another four months. I also conducted interviews in Bishan village, adjacent to Shiyan, and Tangbian village in the remote mountain township of Huatou. Most interviews took place in the presence of a local guide (the chairwoman of the village women’s federation, the village head, and two retired male village-level cadres taking turns). The social distance between village cadres and other villagers is so small that I do not think that the presence of my guides significantly shaped the responses to my questions. In any case, villagers—in particular former cadres—were quite outspoken in their criticisms of past and present government policies. Most of the time, I was also accompanied by a researcher from the Institute of Rural Economics of the Sichuan Academy of Social Sciences, who translated dialect expressions into standard Chinese until I had a working knowledge of rural Sichuanese.

Fieldwork in Jiajiang, though enjoyable, was not always easy: the county had only recently been opened to foreign visitors and several
factors (among them the presence of an army garrison and a secret nuclear research institute in the county) made the local authorities less than enthusiastic about my presence. Moreover, manual paper production technology had been declared a “state secret at the district level,” which made it technically illegal to discuss papermaking technology with foreigners. I heard several stories about Japanese or Taiwanese “spies” who had done undercover research in Jiajiang. In the one case I was able to ascertain details, the spies were in fact scholars from Chengdu, doing research for the Taiwanese folklore studies magazine *Hansheng*. Fortunately, the papermakers did not share this concern for secrecy, perhaps because they understood more clearly than did local officials that one does not learn a craft by interviewing its practitioners. Interviews took place in workshops and courtyards and were open-ended, sometimes meandering, with friends and neighbors joining long discussions that ranged from production processes to local gossip. One of the great advantages of discussing the concrete details of daily work, I found, is that it allowed me to treat my informants as skilled actors competent in all areas of their daily lives. Much social science research defines its field of inquiry in ways that makes the outside expert appear more knowledgeable than the local informant. Shifting the emphasis to a field in which informants were highly skilled allowed me to partially redress that imbalance.

Oral history interviews were supplemented by written sources from a variety of archives. Most of the holdings of the Jiajiang County Archive were destroyed during the liberation of the county in 1949 or during the Cultural Revolution. In Chengdu, however, I had access to the archives of the Provincial Reconstruction Bureau (covering the years 1936 to 1949) and of the Ministry of Industry of the Southwest Administrative Region (covering 1949 to 1952). I was also given permission to use the rich collections of Republican-period journals and newspapers of the Sichuan Provincial Library and Sichuan University. Together, these sources give a detailed picture of Jiajiang papermaking from the mid-1930s to the 1960s. No material of comparable quality is available for earlier periods, but stone inscriptions, hand-copied from tombs and temples in the Jiajiang hills, throw light on some aspects of social organization at that time.
Organization of the Book

Chapter 1 opens with a description of manual papermaking technology, the gender and generational division of labor, and the developmental cycle of household workshops (which, like farms, expanded and contracted along with the demographic composition of households). Next, I discuss the weft and warp of skill reproduction, that is, the vertical transmission from one generation to another and the horizontal sharing of skills among relatives and neighbors. In Chapter 2, I discuss the overlapping markets for raw materials, grain, credit, labor, and paper that underlay pre-1949 paper production, as well as the guilds, temple associations, secret societies, and other intermediate organizations that linked local papermakers to the market and the state. Chapter 3 deals with the place of Jiajiang papermakers in the political economy of late Qing China and the growing pressure to modernize craft industries in the Republic. In Chapters 4 and 5, the focus shifts to Shiyan village during the land revolution and collectivization. From 1950 on, papermakers were classified as peasants and participated in all the rural movements and campaigns. At the same time, large numbers of papermakers were supplied with state grain in exchange for paper. Collectivization saw a consolidation of paper workshops into larger units and a sharp decline in the number of people entitled to grain rations. It also saw a gradual de-skilling of papermakers, as officials in the Second Light Industry administration extended their control over the paper workshops.

Chapter 6 describes the Great Leap Forward and the subsequent famine, which wiped out one-quarter of the population of the paper districts and all but destroyed the industry. In order to survive, papermakers began to cut down their bamboo and planted maize and sweet potatoes on the steep, quickly eroding slopes. After the famine, teams that continued to produce paper were accused of “eating guilty-conscience grain” (chi kuixinliang) and ordered to become grain self-sufficient farmers. Nonetheless, papermaking continued, as growing numbers of individuals and teams began to sell paper to black market traders who have plied the markets of Sichuan since the mid-1970s. The early development of the black market in Sichuan gave Jiajiang a head start in the post-Mao years, which are
the subject of Chapters 7 and 8. With the legalization of private trade and the burgeoning demand for handmade paper, Jiajiang traders began to travel throughout China, retailing directly to artists’ associations, schools, and department stores. By the 1990s, there was hardly a major city in China without a paper outlet from Jiajiang. The revival of the industry was accompanied by a minor technological revolution, as papermakers adopted machines and aggressive chemicals that drastically reduced production time, and by the rise of a two-tiered production structure, in which extremely small household workshops struggled, often in vain, to join the ranks of established, labor-hiring producers of calligraphy paper. Finally, Chapter 9 focuses on attempts by the people of Jiajiang to reconnect the social tissue that had become thin and fractured during the Mao years and to repair the structures that underpinned the reproduction of skill.